



Oshawa Environmental Advisory Committee Meeting Agenda

Tuesday, March 7, 2023, 6:30 p.m.
Committee Room

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Pages

Additional Agenda Items

(As may be presented at the meeting)

Declarations of Pecuniary Interest

(As may be presented by Members)

Presentations

None

Delegations

None

Referrals from Council and Committees

OEAC-23-13 - Staff Response to OEAC Report CS-22-44 concerning a reduction in use of road salt (Previously CO-23-09)

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[At the February 27, 2023 City Council meeting, this item was referred to the Oshawa Environmental Advisory Committee for comment and feedback.]

Correspondence

None

Reports

OEAC-23-12 - Request for Presentation from Lorraine Johnson

[At the February 7, 2023 meeting, the following motion was deferred to the next meeting of the Oshawa Environmental Advisory Committee.]

Recommendation

That the Oshawa Environmental Advisory Committee request that Lorraine Johnson be invited to give the Committee a presentation on the 'Rogue Gardens and the

Weed Police'.

OEAC-23-14 - Staff Report INFO-23-29: Province of Ontario's 2020 Air Quality Report

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Recommendation

That Report OEAC-23-14 being an information memorandum dated March 7, 2023 concerning staff report INFO-23-29 about the Province of Ontario's 2020 Air Quality Report be received for information.

OEAC-23-15 - Tree Giveaway Working Group Report - March 2023

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Recommendation

That Report OEAC-23-15 concerning the Tree Giveaway Working Group activities for March 2023 be endorsed.

Items Introduced by Members

Adjournment

To: Community and Operations Services Committee

From: Ron Diskey, Commissioner,
Community and Operations Services Department

Report Number: CO-23-09

Date of Report: February 8, 2023

Date of Meeting: February 13, 2023

Subject: Staff Response to OEAC Report CS-22-44 concerning a
reduction in use of road salt

Ward: All Wards

File: 03-05

1.0 Purpose

The purpose of this report is to respond to the following Council direction on April 25, 2022:

“That based on Report [CS-22-44](#) being the Third Report of the Oshawa Environmental Advisory Committee concerning the use of Road Salt, the City of Oshawa investigate the recommendations contained in the Report regarding the reduction of the use of road salt in the City and that staff report back on the various recommendations at intervals that allow for various items to be responded to as staff feedback is prepared.”

2.0 Recommendation

That the Community and Operations Services Committee recommend to City Council:

1. That Report CO-23-09, dated February 8, 2023, concerning Oshawa Environmental Advisory Committee recommendations on the use of road salt in the City be received for information; and,
2. That Report CO-23-09, dated February 8, 2023, be forwarded to the Oshawa Environmental Advisory Committee.

3.0 Executive Summary

The following report responds to the recommendations made by Oshawa Environmental Advisory Committee (O.E.A.C.) in Report CS-22-44, dated April 5, 2022, concerning the use of road salt in the City. Staff undertook an extensive review of comparator

municipalities across Ontario to further understand industry best practices and compare against the City's current winter maintenance operations. Overall, the City's winter response and winter maintenance activities meets or exceeds best practices, while balancing the priority of public safety with environmental responsibility, with flexible winter maintenance options based on the needs of the City. Staff are aware that the use of rock salt on roads is associated with negative environmental impacts and City staff work to reduce those impacts as much as possible by actively managing salt use. Staff continue to monitor and adjust winter operations to account for continuous improvement as best practices change and in response to new approaches and technologies to ensure effective salt management practices.

4.0 Input From Other Sources

- Legal Services
- Review of best practices from other municipalities including:

Town of Ajax
City of Belleville
Municipality of Clarington
Region of Durham

City of Greater Sudbury
City of Hamilton
City of Markham
City of Vaughan

5.0 Analysis

5.1 Background

The City of Oshawa provides efficient and effective winter maintenance in keeping with applicable provincial legislation and accepted standards while striving to minimize adverse impacts to the environment. [O.Reg. 239/02](#), Minimum Maintenance Standards for Municipal Highways (M.M.S.) regulates the minimum maintenance standards of repair for municipal roads in Ontario. This regulation, along with Council approved Quality Standards, dictate how and with what frequency different classifications of the road network are maintained by the City throughout the year, which includes winter maintenance operations.

Environment and Climate Change Canada (E.C.C.C.) requires that municipalities and other organizations using over 500 tonnes of road salt per year comply with the Code of Practice for the Environmental Management of Road Salts (Code of Practice). The Code of Practice, developed alongside the Transportation Association of Canada (T.A.C.), provides guidance to organizations on how to manage and report on the use of salt in jurisdictions under their responsibility, including the development and implementation of an organizational Salt Management Plan. The E.C.C.C. Code of Practices requires organizations that use over 500 tonnes of road salt to report on the application and management of winter maintenance materials. At the end of each winter season, Operations staff compile all relevant winter data and report to E.C.C.C..

The City of Oshawa's Salt Management Plan (S.M.P.) was developed and endorsed by Council in 2005 in response to the release of E.C.C.C.'s Code of Practice. The S.M.P. was updated in 2014, with the support of Golder Associates Ltd., to account for guidance from

the Code of Practice and T.A.C.'s Syntheses of Best Practices, Road Salt Management. The S.M.P. sets out a policy and procedural framework to ensure that the City of Oshawa continuously improves on its effective delivery of winter maintenance services while managing winter road materials used in operations. The S.M.P. is dynamic and allows the City to adjust operations in response to financial and environmental considerations as new approaches and technologies come forward while ensuring road safety is not compromised.

5.2 Road Salt and Environmental Impacts

Response to O.E.A.C CS-22-44 Recommendations bullet number 1:

Several organizations, including the Region of Durham, have already developed promotional and educational programs related to the environmental impacts of the excessive use of road salt. City staff will investigate sharing similar information with residents as part of the annual winter operations communication plan without duplicating efforts.

Response to O.E.A.C. CS-22-44 Recommendation bullet number 4:

Indicators of success are difficult to develop and monitor due to the variables associated with winter road operations. Salt use is variable, depending on the severity of annual winter activity. As a result, salt usage may differ from year to year as temperatures and precipitation fluctuate throughout the season. With the introduction of Automatic Vehicle Location (A.V.L.) in 2021, there is more opportunity to track the use of winter maintenance materials. Staff are currently discovering ways to report and disseminate this information, and better inform winter operations to support road safety and the reduction of environmental impacts. Staff will continue to explore new ways to communicate winter maintenance information with the public where feasible and practical. Staff do report salt use annually as part of the E.C.C.C. Code of Practices which allows E.C.C.C. to measure progress across Canada for those municipalities that participate in the voluntary program.

Response to O.E.A.C. CS-22-44 Recommendations bullet number 5:

As detailed in [CS-22-44](#), there are adverse environmental impacts associated with the application of road salt, affecting both the natural and built environment. O.E.A.C. recommended that "the City estimate the externalities associated with road salt application (including impacts on the natural and built environments) and incorporate these figures into their budget". However, this is a difficult and complex task. The use of road salt during winter operations has the potential to impact the environment in a variety of ways which are difficult to measure at this time. It should be noted that public road maintenance is only a portion of all winter road salt activity, as private property owners contribute significantly to the use of salt. This external factor, along with unpredictable variables, make it difficult to effectively quantify the City's environmental impact. Staff will investigate possible TeachingCity project(s) that might help us better understand these impacts in the future.

5.3 Winter Road Treatments

Response to O.E.A.C. CS-22-44 Recommendations bullet numbers 3 and 7:

The application of anti-icing and de-icing treatments (road salt and alternatives) is an essential tool used to maintain a safe transportation network. The choice of treatment options depends on many factors, including climate, cost, operations, effectiveness and environmental impacts. City of Oshawa Road Operations employs a suite of winter road treatments which include road salt (sodium chloride), liquid salt brine (23% sodium chloride, 77% water, by volume), pre-wet road salt (road salt sprayed with liquid salt brine) and salted sand (12% sodium chloride, 88% sand, by weight) to manage winter conditions on City roads. When compared to other municipalities, the City's treatment choice and application rates are similar to those surveyed across the Greater Toronto Hamilton Area (G.T.H.A.).

Optically, more progressive winter road treatments, including treated salt (road salt treated with magnesium chloride) and liquid plant / salt brine (beet or corn mixed with liquid salt brine), provide an alternative to more conventional treatments noted above, but have their own complement of operational, economic and environmental concerns. Although several comparator municipalities had identified the piloting of alternative winter road treatments, the application of pre-wet road salt remains the primary method anti-icing and de-icing in the urban environment. Staff will continue to monitor and adjust winter operations to account for continuous improvement as best practices change.

In the rural portion of the City, north of Winchester Road, the winter road operations treat roads with salted sand (12% road salt, 88% sand, by weight). The City has previously piloted a lower mix ratio (5% road salt, 95% sand, by weight) resulting in the ineffective treatment of roads. A review of operations and best practices from other municipalities finds that Oshawa's current mix ratio has a lower concentration of salt than municipalities with similar climates and built environments (urban / rural mix). Municipalities with lower mix ratios use more sand to assist in maintaining road traction in harsher climates and on different road surfaces.

The application of salted sand within the rural areas of Oshawa is common among comparator municipalities. Salted sand is not generally used within the urban environment as there are concerns about effectiveness in the treatment as it relates to Council approved Quality Standards (bare and centre bare pavement), the significant cost of cleaning the road network and catch basins. Adjustments to the current treatment practices would require changes to the Quality Standards as sand is not as effective at melting snow or ice in the urban environment and bare pavement would not be achievable. Amendments to the Quality Standards are not recommended.

Historically, the City has done giveaways for salted sand to the public, which occurred at the former Ritson Depot. The City's current depots could not support public giveaways, as they do not have a mechanism to control public access to the site and limit private contractors from taking material.

5.4 Salt Vulnerable Areas

Response to O.E.A.C CS-22-44 Recommendation bullet number 2:

Salt vulnerable area terminology is used at both the federal and provincial level and have different implications for different organizations. E.C.C.C.'s Code of Practice identifies a salt vulnerable areas as areas where the environment may be particularly sensitive to road salts. Although the City has not formally identified any salt vulnerable areas, Operations Services has implemented several of the Code of Practice's recommendation for winter operations related to environmental impact mitigation across Oshawa, in the form of new technology and equipment. These steps have improved the management of road salt application throughout Oshawa, and balance the priority of road safety with environmental impacts. Staff will continue to monitor and adjust winter operations to account for continuous improvement as best practices change.

5.5 Liability Costs

Response to O.E.A.C CS-22-44 Recommendation bullet number 6:

Winter event response and the use of winter maintenance treatments on City property (roads, sidewalks, parks, trails, walkways, facilities, etc.) follows industry best practices with the primary focus of public safety. Over the past 5 years, the City has received 63 claims for slip and falls on City property due to icy surfaces. Of those claims, 30 have been denied or dismissed and 12 have been closed and settled. City staff cannot provide an accurate or reasonable estimate on the liability costs associated with future slip and fall claims, as claims are dependent on multiple unpredictable variables.

5.6 Salt Application and Conservation Efforts

Winter conditions and the maintenance response associated with weather events is not predictable and requires active monitoring and decision making to meet provincial M.M.S. and Council approved Quality Standards. Operations staff actively patrol and report on the City's road network and advise on road conditions and appropriate application rates. These decisions are based on industry best practices, formal training and extensive experience in winter operations along with the guiding framework of the City's S.M.P.

Since the development of the S.M.P., Operations Services has taken several steps to improve road salt management and increase road salt consciousness:

- 100% of the winter road operations fleet, including contracted units, are equipped with pre-wet units. Pre-wetting road salt with liquid salt brine before application to the road surface significantly reduces the amount of road salt needed to be effective in anti-icing and de-icing operations. Pre-wet road salt has a more narrow dispersion pattern and can reduce the amount of salt scattered on to boulevards from 30% to 4%.
- When suitable and weather permitting, Operations Service engages in proactive anti-icing road maintenance by using direct liquid application (D.L.A.) of liquid salt brine on City roads. D.L.A. treatment reduces the ability for water to bond and

freeze to the road surface and uses less sodium chloride per lane kilometer than road salt.

- 100% of the winter road operations fleet, including contracted units, are equipped with electronics spreader controllers connected to A.V.L. technology. This connection allows Operations Services staff to monitor and query winter operations data live, and allows for the identification and correction of instances of inconsistent salting.
- Spreader controllers are calibrated once per year, with additional calibrations if the vehicle is serviced. This ensures that set application rates are controlled and accurate, in line with industry best practices.
- Green treated salt, which is used on walkways, sidewalks and multi-use paths, is more effective in lower temperatures thereby requiring less application. The green colour also provides a visual identifier that helps avoid over application.
- All winter operations staff, including contracted staff, take part in annual winter operations training. Management train staff in the effective use of winter materials and the importance of using pre-wet road salt to reduce environmental impacts.
- City Operation Depots support the safe and effective management of winter maintenance materials. Road salt and salted sand are stored in enclosed buildings to reduce the environmental impacts on surrounding area.
- Operations Services staff, through the TeachingCity program, are working with Ontario Tech University to consider how route optimization techniques could conserve resources associated with winter operations, including road salt, which could result in both environmental and financial benefits.

Operations Services will update the S.M.P. to account for these changes outlined above and will continue to explore opportunities to improve efficiency and reduce the adverse environmental effects of road salt.

6.0 Financial Implications

There are no financial implications as a result of this report.

7.0 Relationship to the Oshawa Strategic Plan

This report addresses the Oshawa Strategic Plan by responding to the goal of “Social Equity”, with the theme of “An Active, Healthy and Safe Community” by continuing to support safe, shared use of roadways, trails, and other transportation systems.



Mike Saulnier, Director,
Operation Services



Ron Diskey, Commissioner,
Community and Operations Services Department

Economic and Development Services Department

Date: March 7, 2023

To: Oshawa Environmental Advisory Committee (O.E.A.C.)

From: Branden Morris, O.E.A.C. Policy Advisor,
Economic and Development Services Department

Item: **OEAC-23-14**
Staff Report INFO-23-29: Province of Ontario's 2020 Air Quality Report

City of Oshawa staff prepared staff report INFO-22-29 which provides an overview of the Province's Air Quality in Ontario and particularly data recorded at the Air Quality Index monitoring station at Ontario Tech University in Oshawa.

As per Section 2.0 of INFO-23-29 "A copy of INFO-23-29, dated February 15, 2023 and the 2020 Report will be provided to the Oshawa Environmental Advisory Committee for information."

Attachment 1 is Staff Report INFO-23-29.

Recommendation:

That this information memorandum dated March 7, 2023 concerning Staff Report INFO-23-29 about the Province of Ontario's 2020 Air Quality Report be received for information.



Information Memo

To: City Council

From: Warren Munro, HBA, MCIP, RPP, Commissioner,
Economic and Development Services Department

Item Number: INFO-23-29

Date: February 15, 2023

Subject: Province of Ontario's 2020 Air Quality Report

File: 12-02

1.0 Purpose

The purpose of this Report is to provide an overview of the Province's Air Quality in Ontario 2020 Report (the "2020 Report") and in particular, data recorded at the Air Quality Index (A.Q.I.) monitoring station located at the former E.P. Taylor Stables at Ontario Tech University (285 Britannia Avenue West) in Oshawa (the "Site"). The 2020 Report was released on December 21, 2022.

A copy of the 2020 Report is available at the following website:
<https://www.ontario.ca/document/air-quality-ontario-2020-report>.

In 2014, staff were directed to provide Council with relevant information on the results and trends analysis by the Province from the A.Q.I. monitoring station located at the Site, as it becomes available.

2.0 Input From Other Sources

A copy of INFO-23-29, dated February 15, 2023 and the 2020 Report will be provided to the Oshawa Environmental Advisory Committee for information.

3.0 Analysis

3.1 Provincial Air Quality Monitoring

The Province, through the Ministry of the Environment, Conservation and Parks (M.E.C.P.), operates a network of A.Q.I. monitoring stations across Ontario. In 2020, the M.E.C.P. monitored ambient air quality in real time at 39 A.Q.I monitoring stations in Ontario, in collaboration with the federal National Air Pollutant Surveillance program. The M.E.C.P.'s A.Q.I. monitoring stations are sited to be representative of general population exposure and do not necessarily reflect the air quality in locations that are most influenced by local or industrial sources of air contaminants.

Staff note that there is only one A.Q.I. monitoring station in Durham Region, which is located on the Site. Prior to 2005, this station was located at Ritson Road Public School (300 Ritson Road South).

A.Q.I. monitoring stations generally measure common air pollutants associated with smog formation across the ambient air monitoring network. These key air pollutants can have adverse effects on human health and the environment, when detected at certain levels. These pollutants are:

- Ground level ozone;
- Fine particulate matter;
- Nitrogen dioxide;
- Carbon monoxide;
- Sulphur dioxide; and,
- Total Reduced Sulphur Compounds.

Information from the A.Q.I. monitoring stations is used by the M.E.C.P. to:

- Inform the public about Ontario's ambient air quality;
- Assess Ontario's air quality and evaluate long-term trends;
- Identify areas where criteria and standards are exceeded;
- Provide the basis for air quality policy/program development;
- Determine the impact from the United States and Canadian sources of Ontario's air quality;
- Provide scientists with air quality data to link environmental and human health effects to pollution levels; and,
- Provide smog advisories for public health protection.

The M.C.E.P.'s monitoring is continuous and can be viewed on a real time basis (hourly summaries) on the M.E.C.P.'s website. A link to the hourly air quality summaries in Ontario can be found at the following City website: <https://www.oshawa.ca/en/home-property/air-quality.aspx>.

Overall, air quality in Ontario has improved over time as both ambient concentrations of common air pollutants and emissions have decreased over the last ten (10) years. Generally, this improvement can be attributed to:

- Eliminating coal-fired power plants;
- Implementing Drive Clean vehicle emissions testing;
- Placing emissions caps on sulphur dioxide and nitrogen oxides;
- Developing new air standards and rules for industrial air emissions including:
 - New rules to regulate industrial sources of air pollution for petroleum and petrochemical industries;
 - New rules for regulating air contaminants for the metal finishers and foundries sectors;

- Creating provincial air zones that will help direct government actions to maintain and improve air quality based on the unique circumstances of each area of the province; and,
- More stringent sulphur dioxide air standards since it is a by-product of fossil fuel combustion and industrial smelting processes.

It is important to note that the 2020 Report includes references to the Canadian Ambient Air Quality Standards (C.A.A.Q.S.), which were published by the Canadian Council of Ministers of the Environment in May 2013 to replace the Canada-wide standards for ozone and fine particulate matter. The purpose of the new non-building standards is to promote continuous improvement in air quality monitoring.

With respect to Oshawa, the 2020 Report indicates that Oshawa's A.Q.I. monitoring station monitored three pollutants:

- Ozone;
- Fine particulate matter; and,
- Nitrogen dioxide.

The 2011 Air Quality Report noted that the other pollutants (i.e. sulphur dioxide, carbon monoxide and total reduced sulphur compounds) have reached background levels and are no longer required to be monitored at the Oshawa A.Q.I. monitoring station.

3.2 Ozone in Oshawa

3.2.1 Sources of Ozone

Ground-level ozone (denoted as O₃) is a colourless, odorless gas at typical ambient concentrations and is formed when nitrogen oxide and volatile organic compounds react in the presence of sunlight. The formation and transport of ozone is strongly dependent on weather conditions and emissions of chemicals that contribute to the formation of ozone (i.e. nitrogen oxide and volatile organic compounds). Ozone is a major component of smog and major sources of ozone include the transportation and industrial sectors and general solvent use.

3.2.2 Health and Environmental Effects

Ozone irritates the respiratory tract and eyes and exposure can result in chest tightness, coughing and wheezing. Children who are active outdoors during the summer, when ozone levels are highest, are particularly at risk of adverse effects. Individuals with pre-existing respiratory disorders, such as asthma and chronic obstructive pulmonary disease, are also at risk. Ozone is also associated with increased hospital emissions and premature deaths.

3.2.3 Oshawa Trends

In 2020, Oshawa experienced a mean ozone level of 26.4 parts per billion (p.p.b.), representing a slight increase from 2019 but still lower than the levels from 2016 and 2017.

In addition, 100% of all daily values were less than or equal to the C.A.A.Q.S. standard of 62 p.p.b. The maximum ozone level after 24 hours was 47 p.p.b., which is also below the criteria of 62 p.p.b. established by the C.A.A.Q.S.

Overall, the 10 year trend indicates that ozone levels have decreased 0.75% from 26.6 p.p.b. in 2011 to 26.4 p.p.b. in 2020. The overall annual mean ozone levels have been volatile since 2015 with some increases and decreases year-to-year as shown below:

- 27.2 p.p.b. in 2016;
- 27.9 p.p.b. in 2017;
- 25.8 p.p.b. in 2018;
- 24.4 p.p.b. in 2019; and,
- 26.4 p.p.b. in 2020.

3.3 Fine Particulate Matter in Oshawa

3.3.1 Sources of Fine Particulate Matter

Airborne particulate is the general term used to describe a mixture of microscopic solid particles and liquid droplets suspended in the air. Particulate matter (PM) includes aerosols, smoke, fumes, dust, fly ash and pollen. Fine particulate matter (denoted as PM^{2.5}) is less than 2.5 micrometers in diameter, which is approximately 30 times smaller than the average diameter of a human hair.

Fine particulate matter consists of primary and secondary PM^{2.5}. Primary PM^{2.5} is emitted directly into the atmosphere and major sources include residential fireplaces, wood stoves, motor vehicles, smelters, power plants, industrial facilities, agricultural burning and forest fires. Secondary PM^{2.5} is formed indirectly in the atmosphere through a series of complex chemical reactions involving gases such as nitrogen dioxide and sulphur dioxide.

3.3.2 Health and Environment Impacts

Fine particulate matter can have various negative health effects, especially on the respiratory and cardiovascular systems. Exposure to fine particulate matter is associated with increased hospital admissions and emergency room visits, as well as death from heart or lung diseases. Both long and short-term particle exposures have been linked to health issues. Individuals with heart or lung diseases, children and older adults are particularly sensitive to this pollutant.

3.3.3 Oshawa Trends

In 2020, Oshawa experienced a mean fine particulate matter level of 6.2 micrograms per cubic metre (µg/m³) representing a very small increase from 2019. In addition, 100% of all daily values were less than or equal to the C.A.A.Q.S. standard of 27 µg/m³. The maximum fine particulate matter level after 24 hours was 17 µg/m³, which is below the 2020 C.A.A.Q.S. maximum 24 hours reference level standard.

Overall, the 10-year trends indicates that fine particulate matter levels have decreased 10.1% from 6.9 µg/m³ in 2011 to 6.2 µg/m³ in 2020. Although fine particulate matter

levels are slightly higher than in 2017, the overall annual mean fine particulate matter levels have increased since 2016, as shown below:

- 5.9 µg/m³ in 2016;
- 5.9 µg/m³ in 2017;
- 6.4 µg/m³ in 2018;
- 6.1 µg/m³ in 2019; and,
- 6.2 µg/m³ in 2020.

3.4 Nitrogen Dioxide in Oshawa

3.4.1 Sources of Nitrogen Dioxide

Nitrogen dioxide is a reddish-brown gas with a pungent odour, which transforms in the atmosphere to form gaseous nitric acid and nitrates. Nitrogen dioxide plays a major role in atmospheric reactions that produce ground-level ozone, as well as reactions with other gaseous contaminants (i.e. sulphur dioxide, ammonia and volatile organic compounds) leading to the formation of fine particulate matter.

The transportation sector is the main source of nitrogen dioxide in Ontario. In addition, combustion or burning of carbon-based materials (e.g. wood, gasoline, etc.) in air produces nitrogen oxides, of which nitrogen dioxide is a component.

3.4.2 Health and Environmental Impacts

Nitrogen dioxide can irritate the lungs and lower resistance to respiratory infection, especially individuals with asthma and bronchitis. Nitrogen dioxide chemically transforms into nitric acid in the atmosphere and, when deposited, contributes to the acidification of lakes and soils in Ontario. Nitric acid can also corrode metals, fade fabrics, degrade rubber and damage trees and crops.

3.4.3 Oshawa Trends

In 2020, Oshawa experienced a mean nitrogen dioxide level of 3.6 p.p.b. representing a very small increase from 2019. In addition, 100% of the daily values were less than or equal to 17 p.p.b. The highest 24 hours nitrogen dioxide level was 15.7 p.p.b., which is below the C.A.A.Q.S. reference level of 17.0 p.p.b.

Overall, the 10 year trend indicates that nitrogen dioxide levels have decreased 48.5% from 7.0 p.p.b. in 2011 to 3.6 p.p.b. in 2020. Other than a marginal increase in 2017 and 2020, the overall annual mean of nitrogen dioxide levels have steadily decreased since 2016, as shown below:

- 6.3 p.p.b. in 2016;
- 6.4 p.p.b. in 2017;
- 3.8 p.p.b. in 2018;
- 3.5 p.p.b. in 2019; and,
- 3.6 p.p.b. in 2020.

3.5 Impact of the COVID-19 Pandemic on Ontario's Ambient Air Quality in 2020

In response to the global COVID-19 pandemic, the Government of Ontario put in place various measures including a temporary stay-at-home order which reduced transportation and industrial activities across the province. The stay-at-home-order in 2020 offered a unique opportunity to evaluate how reduced transportation and industrial emissions impacted ambient levels of common air pollutants in Ontario. Air quality measurements collected through the M.E.C.P.'s ambient and roadside air monitoring networks were assessed for the following three different time periods in 2020 to determine the impact of the stay-at-home-order on ambient air quality including:

- Pre-COVID period (January 1 to March 18);
- Stay-at-home period (March 19 to May 18); and,
- Re-opening period (May 19 to December 31).

During the stay-at-home period, concentrations of common air pollutants measured at the Highway 401 roadside monitoring station decreased by 27% for black carbon (B.C.), 21% for ultrafine particles (U.F.P.), 10% for nitrogen dioxide (N.O.₂) and 35% for sulphur dioxide (SO₂). Reduced traffic-related emissions due to less vehicular traffic in the near road environment was responsible for the observed decrease in pollutant concentrations. As traffic volumes increased during the re-opening period, levels of these air pollutants remained lower than the baseline period but to a lesser degree than during the stay-at-home period.

In contrast, concentrations of fine particulate matter (PM^{2.5}) and ozone (O₃) changed little during the stay-at-home period and were higher during the re-opening period in comparison to the baseline years (2017-2019). Both fine particulate matter and ozone concentrations are impacted by local emissions and their regional background levels. The minimal change in levels of fine particulate matter and ozone during the stay-at-home period and the increased levels of fine particulate matter and ozone during the re-opening period reflect the influence of local/regional sources (e.g., forest fires) and its secondary formation in air, as well as reduced ozone titration effects due to the reduction in nitric oxide emissions (e.g., transportation emissions).

4.0 Financial Implications

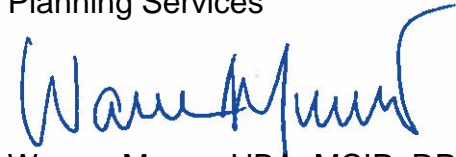
There are no financial implications associated with this Report.

5.0 Relationship to the Oshawa Strategic Plan

This Report advances the Environmental Responsibility goal of the Oshawa Strategic Plan.



Tom Goodeve, M.Sc.Pl., MCIP, RPP, Director,
Planning Services



Warren Munro, HBA, MCIP, RPP, Commissioner,
Economic and Development Services Department

OEAC-23-15

The tree planting working had its first meeting earlier this month. After a discussion about when where and how we present this years giveaway, It was decided we would hold our event in the fall at either Lakeview or Memorial Park.

Our intent is to make it an all day event with activities such as educational talks, entertainment and something for the kids. Our goal is to offer variety organizations, and business with sustainability and green being keys words.

Any suggestion as to whom we could invite would be appreciated as we need to move forward on this asap. Send your suggestions to a member of the tree planting committee.

anne-jan (AJ) groen