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Analysis Finds Elevated Risk From Soot Particles in the Air

By [FELICITY BARRINGER](#)

A new appraisal of existing studies documenting the links between tiny soot particles and premature death from cardiovascular ailments shows that mortality rates among people exposed to the particles are twice as high as previously thought.

Dan Greenbaum, the president of the nonprofit Health Effects Institute, which is releasing the analysis on Wednesday, said that the areas covered in the study included 116 American cities, with the highest levels of soot particles found in areas including the eastern suburbs of Los Angeles and the Central Valley of California; Birmingham, Ala.; Atlanta; the Ohio River Valley; and Pittsburgh.

The review found that the risk of having a condition that is a precursor to deadly heart attacks for people living in soot-laden areas goes up by 24 percent rather than 12 percent, as particle concentrations increase. A variety of sources produce fine particles, and they include diesel engines, automobile tires, [coal](#)-fired power plants and oil refineries. Comparing exposure within the New York and the Los Angeles metropolitan areas, the study found that the risks were evenly distributed in the vicinity of New York while some areas around Los Angeles, including neighborhoods near the Ports of Los Angeles and Long Beach, had elevated health risks.

The extended epidemiological analysis, which draws on data gathered from 350,000 people over 18 years, and an additional 150,000 people in more recent years, was conducted for the Health Effects Institute by scientists at the University of Ottawa.

The institute was created by the [Environmental Protection Agency](#) and the industries that it regulates with the goal of obtaining unbiased studies.

The link between fine particles, the diameter of which is smaller than a 30th of a human hair, and cardiopulmonary disease has been

established for two decades, and the E.P.A. has regulated such emissions since 1997. In 2006, despite mounting evidence that the particles were deadlier than first thought, the agency declined to lower chronic exposure limits.

The United States Court of Appeals for the District of Columbia Circuit declared that decision inadequate, and the Obama administration is now considering what level is appropriate.