

Community Air Monitoring Project Summary

St. Paul Downtown Airport-Holman Field



Project overview

The Community Air Monitoring Project 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.

MPCA previously monitored air pollutants in the St. Paul West Side neighborhood at Our Lady of Guadalupe church at 401 Concord Street between April - June 2014. At the St. Paul West Side monitoring site, most of the three-month average air toxics metals values were slightly higher than other sites around the Twin Cities. This suggested that this site was being impacted by a local source of air toxic metals. In response to these findings and community concerns, the MPCA returned to the St. Paul West Side area in 2016 to monitor levels of metal particles in the air. This monitor was placed in the southeast area of the St. Paul Downtown Airport at 719 Eaton Street from January 1 - December 31, 2016. 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

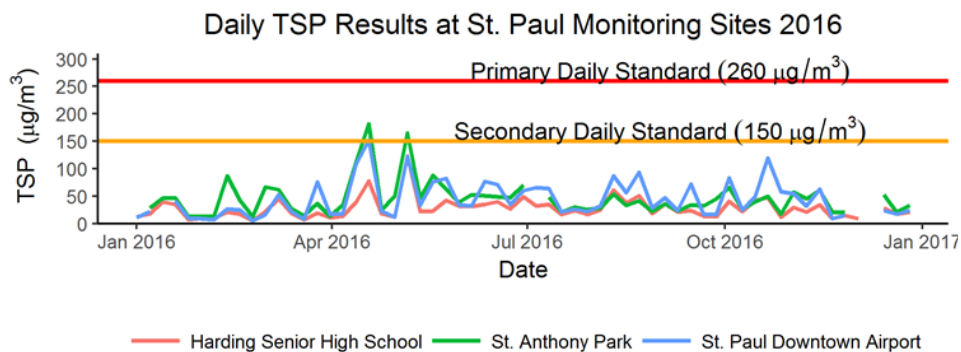
Total Suspended Particulates (TSP) and metals including lead, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, iron, manganese, selenium, and zinc were measured at St. Paul Downtown Airport. All pollutants were measured in 24-hour samples collected once every six days.

Findings at a glance

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

Total suspended particulate

- Daily TSP levels were slightly higher at St. Paul Downtown Airport compared to other Twin Cities Area monitoring sites (excluding sites near industrial sources), but followed a similar daily pattern.
- In 2016, TSP levels at St. Paul Downtown Airport met the daily and annual health based (primary) standards and the daily and annual public welfare (secondary) standards.
- In 2016, the daily TSP level at St. Paul Downtown Airport was higher than the secondary daily TSP standard on April 18. However, on this day, all Twin Cities Area TSP sites also were elevated which suggests there was a regional source affecting TSP levels on this day. Two exceedances of the daily standard are required for a monitoring site to be in violation of the daily TSP 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 at St. Paul Downtown Airport are well below standards and would be expected to meet the lead standard if monitors remained there long-term. A minimum of three years of monitoring data is required to determine compliance with the lead standard.
- Daily lead levels at St. Paul Downtown Airport were slightly higher compared to other Twin Cities Area monitoring sites. Lead levels at St. Paul Downtown Airport were similar to those at Anoka County Airport in Blaine, which suggests the airport influenced lead levels monitored at the site.

Metals

- All metals measured at St. Paul Downtown Airport met applicable health benchmark guidelines.
- Average nickel concentrations measured at St. Paul Downtown Airport were slightly higher compared to other Twin Cities Area monitoring sites.
- Average manganese concentrations measured at St. Paul Downtown Airport were slightly higher compared to other Twin Cities Area monitoring sites.

Additional information

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

For questions regarding ambient air monitoring at St. Paul Downtown Airport or community air monitoring in general, call the MPCA, 651-296-6300 or 800-657-3864.