

2012 - 13

# Summary of Air Quality Monitoring Study for the City of Regina

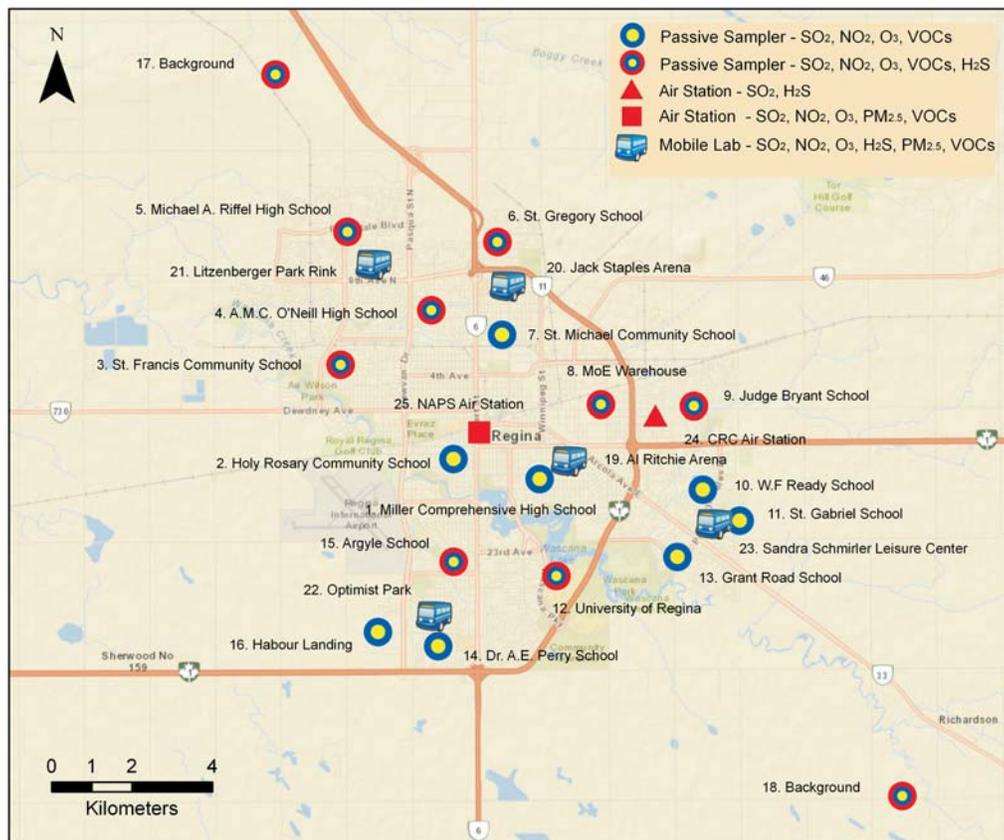


The Ministry of Environment, along with the Ministry of Health, Regina Qu'Appelle Health Region and the City of Regina conducted a one-year air quality study. The urban study,

undertaken in the City of Regina, is the first of its kind in Saskatchewan. It was initiated in 2012 to gain a better understanding of the status and trends of the air quality in the city, with a focus towards the residential neighbourhoods. The results of the study showed that the city's air quality is predominantly a Low Health Risk according to the Air Quality Health Index (AQHI). AQHI is a health scale designed to help people understand the extent air quality impacts human health.

## Why Monitor Ambient Air?

Air is monitored to identify trends and changes in the environment, confirm effectiveness of emission controls, collect data for scientific studies, and provide air quality information to the community. Data is collected in two different ways: continuous monitoring collects data 24 hours per day, seven days per week, and intermittent monitoring collects passive samples monthly.



## How do we determine if the air quality is good?

Air quality is determined through monitoring. To measure the level of air quality, the AQHI is used. In Regina, over the past two years (2012-2013), 97% of the time showed a Low Health Risk, which indicates the air quality is ideal for outdoor activities. Three per cent of the time showed a Moderate Health Risk, which indicates there is no need to modify outdoor activities, unless symptoms such as coughing and throat irritation occur. Over the two years of monitoring, there were only seven hours (0.04% of time) in which the health risk was High, indicating that people should consider reducing or rescheduling strenuous activities outdoors if symptoms such as coughing and throat irritation occur. Vehicle emissions and forest fires were the most likely causes of these seven events.

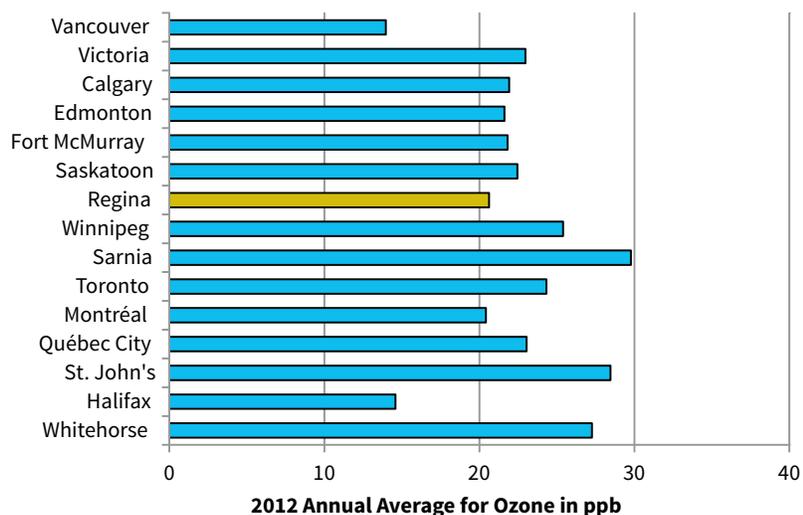
## What did this study reveal?

This air quality study demonstrated that the overall air quality in the City of Regina is good, and did not vary from one area of the city to the next. Data collected from all locations in the city compared closely to the permanent air monitoring station that has been monitoring in downtown Regina since 1984. Analysis of the monitoring results indicates that potential pollutants that will be monitored closely in the future include particulate matter (PM<sub>2.5</sub>), ozone (O<sub>3</sub>), and hydrogen sulphide (H<sub>2</sub>S). The results from the air quality study have provided baseline data from which to compare future monitoring of Regina neighbourhoods.

## How does Regina's air compare?

The graph aside compares Regina (in orange) to other major cities in Canada, using the 2012 annual average of ozone. In 2012, Regina ranked 4th lowest of these cities compared. In relation to prairie cities, Regina ranked the lowest. Ozone averages ranged from 14ppb to 30ppb with Regina's average at 21ppb.

**Comparison of Ozone Measurements in Canada**



In comparison with nitrogen dioxide Regina ranked in the middle of the cities compared, and well below the annual guideline. Regina had a 2012 annual average of 9ppb, whereas the other cities ranged from 6ppb to 18ppb.

**Comparison of Nitrogen Dioxide Measurements in Canada**

