

## Air Toxics Monitoring at Harriet Tubman Leadership Academy in Portland

In April 2011, the U.S. Environmental Protection Agency released the analysis report of air toxics monitoring data gathered near Harriet Tubman Leadership Academy in Portland, Oregon.

Monitoring results from samples collected in August and September 2009 indicated that concentrations of the majority of air toxics measured near the school are below EPA's levels of concern associated with health problems from either short- or long-term exposures. Air toxics measured included acetaldehyde, benzene, 1,3-butadiene, manganese and nickel. EPA posted the report at: <http://www.epa.gov/schoolair>.

EPA's analysis also found that concentrations of cadmium, a toxic metal, are of potential concern for long-term continuous exposure.

### EPA will do additional monitoring

In June 2011, EPA will complete additional monitoring near Harriet Tubman School to better understand the elevated cadmium levels, identify the source(s) and characterize any potential exposure to the community.

A new kind of monitor will provide hourly measurements of cadmium levels and many other metals. The monitoring also will include concurrent wind speed and direction which will help locate potential cadmium sources.

### DEQ studies also show higher cadmium

In 2005, additional air toxics data was collected by DEQ at six air toxics monitoring sites located throughout the Portland region. This data shows many areas of Portland are above health-based goals. Monitoring found the highest cadmium levels in North Portland.

DEQ is studying cadmium and 18 other air toxics as part of the Portland Air Toxics Solutions project.

Recently completed modeling estimates by DEQ show that concentrations of cadmium and other air toxics in certain areas in Portland are expected to remain above the health-based benchmark for the foreseeable future. DEQ expects the Portland Air Toxics Solutions Advisory Committee to recommend toxics reduction strategies by Summer 2011.



*Air toxics monitor at Harriet Tubman*

### DEQ investigates cadmium sources

DEQ has been investigating potential sources of cadmium near Harriet Tubman School since learning of the elevated levels in late 2009.

- DEQ has inventoried all known sources of cadmium, including permitted and non-permitted industrial and commercial sources, transportation and community-wide emissions sources.
- DEQ has analyzed monitoring data to project where the cadmium came from. Results indicate that the source(s) could be to the northwest or south of the monitor, but better wind information would be helpful in producing better results.
- DEQ has analyzed monitoring data to see if correlations with other metals could produce a "fingerprint" of emissions. There is some loose correlation to arsenic, lead, and nickel levels, but the data is very limited.
- DEQ canvassed businesses the Tubman School neighborhood to locate potential source(s). This effort was inconclusive.
- DEQ air quality permit writers requested cadmium information from several permitted industrial facilities in Northwest and North Portland but did not find one which emits significant amounts of cadmium.
- DEQ's Air Quality program worked with DEQ's Water Quality, Hazardous Waste and Cleanup Programs and the City of Portland Bureau of Environmental Services in the search of additional cadmium sources but did not find any.



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*DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.*

## Background on EPA's study at schools

As part of an initiative to understand whether outdoor toxic air pollution poses health concerns to schoolchildren, the Environmental Protection Agency performed short term monitoring for air toxics at 63 schools nationwide, including the Harriet Tubman Leadership Academy for Young Women in Portland.

Air toxics are pollutants known, or suspected to cause cancer and other serious health effects. EPA and DEQ regulate emissions of 187 air toxics under the Clean Air Act.

## Selecting schools

EPA chose schools that could be affected by pollution from industry, motor vehicles, and other sources. Harriet Tubman Leadership Academy represents a school in an urban environment that is affected by multiple types of emissions. The other Oregon school EPA chose for this effort is Toledo Elementary School in Toledo which represents a rural school located near a large industrial facility.

## Air toxics sources

Reducing toxic air pollution is one of the greatest challenges and one of the most pressing issues of our time. USA Today published an article highlighting the results of a study of air toxics near schools brought considerable attention to this issue. However, the study only looked at part of the problem by focusing on one source – large industrial facilities.

While people living near industrial facilities can experience higher exposure to emissions, most of our exposure to toxic air pollution is caused by a variety of other sources that collectively produce up to 90 percent of the toxic air pollution in Oregon's air. These sources include vehicle engines, fuel evaporation, outdoor burning, lawn and garden equipment and a wide variety of chemicals used by businesses and people.

Reducing air toxics in Oregon is a priority of the DEQ Air Quality program.

Both federal and state officials are working to reduce air toxics. Regulations on large and small manufacturers have resulted in considerable reductions of air toxics coming from many types of industrial processes. DEQ inspects facilities to make sure that they follow DEQ rules.

Though much more is needed to address air toxics in all areas of Oregon, DEQ has several long-standing programs that reduce toxic air pollutants:

- Vehicle inspection programs in the Portland and Rogue Valley areas
- Regulating emissions from industry and small businesses
- Assistance to small businesses to reduce the use of toxic chemicals
- Year-round air pollution advisories
- Assistance with diesel engine retrofits and replacement
- Anti-idling initiatives for heavy duty diesel and passenger cars and trucks
- Stricter wood stove requirements and change-out program

These programs have reduced levels of smog, fine particles as well as air toxics.

## For more information

To learn more about toxic air pollution in Oregon and DEQ's air toxics reduction efforts contact Cory-Ann Wind at 503-229-5388, [wind.cory@deq.state.or.us](mailto:wind.cory@deq.state.or.us) or go to [www.deq.state.or.us/aq/toxics/index.htm](http://www.deq.state.or.us/aq/toxics/index.htm).

For more information about monitoring for toxics at Oregon schools contact Madonna Navarez, EPA Region 10, 206-553-2117, [narvaez.madonna@epa.gov](mailto:narvaez.madonna@epa.gov) or go to [www.epa.gov/schoolair](http://www.epa.gov/schoolair).

## Alternative formats

*Alternative formats (Braille, large type) of this document can be made available. Contact DEQ's Office of Communications & Outreach, Portland, at (503) 229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.*

