



# Staff Report to Council

Planning and Development

FILE: 11-5280-02/24

**REPORT DATE:** April 22, 2024                      **MEETING DATE:** April 30, 2024

**TO:** Mayor and Council

**FROM:** Michelle Baski, Project Manager, Agriculture & Environment

**SUBJECT:** Air Quality Monitoring Study Update

**CHIEF ADMINISTRATIVE OFFICER REVIEW/APPROVAL:**

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**RECOMMENDATION(S):**

THAT Council:

- A. Receive for information the report titled “Air Quality Monitoring Study Update” as presented at the April 30, 2024 Council meeting; OR
  - B. Other.
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**PURPOSE**

To provide an update on an air quality monitoring study related to railway operations that will be starting this quarter.

- Information Report                       Decision Report                       Direction Report

**DISCUSSION**

**Background:**

On July 26, 2022, Council received a report that presented the findings of the Air Quality Human Health Risk Assessment of Diesel Emissions (HHRA) final report. This report expanded on the previous interim Air Quality Human Health Risk Assessment and included existing Pitt Meadows air quality data, emissions forecasting from locomotive diesel emissions, and modelling of how it disperses across the community, based on three different scenarios (see Attachment A):

1. Train emissions for 2022 locomotive operations;

2. Estimated emissions from forecasted 2030 locomotive operations; and
3. Estimated emissions from the forecasted 2030 locomotive operations, plus the forecasted train and heavy truck operations from the proposed CP Logistics Park.

The HHRA found that, for all the scenarios, in locations with the highest modelled contaminant concentration, there are increased non-cancer health risks for acute exposure to diesel particulate matter (DPM), fine particulate matter (PM<sub>2.5</sub>), and nitrogen dioxide (NO<sub>2</sub>), and increased lifetime cancer risks from exposure to DPM. More details on the findings for each scenario can be found in Attachment A.

The July 26, 2022 report identified an opportunity for additional, longer-term air quality monitoring in order to provide a more robust data set. Although the additional air quality monitoring was not expected to change the findings of the HHRA (since the risk analysis identifies the upper range of the potential health risks and is based on a modelling approach), the report noted that more robust air quality data could support advocacy for improved emissions policies and regulations.

Since the July 26, 2022 report, staff have consulted with Metro Vancouver, Fraser Health, and Environment and Climate Change Canada representatives to discuss collaboration opportunities on potential air quality monitoring initiatives. In January 2023, the City became aware of a funding opportunity through Transport Canada's *Program to Enhance Rail Safety Engagement (PERSE)*, which is intended to help develop, improve and/or implement rail transportation strategies and policies, including researching the impact rail lines have on communities or traditional territories. Staff contacted partner agencies, applied for funding in February 2023, and were notified of approval in December 2023. The signed contribution agreement for \$82,200 was received in March 2024, and staff are working with an external consultant, Envirochem Services Inc., to implement the air quality monitoring study detailed below. Envirochem Services Inc. was the consultant used for the previous air quality monitoring work conducted in 2021 and HHRA finalized in 2022; therefore, they are familiar with the conditions and background information.

#### **Proposed Air Quality Monitoring Study:**

The air quality monitoring study is intended to:

- Capture baseline air contaminant concentrations ahead of future predicted increases in rail operations in Pitt Meadows;
- Evaluate air quality concentrations in areas close to rail operations and areas predicted to be 'hot spots' from findings of the previous air quality study; and
- Compare these near-rail air quality concentrations to those captured at other locations, such as the Metro Vancouver monitoring station on Old Dewdney Trunk Road.

The primary air contaminants of concern identified in the HHRA, and that will be targeted in the monitoring efforts, were PM<sub>2.5</sub> and NO<sub>2</sub>. Environment and Climate Change Canada staff also recommended monitoring for black carbon, which is the small airborne particulates of carbon released during fossil fuel combustion and is a specific component of PM<sub>2.5</sub>.

Several sensors will be installed close to the rail operations to continuously monitor the air quality for PM<sub>2.5</sub> and NO<sub>2</sub>. Select locations will also include a black carbon module to contextualize the emission sources of measured PM<sub>2.5</sub>, and meteorological sensors will also be included to track the wind patterns observed at the measurement locations during the monitoring, to aid in interpretation of the results. Locations of the monitors will be informed by the findings of the HHRA and advice from Envirochem Services Inc.

The air quality monitoring is anticipated to be in place until the end of 2024, though staff will be requesting that Transport Canada provide a project extension to allow for a full year of monitoring.

The HHRA and an invitation to collaborate on this study were sent to neighbouring municipalities adjacent to rail operations, including Port Coquitlam, Maple Ridge, Coquitlam, Surrey, and the Township of Langley. The ᑕᑎᑎᑎ (Katzie) First Nation was also invited to participate, along with Fraser Health, Metro Vancouver, and Environment and Climate Change Canada. Fraser Health's Health Protection, Population and Public Health Section provided a letter of support for the PERSE grant application and is interested in the results of the monitoring study, as is Environment and Climate Change Canada, and Metro Vancouver. Once the study is complete, the report will be shared with Council, the partnering agencies, ᑕᑎᑎᑎ (Katzie) First Nation, and surrounding municipalities.

The information from this study is intended to further support the City's advocacy efforts related to rail emissions and to inform other air quality studies being conducted by other agencies in the region.

#### **COUNCIL STRATEGIC PLAN ALIGNMENT**

- Principled Governance     Balanced Economic Prosperity     Infrastructure  
 Community Spirit & Wellbeing     Corporate Pride     Public Safety  
 Not Applicable

**Advocacy** – Proactively advocate for issues of importance to our community.

**Active Wellness** – Provide and encourage a community conducive to healthy, inclusive and accessible living.

**WORKPLAN IMPLICATIONS**

- Already accounted for in department workplan / no adjustments required
  - Emergent issue / will require deferral of other priority(ies)
  - Other
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**FINANCIAL IMPLICATIONS**

- None       Budget Previously Approved       Referral to Business Planning
- Other

There are no financial implications with this report.

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**PUBLIC PARTICIPATION**

- Inform       Consult       Involve       Collaborate       Empower

Comment(s):

This report will be publicly available on the City’s website.

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**KATZIE FIRST NATION CONSIDERATIONS**

- Referral     Yes     No     Other

Refer to q̄ic̄əȳ (Katzie) First Nation for their information.

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**SIGN-OFFS**

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**Reviewed by:**

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Manager of Planning

Patrick Ward,  
Director of Planning and Development

Justin Hart,  
Manager of Major Projects

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**ATTACHMENT:**

- A. July 26, 2022 Report to Council: Air Quality Human Health Risk Assessment of Railway Diesel Emissions – Final Report