



Air Quality

Every community member breathes clean and healthy air

Goal: Every community member breathes clean and healthy air.



Description

Clean air is a fundamental right regardless of one's neighborhood or socioeconomic status. We all have to breathe, but we seldom have a choice in the quality of the air we breathe. Where we live, where we work, and what other people do has a big impact on the quality of the air we are exposed to from day to day.

Air pollution has substantial health impacts that can lead to sickness and even early death. Multnomah County is the most urban county in Oregon and its residents are subject to high pollution exposure from fossil fuel combustion, industry, and even residential and commercial wood burning. These sources of pollution expose people to elevated levels of fine particulate matter (soot), nitrogen oxide, ozone, diesel particulate matter, and other air toxics. Smoke from wildfires, exacerbated by a heating climate, is also an emerging threat resulting in worsening air quality across the U.S. West after decades of improvements.⁹

Air quality is an environmental justice issue. Although air pollution affects everyone in Multnomah County, it puts communities of color at greater risk. Analysis has shown that Black and Latinx communities tend to live in areas with the highest concentrations of diesel particulate matter (a highly toxic soot from diesel engines) and residential wood smoke (which also produces soot and other pollutants).¹⁰ In addition, indoor air quality is also impacted from a wide variety of sources – including household cleaners, tobacco use, pets, pests, mold, gas stoves,⁹ wood stoves, and dust – and is often less healthy than outdoor air. Elevated levels of carbon monoxide or radon may also pose serious health risks for indoor air quality.



How we measure progress

Indicator 1: Number of days that the Air Quality Index is 50 or above, or “moderate (yellow)” level in Multnomah County.

Description: Air Quality Index (AQI): Think of the AQI as a yardstick that runs from 0 to 500. The higher the AQI value, the greater the level of air pollution and the greater the health concern. AQI is a composite measure of several air pollutants, including particulate matter, nitrogen oxide, and ozone. The desired outcome in Multnomah County is to have zero days over an AQI of 50, also known as “moderate (yellow)” level, the level at which air quality begins to become unhealthy for sensitive populations.

Current data: In recent years there have been more days with unhealthy to hazardous air quality and more consecutive days of poor air quality. In 2024 there were **55 days** when the AQI was 50 or above.

Data Source: [Environmental Protection Agency \(EPA\)](#)

Indicator 2: Number of Emergency Departments (ED)/Urgent Care (UC) visits for breathing related illness per 100,000 people in Multnomah County, and associated demographic data about those seeking care.

Description: This indicator measures the number of visits to hospital emergency departments and urgent care clinics (ED/UC) made by people with non-infectious respiratory illnesses. The indicator excludes data for respiratory illness caused by communicable disease such as COVID-19 and the common cold.

Current data: After a notable decrease in 2020, asthma-like illness ED/UC visits have been returned to pre-2020 levels in Multnomah County. **In 2024 the rate was 1732 visits per 100,000** people. Asthma-like illness ED/UC visits are more likely to be female, older adults (ages 45 – 64), and Black than other ED/UC patients.

Data Source: [Regional Climate and Health Dashboard](#)

Strategy: Improve indoor air quality through public health education and by increasing access to air cleaners and other preventive measures.

Why does this matter?

According to the Environmental Protection Agency, Americans spend about 90% percent of our time indoors, and some pollutants can be 2 to 5 times higher than typical outdoor concentrations.⁹ Exposure to unhealthy indoor air quality is particularly harmful to those who may be more vulnerable – children, the elderly, and people with health conditions like asthma and heart disease. Indoor air quality is impacted by a wide variety of sources – including household cleaners, tobacco use, pets, pests, mold, gas stoves, wood stoves, and dust – and is often less healthy than outdoor air.⁹ Outdoor air can also worsen indoor air quality, particularly if outdoor air has high levels of pollution, like during a wildfire.

Knowing how to maintain healthy indoor air is important, particularly as wildfires and wildfire smoke become a more common occurrence. Indoor air cleaners, mechanical ventilation with proper filtration, and behaviour change can dramatically improve indoor air quality.

Putting this into practice

- Develop outreach materials to help households improve indoor air quality.
- Develop partnerships with providers, community organizations, child care facilities, and industries for distribution of air cleaning devices and education.
- Identify service gaps and necessary data to improve future air cleaner distribution and outreach.
- Research viability of safety labels for indoor combustion appliances.

Lead Department(s)

Health Department, Environmental Health Division; Office of Sustainability

STRATEGY CATEGORY

- County Strategy
- Investment Opportunity
- Community Leadership

STRATEGY TYPE

- Advocate
- Research
- Convene
- Implement

COUNTY CAPACITY

- Existing
- Additional
- New

COUNTY CONTROL



Low Med High

COUNTY INFLUENCE



Low Med High

COUNTY PRIORITY



Low Med High



Strategy: Develop pollution control regulations for businesses that burn wood.

Why does this matter?

Using wood to cook is as old as humanity, but burning wood produces harmful pollution, including soot, nitrogen oxide, formaldehyde and greenhouse gases that impacts the surrounding community.⁹ Multnomah County has restrictions in place for residential wood combustion that prevents the use of wood burning on days when air quality is forecast to be unhealthy.⁹ Outdoor burning is also limited by the fire marshal if wildfire danger is high.

Some businesses use wood for heat, cooking, or ambiance. Businesses can operate five to seven days a week, a restaurant, for example, that uses wood for cooking creates significant localized air pollution. Wood burning can also be used as fuel for recreational heat or ambiance and wood fired sauna businesses. In some cases air filters can help capture and reduce that pollution, and in other cases wood burning should be avoided altogether, and especially on air stagnation days.

STRATEGY CATEGORY

County Strategy

Investment Opportunity

Community Leadership

STRATEGY TYPE

Advocate Research

Convene Implement

COUNTY CAPACITY

Existing Additional New

COUNTY CONTROL

Low Med High

COUNTY INFLUENCE

Low Med High

COUNTY PRIORITY

Low Med High

Putting this into practice

- Study the impact of commercial wood smoke, determine the impact of that pollution on public health, investigate potential technologies to address that pollution, and propose regulations that can be implemented at the state or local level.
- Research best practices for amending existing wood smoke ordinance.
- Conduct outreach and engagement with the restaurant industry.
- Develop pilot programs to fund pollution controls at existing restaurants.

Lead Department(s)

Health Department, Environmental Health Division; Office of Sustainability



Strategy: Support community-led air quality monitoring and invest in air quality outreach and education.



Why does this matter?

Community groups in Multnomah County, and nationally, have grown more interested in developing community based air quality monitoring networks. While the Oregon Department of Environmental Quality maintains a reliable network of air quality sensors, that network measures background, or ambient, levels of pollution and can't always detect more localized air quality problems. Technological advances have also increased the availability of accurate lower cost air quality sensors. In recent years, local groups like the Blueprint Foundation have developed youth education curricula that include building and deploying low cost air quality sensors. These types of efforts can help communities feel more connected to what is often an invisible problem and develop their own solutions. In addition, localized sensor networks can detect issues that may otherwise be overlooked.

Putting this into practice

- Develop partnerships with community-based organizations to pursue grant funding to deploy an air quality sensor network and conduct research on community impacts and solutions.
- Support efforts to develop community based outreach and education tools on air quality issues and opportunities to involve the community in data collection, including qualitative data, that can identify sources and solutions to localized air quality issues.

Lead Department(s)

Health Department, Environmental Health Division; Office of Sustainability



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Strategy: Develop policy for protecting vulnerable communities from nearby sources of pollution.

Why does this matter?

Many people in Multnomah County live in areas that are close to sources of air pollution. These can include transportation corridors, industrial sites, and freight hubs like warehouses. Proximity to persistent sources of air pollution can have a negative impact on health and lead to environmental justice disparities at the community level. While some policy tools exist for addressing these sources of pollution - like air quality permits for fixed sources of pollution, and pollution control standards for new mobile sources like trucks - these policies can fall short for nearby communities.

Advocacy coalitions have proposed strategies that would protect communities from new and existing pollution sources in their neighborhoods. For example, a proposal to add environmental justice criteria to land use decisions would provide the opportunity for more consideration of siting decisions for new pollution sources like warehouses or data centers. Another strategy is called 'indirect source rules' where freight hubs that have a lot of pollution from mobile source diesel engines are required to adopt strategies to minimize pollution. These, and other strategies, could add substantial public health protections for Multnomah County residents.

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STRATEGY TYPE

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COUNTY CONTROL

Low	Med	High

COUNTY INFLUENCE

Low	Med	High

COUNTY PRIORITY

Low	High

Putting this into practice

- Investigate the use of indirect source rules and environmental justice land use screens in other jurisdictions and evaluate the applicability in Oregon/Multnomah County. Estimate the pollution reduction and environmental justice benefits from applying these tools locally.
- Develop more detailed knowledge of the air quality impacts of existing pollution sources that are not currently regulated by clean air rules.
- Continue community-centered coalition work to increase the awareness of air quality issues and build toward policy solutions.

Lead Department(s)

Oregon Legislature, Oregon Environmental Quality Commission, Oregon Department of Environmental Quality



Strategy: Develop nitrogen oxides (NOx) emissions standards for gas appliances that are vented to the outdoors.



Why does this matter?

Natural gas - which is mostly methane, a strong greenhouse gas - produces a variety of pollutants when combusted.⁹ Combustion pollutants include nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), volatile organic compounds (VOCs), trace amounts of sulfur dioxide (SO2), and particulate matter (PM).⁹ According to 2020 National Emissions Inventory data for Multnomah County, natural gas contributes approximately 1,197 tons - 8.6% of total - of the anthropogenic NOx pollution in Multnomah County annually. Most of those emissions are attributed to residential and commercial space and water heating and industrial processes, with residential use making up nearly half of the total. Together, use of natural gas represents the third largest source of NOx in Multnomah County, with the majority coming from on-and off-road diesel equipment and passenger vehicles. Emissions from these other sources are being addressed through pollution control requirements for new vehicles, registration requirements for the tri-County region, and electrification.

In California the South Coast Air Quality Management District adopted Rule 1146.2 that requires new and existing residential and commercial buildings to transition to zero-emission water heaters. The rule applies to natural gas-fired pool heaters, larger water heaters, small commercial water heaters, boilers, and process heaters, requiring zero-emission NOx standards when the equipment is replaced. Also in California, the Bay Area Air Quality Management District adopted Rules 9-4 and 9-6 that restrict the sale of gas furnaces, water heaters, and boilers. Both air districts anticipate substantial pollution reductions.

Putting this into practice

- Study the applicability of similar rules to California in Oregon and Multnomah County.
- Promote non-emitting alternatives for space and water heating.

Lead Department(s)

Oregon Legislature, Oregon Environmental Quality Commission, Oregon Department of Environmental Quality

Supporting Department(s): Office of Sustainability

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