



Comments on the West Transitway Construction and Bus Detour Proposal (2015-2018):

Impacts on Local Air Quality and Human Health

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SUMMARY OF KEY POINTS

- Ottawa Public Health (OPH) is supportive of the approaches and findings of the air quality modeling and human health risk assessment reports prepared to assess the health impacts from air pollution resulting from the West Transitway construction and bus detour.
- In consultation with a technical advisory committee formed to assist in the review, OPH reviewed and provided feedback into the study design and is confident that the assessments align with best practices in Ontario and Canada for predictive modelling of air quality and human health risk assessment.
- The results of the air quality modelling predict that the project could result in exceedances of air quality guidelines for up to 0.11 % of the time in 2016. The 1-hour and 24-hour NO₂ levels are predicted to exceed the guidelines less than 0.1% of the time. PM₁₀ and benzene are predicted to exceed the 24-hour guidelines 0.11% of the time.
- No long-term health risks related to air emissions from the West Transitway construction and detour are expected. It is possible however that some sensitive individuals (e.g. asthmatics) could experience short-term worsening of symptoms if they are present during the earthmoving construction phase.

BACKGROUND

As part of the construction of the Confederation Line Light Rail Transit (LRT) along the West Transitway between 2015 and 2018, the City of Ottawa plans to detour buses that normally travel on this stretch of transitway onto Scott and Albert Streets between Tunney's Pasture and Lebreton Flats. Local residents raised concerns about potential health impacts from the air pollution that could result from the close proximity of bus traffic to residents' homes.

In response to these concerns, the City of Ottawa contracted Novus, an expert on air quality impacts associated with transportation projects, to investigate. Novus conducted an assessment, through predictive modelling, to determine the expected air quality in



the Scott/Albert Street corridors during the West Transitway construction and bus detour phase, as well as for the pre and post construction phases. Results from this predictive modelling are included in the Local Air Quality Assessment report). In addition, Novus examined the likelihood of human health impacts for the pollutant levels based on possible worst-case scenario during this project. The results of this assessment can be found in the Screening Level Human Health Risk Assessment report.

OTTAWA PUBLIC HEALTH INVOLVEMENT

OPH reviewed and provided feedback on the study design and the findings from the assessments. OPH established an independent Technical Advisory Committee to provide expertise in the area of air quality modelling and human health risk assessment. The TAC members included provincial experts in these areas; specifically, staff from the Ontario Ministry of the Environment and Climate Change (MOECC), and Public Health Ontario (PHO).

OPH submitted feedback to the City on the study methodology and draft findings. Feedback included requests for additional information to be included; clarification of assumptions; and clarification of data used in the modelling. OPH comments were incorporated, and satisfactory explanation of issues was provided. OPH is supportive of the approaches and findings of the Local Air Quality Assessment and Screening Level Human Health Risk Assessment reports prepared.

OPH also participated in the West Transitway Detour Final Design Public Information Session on June 16, 2014 to share with the public air quality modelling results, to hear community concerns and answer questions from residents.

LOCAL AIR QUALITY ASSESSMENT (NOVUS, JUNE 2014)

The initial study conducted by Novus was the Local Air Quality Assessment. As part of this assessment the worst-case scenarios in air pollution levels were predicted based on local air quality data from a period of 5 years – through modelling - along the bus detour route during the construction phase of the project. Novus also examined pre and post-construction scenarios. The study design used for the predictive modelling aligned with the Ministry of Transportation’s [“Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects.”](#)

The use of modelling, to predict future air quality, is an accepted approach that takes into account the changeability of air quality due to weather patterns and pollutant levels observed over longer timeframes. Modelling also allows additional local factors to be taken into consideration, including changes in local traffic and construction emissions. All of these factors were taken into consideration as part of Novus’s Local Air Quality



Assessment and results were compared to Ontario and Canadian air quality standards and objectives.

Key Findings

- During the construction phase, the study predicts some exceedances of air quality guidelines. These exceedances are not anticipated to result in air quality exceedances more than 0.11 % of the time.
 - In 2016, the 1-hour NO₂ levels are predicted to exceed the guidelines 37 times and the 24-hour NO₂ levels are predicted to exceed the guidelines 1 to 2 times. PM₁₀ and benzene are predicted to exceed the 24-hour guidelines 0.11% of the time.
 - The exceedances are mostly due to the construction activities; however, poor regional air quality and additional traffic also impact these exceedances. OPH is advised that these results are typical for roadway construction projects of this size.
- There are expected to be a few days when the background regional air quality will exceed air quality guidelines, primarily for small dust particles or particulate matter. Poor air quality events include smog alert days, in which OPH and MOECC provide health protection messaging to all Ottawa residents as part of their Smog Advisory Programs.

SCREENING LEVEL HUMAN HEALTH RISK ASSESSMENT REPORT (NOVUS, JULY 2014)

A subsequent study conducted by Novus was the Screening Level Human Health Risk Assessment. This study was undertaken to determine whether there was a potential for adverse health impacts associated with the air pollutants predicted to be generated from the West Transitway construction and bus detour. The assessment examined worst case exposure scenarios at 53 locations in the community. The cumulative air quality (project and regional) impacts were assessed. Air pollutants were evaluated for short-term and long-term health impacts for both cancer and non-cancer impacts. The Screening Level Human Health Risk study design was prepared in accordance with best practices in Ontario, Canada and the U.S.

Key Findings

- No long-term health risks related to air emissions from this project are expected.
- Short-term health impacts that could be expected include reversible respiratory health symptoms such as exacerbation of asthma associated with NO₂ levels for sensitive individuals who are present during the times during the “earthworks”



construction phase of the project. Sensitive individuals are people who have pre-existing health conditions.

OTTAWA PUBLIC HEALTH RESOURCES

OPH is committed to providing the community with information on environmental health risks and ways to prevent adverse health effects. OPH monitors air quality data provided by the MOECC and Health Canada on a daily basis and communicates all identified poor air quality events to the public via public service announcements and social media. OPH's [web site](#) provides information on health impacts of air pollution and hourly Ottawa air quality information.

RELATED DOCUMENTS

Local Air Quality Assessment Scott Street/Albert Street Bus Detour and LRT Construction, Ottawa, Ontario (Novus Environmental, April 2014).

Screening Level Human Health Risk Assessment (SLHHRA) of Local Air Quality Impacts (Intrinsik, September 2014).

