

City of Mississauga
Corporate Report



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| <p>Date: May 5, 2023</p> <p>To: Chair and Members of Planning and Development Committee</p> | <p>Originator's files: CD.21-CLA</p> |
| <p>From: Andrew Whittemore, M.U.R.P., Commissioner of Planning & Building</p> | <p>Meeting date: May 29, 2023</p> |

Subject

INFORMATION & RECOMMENDATION REPORT (WARD 2) - Clarkson Transit Station Area Study Update: Air Quality Study Findings and Next Steps

Recommendation

1. That the corporate report titled "Clarkson Transit Station Area Study: Air Quality Study Findings and Next Steps" dated May 5, 2023, from the Commissioner of Planning and Building, be received for information.
2. That staff be directed to proceed with completing the master plan for the Clarkson GO Major Transit Station Area and associated implementation policies as outlined in this report.

Executive Summary

- In 2018, the Clarkson Transit Station Area Study (Clarkson TSA Study) was initiated and a consultant team was retained to help develop a vision and guiding principles for intensification around the Clarkson GO station.
- Through work on the study it was determined that an air quality study should be undertaken prior to considering the introduction of sensitive (i.e. residential) uses in the Southdown Employment Area near the Clarkson GO station.
- In 2020, Council adopted the Mississauga Official Plan Amendment 117 (MOPA 117) requiring the submission of a completed air quality study before sensitive uses can be considered on lands within the Southdown Employment Area and the Clarkson GO Major Transit Station Area (MTSA) boundary.

- The Clarkson Air Quality Study (CAQS) was conducted by WSP Canada Inc (on behalf of Slate Asset Management) and focused on the proposed redevelopment of their site located at 2077-2105 Royal Windsor Drive. The CAQS was completed to the satisfaction of Staff in March of 2023.
- A community meeting was held on March 22, 2023 to present the findings of the CAQS and verify the previously drafted vision and guiding principles for the Clarkson TSA Study. A separate meeting with industry stakeholders was also held.
- The CAQS has determined that although there are periods of poor air quality, this is not unique to the Clarkson MTSA and any potential risks to human health are no different than similar urban environments across the Greater Toronto Area (GTA) and beyond. The study concluded, air quality would not prohibit residential uses being introduced adjacent the Clarkson GO station.
- The purpose of this report is to provide a summary of the CAQS and its findings, feedback received from the community and industry meetings, and to present the recommended next steps for the overall Clarkson TSA Study. An Information and Public Meeting Report with the draft master plan and implementation policies is targeted by the end of 2023.

Background

Following City Council direction in 2017, the Clarkson TSA Study was initiated to develop a transit-supported plan for the lands located within the proposed Clarkson GO Major Transit Station Area (Clarkson GO MTSA). A consultant team was retained in 2018 to begin developing a vision and guiding principles for intensification around the Clarkson GO station.

The Growth Plan 2020 and the new Peel 2051 Official Plan requires MTSA served by a GO Transit rail network to plan for a minimum density of 150 residents and jobs combined per hectare. This results in a minimum of approximately 6,000 additional residents and/or jobs to meet the minimum density target for the Clarkson GO MTSA.

A number of key steps in the project have been completed, such as identifying the Clarkson GO MTSA boundary, considering potential redevelopment opportunities, conducting two community meetings and stakeholder engagement (2018 to 2019), drafting of vision and guiding principles, and mandating the requirement for an air quality study.

In 2020, Council adopted an Amendment to the Mississauga Official Plan (MOPA 117) requiring the submission of a completed air quality study before sensitive uses can be considered on lands within the Southdown Employment Area and the Clarkson GO MTSA boundary.

The City retained Dillon Consulting, an air quality consultant, to prepare the terms of reference and conduct a peer review of the CAQS once complete. Staff established an Expert Review Committee comprised of representatives from the Ministry of the Environment, Conservation and Parks (the Ministry), Peel Public Health, major industry such as, Petro Canada Lubricants and CRH Cement, and the City's Environment Division. The Expert Review Committee and Dillon Consulting oversaw the execution of the CAQS and ensured it was completed in accordance with industry standards and guidelines.

Slate Asset Management (Slate), the owners of lands within the Clarkson GO MTSA at 2077-2105 Royal Windsor Drive have been interested in redeveloping their site for many years. In 2020, they initiated the Clarkson Air Quality Study (CAQS) conducted by their consultant, WSP Canada Inc, in accordance with the City's terms of reference. The study referenced a potential residential development proposal on Slate's site, referred to as the Proposed Development.

In December 2022, Slate submitted Official Plan and Rezoning Amendment applications ([OZ/OPA 22-31 W2](#)) to permit four apartment buildings of 29, 27, 25 and 23 storeys containing 1,237 dwelling units and 2,386 square metres of commercial and live/work space.

Comments

The *Clarkson Transit Station Area Air Quality Study Monitoring and Dispersion Modelling Report, dated February 2023* has been completed to the satisfaction of Staff (Appendix 1). Dillon Consulting prepared a memorandum, dated March 7, 2023, summarizing the results and findings of the CAQS (Appendix 2). Key highlights from that memorandum are included below. A community meeting was conducted to present the findings and to begin discussing the next steps of the Clarkson TSA study.

The purpose of this report is to provide:

- a summary of the CAQS and its findings,
- a summary of feedback received from community meeting #3, including a meeting with industry stakeholders,
- direction on processing Slate's Proposed Development,
- implications of Bill 97; and,
- the recommended next steps for the overall Clarkson TSA Study

CLARKSON AIR QUALITY STUDY (CAQS)

Historically, studies completed by the Ministry have concluded that air quality around the Clarkson GO station has been compromised. The suspected causes of compromised air quality were a combination of vehicle emissions, industrial emissions, and long-range transport of contaminants from outside of the Clarkson airshed. Although some air quality monitoring has

been conducted over the last decade, no current air quality data was available for pollutants of concern such as acrolein and benzene.

A preliminary land use compatibility analysis undertaken as part of the Clarkson TSA Study together with community and stakeholder feedback identified the need for an updated air quality study. The CAQS was to determine the state of current air quality and whether the introduction of additional sensitive uses in the Clarkson area would be appropriate.

The CAQS is comprised of the following three components and its findings, which were peer reviewed by Dillion Consulting on behalf of the City, are summarized below:

1. Land Use Compatibility Assessment (LUCA)
2. Air Quality Assessment (Ambient Monitoring & Dispersion Modeling)
3. Human Health Assessment (HHA)

Land Use Compatibility Assessment (LUCA)

What is a LUCA?

A LUCA was performed using the Ministry D-6 Guideline *Compatibility between Industrial Facilities* to evaluate the likelihood of nuisance impacts between industrial and sensitive uses (i.e. residential) in the Clarkson TSA Study area. The objective of the assessment was to maintain the viability of existing industrial and commercial land uses and determine if the introduction of additional residential land uses was feasible without creating potential nuisance impacts on the new residents.

LUCA Findings

Although compatibility is based on nuisance complaints which are a matter of individual perception, both the LUCA and Dillion Consulting concluded that nuisance issues resulting from incompatible uses would be unlikely in the area of the Proposed Development (2077-2105 Royal Windsor Drive).

Air Quality Assessment (Ambient Air Quality Monitoring in the Clarkson MTSA)

What is Ambient Air Quality and Air Quality Monitoring?

Ambient air quality typically refers to the concentrations of specific contaminants that may be present in the local outdoor air within a specific area. It varies widely with geography, terrain, traffic volume, presence/absence of industrial activity, wind speed and direction, temperature, the presence or absence of buildings, and numerous other factors.

Ambient air monitoring involves deploying monitoring equipment within a study area to measure and understand the levels of contaminants in outdoor ambient air, and how these levels vary over time. Outdoor ambient air measurements represent the levels of contaminants in air that a person may be exposed to (via breathing) while present in the area.

Ambient Air Quality Monitoring in the Clarkson MTSA

The ambient air monitoring program began in July 2020 and captured data on the Proposed Development site by collecting air samples during various times of day following Ministry approved methodologies. It was important for the monitoring period to capture the summer months as this is when pollution levels can be the highest. The data captured was based on common air contaminants for a typical urban setting as well as those which have historically been elevated in the Clarkson airshed.

Ambient Air Quality Monitoring Findings

Of the contaminants assessed, five (i.e., suspended particulate matter (PM_{2.5} and PM₁₀), nitrogen oxide (NO_x), acrolein, benzene, and benzo(a)pyrene) exceeded the relevant air quality thresholds. These contaminants are primarily related to transportation, and similar exceedances of the relevant air quality thresholds have been recorded in other urban jurisdictions of comparable size and characteristics. The Human Health Assessment discussed later in this summary, evaluated the potential health implications of these exceedances.

Air Quality Assessment (Dispersion Modeling)

What is Dispersion Modelling?

Air dispersion modelling is a computational method of predicting how contaminant emissions from sources of emissions disperse and impact specific receptor locations based on local meteorology, topography, and nearby buildings. Air dispersion modelling estimates ambient outdoor air contaminant concentrations at key identified locations (i.e., receptors) within a given area. The Ministry sets out the acceptable models to be used.

Dispersion Modeling in Clarkson MTSA

An air dispersion modelling assessment was conducted to predict the concentration of selected air contaminants at the Proposed Development. The assessment considered the major industrial sources in the area, roadway emissions resulting from vehicle traffic, railway emissions and simulated the worst possible emission and meteorological conditions that could occur.

Dispersion Modeling Findings

Of the 18 air contaminants modelled, only six contaminants (benzene, acrolein, PM_{2.5}, PM₁₀, NO_x, and benzo(a)pyrene) were predicted to exceed the applicable air quality thresholds set by the Ministry and others. This necessitated the need for a Human Health Assessment (HHA) to be undertaken. Whenever air quality is predicted to be impacted due to exceedance of ambient air concentrations over applicable air quality criteria, a HHA is required to quantify the expected degree of risk (if any) to human health.

Human Health Assessment (HHA)

What is a HHA?

A Human Health Assessment (HHA) is used to estimate the adverse human health effects caused by exposure to environmental pollutants in a variety of media such as air, water and soil. When considering air quality, a HHA is typically required for any contaminants for which the cumulative air concentrations are predicted to exceed the relevant air quality thresholds.

Clarkson Air Quality Study HHA Findings & Mitigation Measures

Dillon's review of the Human Health Assessment (HHA) found that the methodology used was appropriate and standard for an air quality-based HHA. The HHA found that the modelled air contaminants were typical of urban areas of similar size and characteristics (i.e., in proximity of industries and major arterial roads) and were unlikely to interact with each other in a manner that would increase or otherwise exacerbate their potential health effects.

The overall conclusion of the HHA, and Dillon's review of the HHA, was that air quality in the area is expected to pose a similar level of predicted human health risk as that of other urban centers within the GTA, that are also influenced by industrial air emissions, traffic air emissions and other common sources of urban air pollutants. The level of potential risk to human health as a result of elevated pollution levels is not significantly different than what would be predicted at other comparable urban areas within the GTA. Dillon Consulting and Peel Public Health agreed with the conclusion of the HHA that noted the "level of potential human health risk related to air quality at the Proposed Development does not reach a threshold where residential development should be prohibited."

The study also concluded that mitigation measures were not a necessary requirement for residential to proceed on the Proposed Development. However it was suggested that mitigation measures such as air filters would improve indoor air quality providing residents with sensitivities to poor air quality an option to close their windows and doors during those times.

COMMENTS RECEIVED FROM COMMUNITY MEETING #3

Staff hosted a virtual community meeting on March 22, 2023 with 107 participants in attendance. A *What We Heard* report has been posted on the project website <https://yoursay.mississauga.ca/clarkson>. Comments received generally reflect the following themes. Staff responses are provided below each comment theme.

1. **Clarkson Air Quality Study** – Participants mentioned that Clarkson has a history of poor air quality. They asked about the distinction between automobile and truck traffic and how each contributes to air pollution in the study area. Questions were received regarding how this study area compares to municipalities in the Region and what constitutes an acceptable level of pollutants.

Staff Response: Transportation is the main source of air pollution in the area which includes automobiles, trucks and trains from nearby transportation corridors. The study determined that certain pollutants are exceeding acceptable air quality criteria at times,

similar to other urban centres across Southern Ontario. The HHA determined that predicted human health risk from increased pollution levels does not reach a threshold where residential development should be prohibited.

2. **COVID-19 Pandemic Adjustments** – There was concern that data adjustments made as a result of the pandemic could potentially be inaccurate.

Staff Response: Although the pandemic created some uncertainty in ambient air quality data, Dillon Consulting, was satisfied that a sufficient level of conservatism was retained in the analysis to account for the pandemic. The analysis used historical (pre-pandemic) data and corrections were made to select contaminants to account for potential emission reductions due to the pandemic. For some traffic-related contaminants (ie benzene), ambient data was combined with dispersion modeling data, both of which on their own include transportation emissions, therefore almost double counting the impact.

3. **Air Quality Study Completed by a Developer** – Concern that an air quality study completed by a developer could be skewed in their favour. How have industry interests been considered?

Staff Response: Staff established an Expert Review Committee comprised of representatives from the Ministry, Peel Public Health, major industry such as, Petro Canada Lubricants and CRH Cement, and the City's Environment Division. The Expert Review Committee helped prepare the terms of reference and diligently guided the execution of the CAQS. This was critical in ensuring the CAQS was completed comprehensively in accordance with all regulations and standards while addressing the interests and concerns of local industry as well as protecting public health.

4. **Truck Traffic & Addition of New Warehousing/Logistics Companies** – Participants shared their concern about the volume of tractor trailer trucks in the area creating noise, dust and pollution. They also noted, further consideration needed to be given to the number and size of new warehouses being built that would add more truck traffic to the area. This could be problematic if additional residential growth occurred in an area.

Staff Response: The Clarkson TSA Study includes a transportation analysis that will consider local truck traffic volumes, including the recent addition of logistics companies. The siting of buildings, their uses, and the design of new roads and public spaces will look to mitigate the effects of truck traffic.

5. **Road Network Improvements** – Participants discussed expanding multimodal transportation options to make the GO station more accessible to pedestrians and cyclists which would reduce automobile dependency. Suggestions were made to improve the flow of truck traffic on Winston Churchill Boulevard and Southdown Road.

Staff Response: The Clarkson TSA Study will assess how the introduction of new roads and connections can improve access and connectivity to the GO station by various modes of transportation, including cycling and walking. It will include a transportation study to consider opportunities to improve truck traffic movements and routes within the area.

6. **Underutilized Existing Surface Parking** – Comments were shared about the amount of vacant parking at the Clarkson GO Station and whether the parking could be repurposed or used by new developments.

Staff Response: Most of the structured and surface parking at the Clarkson GO station is owned by Metrolinx. The project team will be consulting with Metrolinx on how their lands can be better utilized by accommodating future redevelopment opportunities.

MEETING WITH INDUSTRY STAKEHOLDERS

A meeting with industry representatives from CRH Cement, Petro Canada Lubricants and CertainTeed Canada was held on March 8, 2023 to discuss the results of the CAQS. Their primary concern was with the type of dispersion models used (AERMOD, SCREEN 3 and SDM). The industry indicated they are using a more advanced model (i.e. CALPUFF) for their environmental compliance approvals and requested the CAQS use the same model. This request was made after the majority of the air quality study work was completed. Dillon Consulting confirmed with the Ministry that the modeling used in the CAQS was acceptable.

REDEVELOPMENT APPLICATIONS AT 2077-2105 ROYAL WINDSOR DRIVE BY SLATE

In December 2022, Slate submitted Official Plan and Rezoning Amendment applications ([OZ/OPA 22-31 W2](#)) to permit four apartment buildings of 29, 27, 25 and 23 storeys containing 1,237 dwelling units and 2,386 square metres of commercial and live/work space. The Proposed Development is located within the Clarkson GO MTSA as delineated in the new Region of Peel Official Plan approved by the Province in November 2022.

The Clarkson GO MTSA has a minimum density target of 150 residents and jobs per hectare. The regional official plan policies for this MTSA require the completion of a city initiated planning study to introduce residential permissions within the Southdown Employment Area and the Clarkson GO MTSA. As a result, the completion of the Clarkson TSA Study is required prior to making a decision on the proposed redevelopment applications. Staff are committed to continuing to work with the applicant and will process their application concurrently with the completion of the master plan and associated policies so the two initiatives are aligned by the implementation stage of the Clarkson TSA Study.

IMPLICATIONS OF BILL 97

Bill 97 proposes a number of changes to lands within employment areas that contain commercial and retail uses. At this time it is unknown how the proposed changes may or may not impact the study process or outcome as the site is subject to Regional policies requiring a planning study be completed prior to a change in land use.

CLARKSON TRANSIT STATION AREA PROJECT NEXT STEPS

Given the results of the CAQS, staff recommend resuming the master planning work for the Clarkson TSA Study and continuing to engage with residents and local landowners to align future redevelopment interests with the broader vision for the area where appropriate.

Completing the master plan will include:

- Refining the vision and guiding principles
- Finalizing an infrastructure and servicing capacity analysis
- Confirming the location of new residential land uses based on land use compatibility
- Providing for a net increase of total jobs within the employment area and Clarkson MTSA
- Identifying how the Region of Peel MTSA target will be met
- Identifying the location and type of Parks and Open Spaces
- Identifying road network improvements and new connections (i.e. new roads)
- Improving accessibility to Clarkson GO station by all modes of transportation including cyclists and pedestrians
- Identifying appropriate built form and building heights
- Setting out phasing of development if required

In addition, it is recommended that staff proceed with drafting a policy framework to implement the vision and guiding principles for the area including developing built form standards/guidelines. If necessary, the study process will need to be revisited as a result of changes from Bill 97 or any other legislative changes that may occur. Staff would aim to complete the draft policies and master plan by the end of 2023.

Financial Impact

There are no financial impacts resulting from the recommendations in this report.

Conclusion

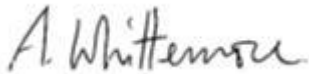
The CAQS has determined that although there are periods of poor air quality, this is not unique to the Clarkson MTSA and any potential risks to human health are no different than similar urban environments across the GTA and beyond. As a result, the level of potential human health risk related to air quality at the Proposed Development does not reach a threshold where residential uses should be prohibited.

Given these findings it is recommended that staff resume with the completion of the Clarkson TSA Study. An Information and Public Meeting Report with the draft master plan and implementation policies is targeted by the end of 2023.

Attachments

Appendix 1: Clarkson Transit Station Area Air Quality Study Monitoring and Dispersion Modelling Report, dated February 2023

Appendix 2: Executive Summary – Clarkson Residential Development Air Quality and Human Health Assessment Studies, dated March 7, 2023



Andrew Whitemore, M.U.R.P., Commissioner of Planning & Building

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