

Community Air Monitoring Project Summary

St. Paul-St. Anthony Park Neighborhood



Project overview

The Community Air Monitoring Project (CAMP) is an air monitoring study, funded by the Minnesota Legislature and conducted by the MPCA, designed to measure air quality in Minnesota communities where low income or communities of color might be disproportionately impacted by pollution from highway traffic, air traffic, or industrial sources. For more information, visit www.pca.state.mn.us/air/community-air-monitoring-project.

Select air pollutants were monitored in St. Paul's St. Anthony Park neighborhood from January 1 - December 31, 2016. This site is located at 2265 Robbins Street in a mixed residential/industrial area in close proximity to a high-traffic highway (I-280) and a large railroad switchyard. This summary describes the monitoring results, including comparisons to applicable air quality standards or risk-based inhalation health benchmarks and to pollution levels measured at other St. Paul and Minneapolis Area monitoring sites.

Pollutants measured

All CAMP sites measure a common set of air pollutants including fine particles ($PM_{2.5}$), Total Suspended Particulates (TSP), lead, and "air toxics," which denotes a group of over 60 metals, volatile organic compounds (VOCs), and carbonyls. With the exception of $PM_{2.5}$, which is measured hourly, all pollutants were measured in 24-hour samples collected once every six days.

Findings at a glance

Overall, air pollution levels measured in the St. Anthony Park neighborhood are similar to levels measured at other Twin Cities Area sites. Levels of TSP and some metals and VOCs were slightly elevated compared to other sites in the Twin Cities.

Fine particles

- Daily PM_{2.5} levels closely tracked other Twin Cities Area monitoring sites.
- PM_{2.5} levels measured in St. Anthony Park would be expected to meet the daily and annual PM_{2.5} standards if monitors remained there long-term. A minimum of three years of monitoring data are required to determine compliance with the PM_{2.5} standards.
- In 2016, PM_{2.5} levels were higher than the daily PM_{2.5} standard on January 14 and May 7. These high days were associated with regional air pollution events that affected all monitors in the Twin Cities Area. This is not a violation of the daily PM_{2.5} standard since the rule allows for seven days over the standard before a site is considered to be in violation the standard.
- Fine particles can aggravate heart and cardiovascular disease as well as lung diseases like asthma and chronic obstructive pulmonary disease.

Total suspended particulate

- Daily TSP levels were slightly higher in St. Anthony Park compared to other Twin Cities Area monitoring sites (excluding sites near industrial sources), but followed a similar daily pattern.
- In 2016, daily TSP levels were higher than the secondary daily TSP standard on April 18 and May 6. This is a violation of the Minnesota Secondary Daily TSP Standard. However, on these days, all Twin Cities Area TSP sites also were elevated which suggests there was a regional source affecting TSP levels on those days.
- In 2016, TSP levels at St. Anthony Park met the daily and annual health-based (primary) standards. The site also met the annual public welfare (secondary) standard.
- Elevated TSP concentrations may contribute to respiratory irritation and nuisance dust. The majority of the particles in this size range are removed by the body before reaching the lungs.

Lead

- Lead levels measured in St. Anthony Park are very low and would be expected to meet the lead standard if monitors remained there long-term. A minimum of three years of monitoring data are required to determine compliance with the lead standard.
- While lead levels in St. Anthony Park are very low, daily lead levels were slightly higher compared to other Twin Cities Area monitoring sites.

Air toxics

- The majority of air toxics measured at St. Anthony Park met applicable health benchmark guidelines. Cobalt, arsenic, and formaldehyde were measured slightly above health benchmarks.
- Formaldehyde is an urban pollutant that is above the long-term health benchmark at all air monitoring sites in Minneapolis and St. Paul. The MPCA is actively working to better understand what factors are contributing to elevated formaldehyde levels in the Twin Cities Metro Area.
- Cobalt was found more frequently and at higher levels in St. Anthony Park compared to other Twin Cities Area sites. This suggests a local source may be contributing to elevated cobalt levels in the area near the monitor.

Additional information

To view current conditions and to sign up for Minnesota air quality forecasts and alerts, visit www.pca.state.mn.us/aji.

For questions regarding ambient air monitoring in the St. Anthony Park neighborhood or community air monitoring in general, call the MPCA, 651-296-6300 or 800-657-3864.