

## Ambient Air Benzene – 2002 Update

Through the National Air Pollution Surveillance (NAPS) network, data are collected on ambient air levels of a variety of toxics at rural, suburban, city-centre and industrial sites. This effort is carried out in cooperation with provincial environmental and municipal agencies. The program incorporates measurement of a large number of volatile organic compounds (VOC) including benzene. In 2002 there were 49 active sites where benzene measurements were taken. Ten sites were in rural locations and the other 39 sites were located in 18 different cities across Canada. Thirty-three of the urban sites had complete measurements to allow calculation of an annual mean. The annual means by site ranged from 0.6 to 3.9  $\mu\text{g}/\text{m}^3$  with 30 of the 33 sites recording annual mean concentrations less than 1.7  $\mu\text{g}/\text{m}^3$ .

The NAPS benzene monitoring program began in 1989. For the period 1990 to 2002 there were 18 urban sites in 12 cities that had complete annual data records (valid annual mean in at least 10 of the 13 years). The composite annual mean for that group of sites is shown below. Also shown of the graph are results for a group of rural sites that had complete (7 out of 9 years) data for 1994 to 2002.

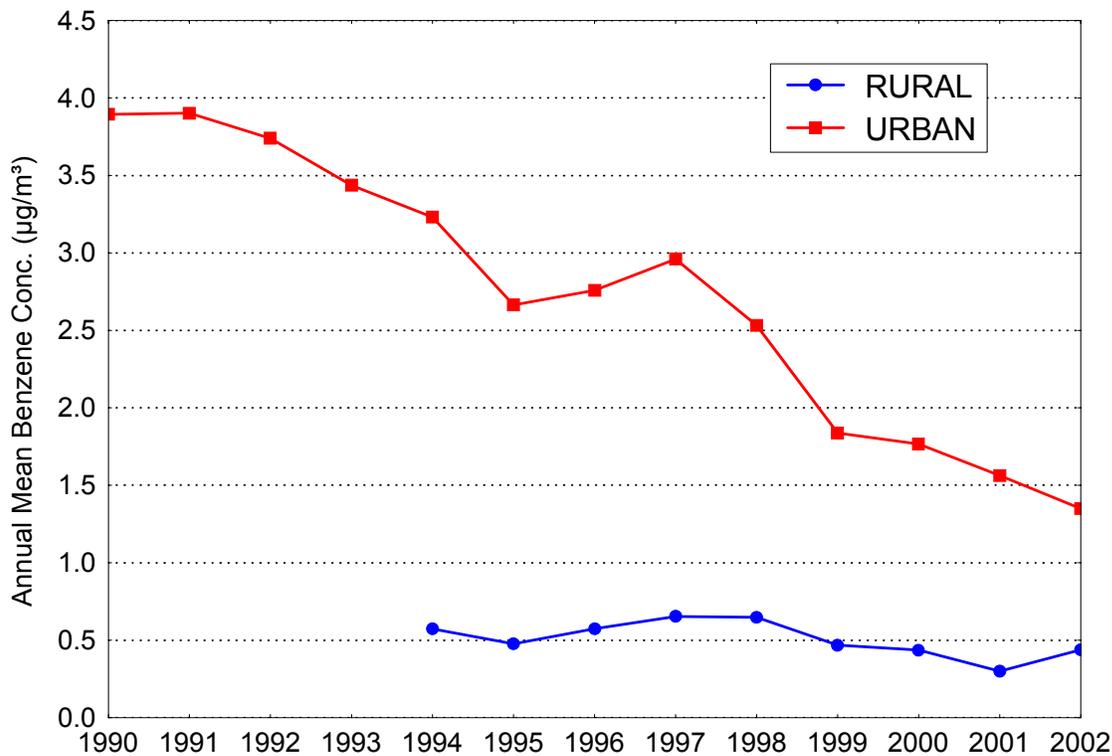


Figure 1. Distribution of Annual Mean Benzene Concentrations ( $\mu\text{g}/\text{m}^3$ ) in Urban (1990-2002) and Rural Locations (1994-2002)

Urban benzene concentrations have decreased by 65% between 1990 and 2002. Year to year benzene concentrations have decreased in every year since 1997 with a 55% decrease between 1997 and 2002. Rural benzene concentrations have changed very little but urban concentrations are beginning to approach rural concentrations.