Research Aims:

Large roads have been shown to directly and indirectly impact the quality of life (QOL) of residents and populations living within 200 meters, due to pollution\(^2\)\(^,\)\(^3\)\(^,\)\(^4\)\(^,\)\(^5\) and noise\(^6\)\(^,\)\(^7\) by passing vehicles, and by increased pressures on socio-economic arrangements that develop or deteriorate as a result of lower property values.

The MTQ’s demolition and reconstruction plan\(^7\) for the Turcot Interchange is expected to increase the amount of cars using the Turcot Interchange.

Many residents and community groups of the Village des Tanneries believe that the MTQ plan will not reduce automobile traffic, and will decreased air quality.

Two alternative propositions oriented at improving the reconstruction have been developed: one by Pierre Brisset from the Groupe de recherche urbaine Hochelaga-Maisonneuve (GRUHM) and another by Daniel Bouchard of the Conseil régional de l’environnement de Montréal (CRE-Montreal).

We theorize that the present Turcot Interchange has deleterious effect on sleep quality and the quality of life of citizens living in the Village des Tanneries. The objectives of this study are:

- to evaluate QOL of the population in the Village des Tanneries using quality of sleep as the overall indicator;
- to assess the health impacts of air pollution and noise from the Turcot interchange;
- to determine how the three Turcot project alternatives might influence air quality and noise levels, and subsequently;
- to determine which alternative might negatively affect QOL the least.

Key outputs expected:

A literature review is underway to identify studies that evaluate the effect(s) of roads on noise, air quality and socio-economic arrangements on residential populations within 200 meters of the roads or freeway(s). A particular emphasis is on studies concerning the role of noise, air pollution and stress on sleep quality and QOL. Those studies that are peer-reviewed and scientifically rigorous will be selected for comparison and analysis.

Survey: Subjective sleep quality will be assessed using a survey that is being carried out between January and February 2009 in the Village des Tanneries. A survey will also be carried out in a control group, a socio-economically similar neighborhood with no proximity to a high-traffic corridor. Variables measured are quality of sleep, effects of air quality, noise intrusion and physical, and psychological health. Hospitalization data will be analyzed in conjunction with the results obtained from the survey.

Air quality: The results of noise and air pollution models of the three alternatives will be incorporated into the assessment.

Final results are expected in April 2009.