

Within the same town or city, our daily exposure to air pollution can differ greatly by person, by mode of transport, by the routes we take. Most cities or countries measure this with a handful of stationary monitoring stations, which can only test the air immediately next to them. We don't, however, spend our lives standing still.

"If you are introducing air pollution policy for the wellbeing of humans, and you base that guidance on data that isn't relevant, are you really helping people or are you actually hindering?"

Car exhaust fumes contain certain **poisonous** chemicals, including carbon monoxide, sulfur dioxide, nitrogen oxides, formaldehyde, benzene and soot, all of which can be detrimental to the human body if consistently inhaled in large quantities.

While such preferences are irrational and a bit odd, some are much more than that. For example, smelling (which in effect becomes inhaling) car exhaust gases is extremely harmful to the body. In the most extreme cases, it can kill people who are exposed to large doses.

Most people assume that the U.S. Environmental Protection Agency is sufficiently protecting air quality by setting limits for chemicals released from vehicles, requiring newer engines to be less polluting, and restricting levels normally found in outdoor air. It is clear, however, that these efforts are not enough to protect health, as they limit only a small percentage of all chemicals that are emitted from engines, leaving hundreds of pollutants unmonitored and unregulated. While the government monitors pollutants at fixed stations, these measurements bear little resemblance to the pollution you and your family experience while moving through daily life. EPA also requires that measured concentrations of regulated pollutants be averaged over long periods of time to determine compliance with standards. Particulate matter, for example, is averaged over three years, and this practice masks high-pollution episodes of short duration that can damage health. Although we have grown to accept the smell of engine exhaust as a part of everyday life, our nation is experiencing an epidemic of illnesses made worse by air pollution. Over the past ten years, hundreds of studies have been published in the peer-reviewed literature demonstrating special vulnerability to air pollution among those with serious illnesses, including asthma, chronic obstructive pulmonary disease (COPD), cardiovascular disease, diabetes, and lung cancer. Tens of millions of Americans suffer from these illnesses. Children, the elderly, those with compromised immune systems, and those with specific genetic traits are at special risk. We estimate that hundreds of thousands of residents are at heightened risk due to these background illnesses. During the past decade, scientists have also confirmed a relationship between two forms of pollution—ozone and particulate matter—and increased rates of mortality, especially among those with cardiovascular disease.