

Heartland 101: Managing Fine Particulate Matter in the Capital Region

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Solid and liquid particles, one-eighth the diameter of a human hair, are floating in the air we breathe every day. These particles are called fine particulate matter or PM_{2.5}.

What is Fine Particulate matter?

PM_{2.5} is made up of common substances known as nitrogen dioxide, organic carbon, and sulphur dioxide. Natural sources of PM_{2.5} include wind-blown dust and forest fires. Human activities include transportation, industrial processes, home heating, and biomass burning. These fine particles are linked to health implications. They are able to move deep into the respiratory tract, including the lungs, which can affect individuals with existing heart and/or respiratory illnesses.

Measuring Particulate Matter in Our Air

Fort Air Partnership's air monitoring stations measure the amount of particulate matter in the air. Higher measurements are often recorded in cold winter months due to [temperature inversions](#). Cold air becomes trapped near the ground by a layer of warm air. The warm air acts like a lid and prevents pollutants from mixing within the atmosphere. This leads to a build-up of pollutants, including PM_{2.5} near the ground until the weather brings in wind, rain, or snow to help disperse them.

Some sources of particulate matter, like industrial emissions, stay fairly constant year round. But roaring fireplaces and idling vehicles in winter lead to higher levels of particulate matter.

A New Management Plan

In January 2015, a [Fine Particulate Matter Response Plan](#) for the Capital Region was finalized. The plan came about because measurements of PM_{2.5} at two monitoring stations in the Edmonton area between 2008 and 2011 periodically exceeded the national level for PM_{2.5}.

The Fine Particulate Matter Response Plan includes recommended actions to:

- reduce PM_{2.5} concentrations in the outside air
- improve knowledge of PM_{2.5} in the Capital Region
- engage with people about their responsibilities to reduce ambient PM_{2.5}

Implementation of the Fine Particulate Matter Response Plan will begin later in 2015. Measurements of PM_{2.5} taken by [Fort Air Partnership](#) and other airsheds will be compared to new [Canadian Ambient Air Quality Standards](#) to manage increasing levels of PM_{2.5} throughout Canada.

Reducing PM_{2.5}

Some examples of [actions that people can take](#) during the wintertime to reduce their contribution to PM_{2.5} include carpooling, turning off car engines when parked (don't idle) and working from home on days with high levels of PM_{2.5}, if possible.

For more information: lifeintheheartland.com or follow us on [Facebook](#) and [Twitter](#).

*Heartland 101 is a monthly print and on-air (Mix 107.9 FM) series brought to you by **Life in the Heartland**, a partnership of five local organizations improving access to information, resources, and contacts for communities in and around Alberta's Industrial Heartland.*