Summary

Community Air Monitoring Project St. Paul Payne-Phalen

What we monitored

We monitored air quality for fine particles ($PM_{2.5}$) and air toxics (carbonyls, metals and volatile organic compounds) in the St. Paul Payne-Phalen community.

Why is it important?

People exposed to air pollution are at increased risk for adverse health effects. This can include shortness of breath, asthma attacks, heart attacks or stroke. Studies show that low-income communities might be unfairly affected by pollution from industrial, highway or air traffic sources.

Monitoring in these communities can help us to better understand the community's air quality and how it compares to other monitoring sites.

Highlights and key findings

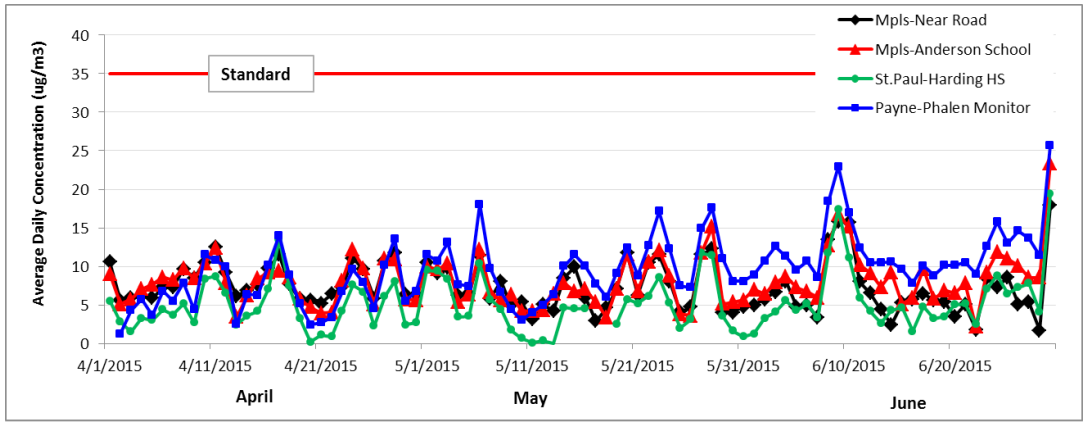
About this study

In 2013, the Minnesota Legislature provided funding for a two-year air monitoring study to measure air quality in Minnesota communities where low income communities might be disproportionately impacted by pollution from highway traffic, air traffic, and industrial sources.

- We put an air monitoring station in the St. Paul Payne-Phalen community. This station monitored air quality for over three months from April 1, 2015 to June 30, 2015.
- We compared the monitored data with air quality health standards and compared the data with other air data collected during the same time period at other monitors.
- All average daily $PM_{2.5}$ values were below the daily $PM_{2.5}$ standard of 35 micrograms per cubic meter ($\mu g/m^3$).
- Average daily $PM_{2.5}$ values measured at the Payne-Phalen monitor were generally higher than the values seen at most other sites for a majority of the monitoring days.
- Of the 70 air toxic chemicals measured for this project, the levels of 44 chemicals were so low that they were not detected by the monitor.
- Average air toxic values measured at the Payne-Phalen site were all below any associated health benchmark values.

Fine particles ($PM_{2.5}$)

This graph shows the average daily $PM_{2.5}$ values at the Payne-Phalen community monitor and other metro air monitors. The average daily $PM_{2.5}$ behavior was similar across the monitors.All average daily $PM_{2.5}$ value were below the daily $PM_{2.5}$ standard of 35 µg/m^3 .

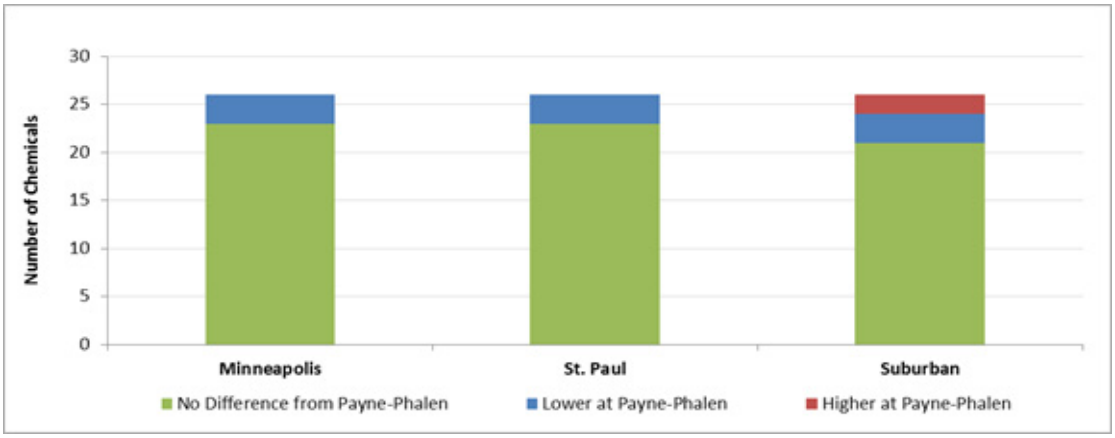


Air toxics

Of the 70 air toxics measured, 26 were detected at the Payne-Phalen community monitor.

The majority of air toxics measured at the Payne-Phalen monitor were not significantly* different from levels measured at other Twin Cities monitoring sites. All air toxics measured at the Payne-Phalen monitor were below established health benchmark values.

This graph shows the number of detected air toxics that differed* between the Payne-Phalen monitor and other Twin Cities monitors. Air toxics were similar to levels measured at other air monitors.



*Kaplan-Meier non-parametric non-detects data analysis

Project website

For more information on the Community Air Monitoring Project, please visit www.pca.state.mn.us/air/community-air-monitoring project or call either 651-296-6300 or 1-800-657-3864 and ask for air data analysis staff.

More information about the MPCA's Air Monitoring Program is available on the Web at http://www.pca.state.mn.us/air/air-pollution-monitoring.