

Human Health Risk Assessment

In 2008, a Human Health Risk Assessment (HHRA) was completed as part of the Detroit River International Crossing study. The 2008 HHRA studied the potential for adverse health effects of people living in the immediate area of the Windsor-Essex Parkway once construction was complete and traffic was using the new freeway.

As a condition of approval for the Detroit River International Crossing study, the Ontario Ministry of the Environment required that a subsequent HHRA be completed to understand the potential for adverse health effects for people living in the immediate area where construction is taking place. Parkway Infrastructure Constructors (PIC) has completed this additional assessment.

What is a Human Health Risk Assessment?

Human Health Risk Assessments (HHRA) are predictive tools used to quantify potential health risks associated with a particular undertaking. An assessment of risk is based on an understanding of the nature of chemicals one might be exposed to, the magnitude, duration and method of exposure, and the sensitivity of an individual to the chemicals being evaluated.

How was the study done?

The HHRA undertaken by PIC considered the following:

- health risks associated with direct inhalation of construction-related pollutants
- indirect effects such as pollutant deposition on soil and uptake by home-grown fruits and vegetables.

It also focused on contaminants originating from diesel-powered equipment, paving and a variety of contaminants in diesel exhaust.

What were the key findings?

Using conservative exposure assumptions, the only parameters that were shown to have the potential to pose unacceptable health risks are particulate matter (PM_{2.5} and PM₁₀) and oxides of nitrogen (NO_x).

Particulate matter and oxides of nitrogen are common air pollutants that result from the combustion of fossil fuels (e.g. diesel) and re-suspension of dust (PM₁₀). Exposure is associated with increased reporting of respiratory and cardio-vascular symptoms.

Exposure to air pollutants from construction-related activities is dependent on a person's proximity to the construction activity, number of machines operating at that location and meteorological conditions at the time of construction. Any exceedances of air quality guidelines are predicted to be localized and transient.

What mitigation measures will be put in place?

The following mitigation measures will be applied under PIC's environmental operational control procedures:

- scheduling construction activities to minimize the extent of overlap in any one area
- using new and/or heavy equipment with fully functional emission control systems compliant with applicable regulations
- ensuring all machinery is maintained and operated as per manufacturer's specifications
- minimizing idling
- locating stationary equipment (e.g. generators, compressors, etc.) as far away from sensitive receptors as practical.
- applying dust control best management practices.

More information on the Human Health Risk Assessment can be found by visiting www.weparkway.ca. Should you have any questions about the assessment please contact us at 1-877-WE-PKWAY or wep-plo@wemg.ca.