

**Health Impact of the Turcot Reconstruction**  
**Summary of a presentation given by François Thérien**  
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to the members of the Coalition of Community Groups Mobilized around the Transport Québec Turcot  
Project

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**Health, Atmospheric Pollution and Transport**

The quality of the air that we breathe is essential to our Health. **The presence of pollutants in the air**, whether in the form of various toxic gases (carbon monoxide, Sulfur Oxides, or Nitric Oxides...), or in the form of volatile organic compounds (benzene, toluene etc) or particle matter; **all have an important impact on our health**. For example, a study from Health Canada estimates that **Atmospheric Pollution has been responsible for 1540 deaths per year in Montreal**, of which 1140 attributable to chronic, long-term exposure. This pollution is attributable in large part to the use of automotive transportation.

In Montreal, cars contribute to 85% of Nitric Oxides, 43% of organic volatile substances and 30% of fine particle matter (2.5 microns in diameter) and ultra-fine particle matter (0.1 microns); the latter are especially harmful, due to the fact **they penetrate deep into the respiratory tract**, then enter the bloodstream with ease. The concentrations of atmospheric pollutants will vary throughout the city: It has been demonstrated that **the highest concentrations of nitric oxides and ultra-fine particle (the most dangerous) are found within 200m from any high traffic road**.

Anyone living within proximity of large roads or highways will therefore be most affected by the consequences of Atmospheric Pollution. This is especially true for those belonging to more vulnerable groups, such as children and the elderly. Studies have demonstrated that

subjects living in proximity of high traffic roads will have a higher probability of suffering from cardio-pulmonary problems, in . For example a Montreal study by Dr. Audrey Smargiassi showed that persons over the age of 60, who lived beside a road with more than 7 700 vehicles/hour of morning rush hour traffic, will have a 30% higher risk of hospitalisation due to respiratory tract problems, as compared with residents living on quieter streets.

**We now know that pregnant women and their foetus are also at risk due to air pollution from automobiles.** A recent Montreal study by Dr. Mélissa Généreux showed that **mothers living less than 200m from a high traffic road, have a 20% higher risk of giving birth to a pre-mature baby.**

Automobile Transportation is now recognized as having a **measurable and significant impact on the quality of the air we all breathe, and on our overall physical health and well being.****The risks of negative effects are especially high for anyone living in proximity of a high traffic road.**