

DESCRIPTION

Small particles in outdoor air (also known as PM_{2.5}) and ozone are the primary causes of poor air quality in Minnesota. PM_{2.5}, a mixture of small particles and liquid droplets smaller than 2.5 microns in diameter (less than 1/30 the width of a human hair), is released when coal, gasoline, diesel fuels, wood and other fuels are burned. It is also created by chemical reactions between other pollutants in the air.¹ Being exposed to any kind of particulate matter may cause heart problems and decreased lung function, worsened asthma symptoms, adverse birth outcomes, breathing problems, decreased lung growth in children, lung cancer and early death.²

HOW WE ARE DOING

Overall, the number of “good” air quality days in Ramsey County has increased, while the number of “moderate” and unhealthy days has decreased. Ramsey County has not seen an “unhealthy” day (55.5-150.4µg/m³) since 2005. The number of unhealthy days is somewhat variable, as it is driven by year-to-year differences in weather conditions that increase air pollution, such as temperature, humidity and wind. Further, increases in fine particle pollution can be caused by unhealthy air being blown into Minnesota from other states.³

Between 2006 and 2016, the federal standard for PM_{2.5} has been exceeded once. Based on particulate matter, the air quality in Ramsey County has improved in recent years. In Saint Paul, fewer than 1 percent of all days, on average, are unhealthy for fine particle pollution.

BENCHMARK INDICATOR

U.S. Environmental Protection Agency:³

1) Reduce 24-hour small particles (PM_{2.5}) in outdoor air.

U.S. Target: 35 µg/m³

2) Reduce annual small particles (PM_{2.5}) in outdoor air.

U.S. Target: 12 µg/m³

DISPARITIES

Some communities may be more at risk for heart and lung problems related to air pollution. Examples include: high rates of poverty, high numbers of people without health insurance, high obesity and diabetes prevalence, high rates of smoking, higher amounts of car and truck exhaust due to greater population density, and proximity to factory emissions and other sources of exposure.²

RISK FACTORS

Those especially sensitive to air pollution include: individuals with pre-existing lung or heart disease, the elderly, children, and participants in activities that require heavy or extended exertion. These risk factors are associated with more heart and lung problems, hospital visits, and deaths in areas with high amounts of air pollution.⁴

WHAT RAMSEY COUNTY IS DOING

Through its website, Ramsey County shares alerts with the public when fine particles are expected to reach unhealthy levels. In partnership with “Be Air Aware,” it also shares advice for staying healthy during periods of poor air quality, such as avoiding prolonged outdoor physical activity.

Information to note

- The burning of coal, gasoline, diesel fuels, wood and other fuels creates pollution particles small enough to get deep into the lungs and the bloodstream.
- The air quality in Ramsey County has been improving in recent years.

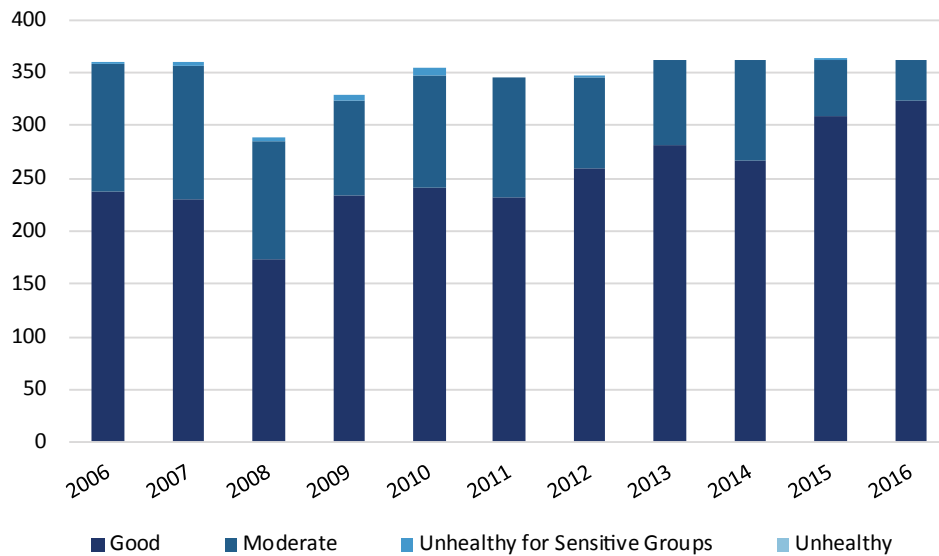
¹ Air Quality Index: facts and figures. Minnesota Department of Health. <https://apps.health.state.mn.us/mndata/air>. Accessed November 29, 2017.

² Health Impacts of Fine Particles in Air. Centers for Disease Control and Prevention. <https://ephtracking.cdc.gov/showAirHIA.action>. Accessed November 29, 2017.

³ Fine particle pollution. Minnesota Pollution Control Agency. <https://www.pca.state.mn.us/sites/default/files/aq8-25.pdf>. Published June 2013. Accessed November 29, 2017.

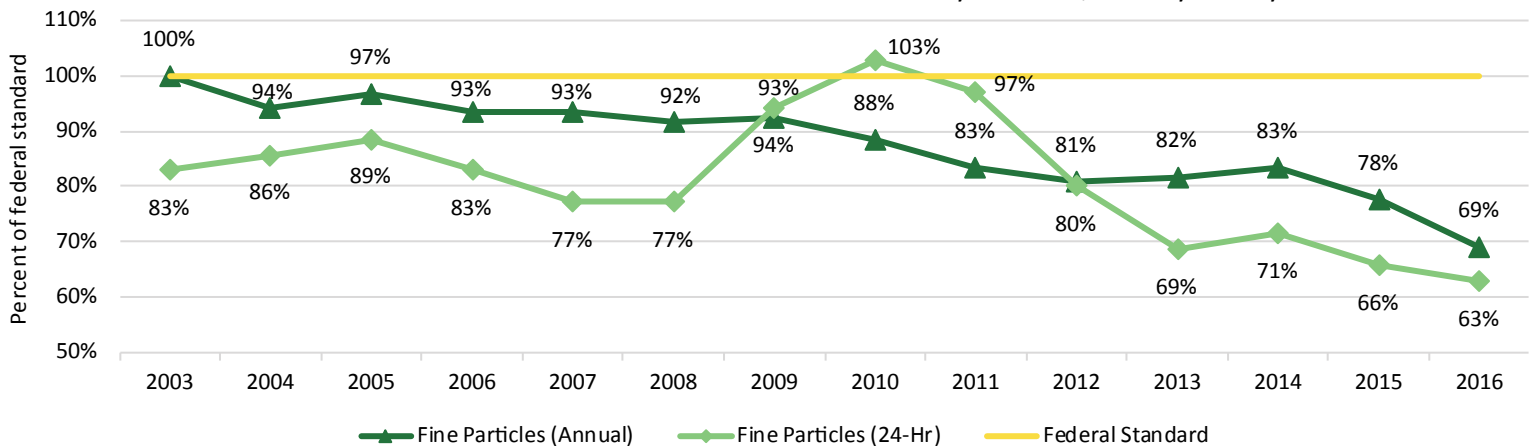
⁴ About the Air Quality data: Health effects associated with poor air. Minnesota Pollution Control Agency. <https://www.pca.state.mn.us/air/about-air-quality-data>. Accessed January 16, 2018.

Fine Particle Matter, Ramsey County



Source: Minnesota Pollution Control Agency

Fine Particulate Matter Percent of the National Ambient Air Quality Standard, Ramsey County



Source: Minnesota Pollution Control Agency