



OPERATIONS COMMITTEE AGENDA

Operations Committee Meeting
Monday, November 16, 2020
Tom Davies Square - Council Chamber / Electronic Participation

COUNCILLOR DEB MCINTOSH, CHAIR

Mark Signoretti, Vice-Chair

2:00 p.m. OPERATIONS COMMITTEE MEETING
COUNCIL CHAMBER / ELECTRONIC PARTICIPATION

City of Greater Sudbury Council and Committee Meetings are accessible and are broadcast publically online and on television in real time and will also be saved for public viewing on the City's website at:
<https://agendasonline.greatersudbury.ca>.

Please be advised that if you make a presentation, speak or appear at the meeting venue during a meeting, you, your comments and/or your presentation may be recorded and broadcast.

By submitting information, including print or electronic information, for presentation to City Council or Committee you are indicating that you have obtained the consent of persons whose personal information is included in the information to be disclosed to the public.

Your information is collected for the purpose of informed decision-making and transparency of City Council decision-making under various municipal statutes and by-laws and in accordance with the *Municipal Act, 2001, Planning Act, Municipal Freedom of Information and Protection of Privacy Act* and the City of Greater Sudbury's *Procedure By-law*.

For more information regarding accessibility, recording your personal information or live-streaming, please contact Clerk's Services by calling 3-1-1 or emailing clerks@greatersudbury.ca.

ROLL CALL

DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

REGULAR AGENDA

MANAGERS' REPORTS

- R-1. Report dated October 26, 2020 from the General Manager of Growth and Infrastructure regarding Traffic and Parking By-law Amendment - Designated Centre Lane of Roadway for Left Turns Only on Elm Street. **4 - 5**
(RESOLUTION PREPARED)
(This report provides a recommendation to amend the Traffic and Parking By-law 2010-1 to enable the designation of a newly constructed centre lane of roadway for left turns only on Elm Street, Sudbury.)
- R-2. Report dated October 26, 2020 from the General Manager of Growth and Infrastructure regarding Open Streets in Greater Sudbury. **6 - 11**
(RESOLUTION PREPARED)
(This report provides a recommendation regarding the Open Streets programs.)

MEMBERS' MOTIONS

M-1. Request for speed humps - Attlee Avenue and Westmount Avenue

As presented by Councillor Leduc:

WHEREAS speed humps have proven effective in reducing speeds on local roads as part of traffic calming measures;

AND WHEREAS residents along Attlee Avenue, between Soloy Drive and Stonegate Drive, as well as on Westmount Avenue between Barrydowne Road and Attlee Avenue are very concerned about excessive traffic and speeds along those corridors and have requested that speed humps be installed in those locations;

AND WHEREAS speed humps have successfully been installed on Attlee Avenue near Lasalle Boulevard;

AND WHEREAS the traffic calming priority list is currently being reviewed and Westmount Avenue may be added to that list;

THEREFORE BE IT RESOLVED that the City of Greater Sudbury direct staff to install speed humps along Attlee Avenue, between Soloy Drive and Stonegate Drive, as well as on Westmount Avenue between Barrydowne Road and Attlee Avenue, in the spring of 2021, the best specific locations for which can be determined by staff, to be funded from the tax rate stabilization reserve fund.

CORRESPONDENCE FOR INFORMATION ONLY

- I-1. Report dated October 28, 2020 from the General Manager of Growth and Infrastructure regarding Wastewater Operational Savings. **12 - 18**
(FOR INFORMATION ONLY)

(This report provides information regarding the costs for operational projects and repairs completed in 2019.)

ADDENDUM

CIVIC PETITIONS

QUESTION PERIOD

ADJOURNMENT

Presented To:	Operations Committee
Presented:	Monday, Nov 16, 2020
Report Date	Monday, Oct 26, 2020
Type:	Managers' Reports

Request for Decision

Traffic and Parking By-law Amendment - Designated Centre Lane of Roadway for Left Turns Only on Elm Street

Resolution

THAT the City of Greater Sudbury designates the centre lane of Elm Street for left turns only from 190 metres west of Ethelbert Street to Regent Street/Beatty Street;

AND THAT the City of Greater Sudbury directs staff to prepare a by-law to amend Traffic and Parking By-law 2010-1 in the City of Greater Sudbury to implement the recommended changes, as outlined in the report entitled "Traffic and Parking By-law Amendment – Designated Centre Lane of Roadway for Left Turns Only on Elm Street", from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on November 16, 2020.

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to operational matters.

Report Summary

This report will outline a recommended amendment to the Traffic and Parking By-law 2010-1 to enable the designation of a newly constructed centre lane of roadway for left turns only on Elm Street, Sudbury.

Financial Implications

Recommendations of this report were carried out within the approved capital budget for the rehabilitation project.

Signed By

Manager Review

Joe Rocca
Traffic and Asset Management
Supervisor
Digitally Signed Oct 26, 20

Division Review

David Shelsted
Director of Infrastructure Capital
Planning Services
Digitally Signed Oct 26, 20

Financial Implications

Steve Facey
Manager of Financial Planning &
Budgeting
Digitally Signed Oct 26, 20

Recommended by the Department

Tony Cecutti
General Manager of Growth and
Infrastructure
Digitally Signed Oct 30, 20

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Nov 4, 20

Traffic By-Law Amendment - Designated Centre Lane of Roadway for Left Turns Only on Elm Street, Sudbury

Background

The City of Greater Sudbury completed an infrastructure renewal project on Elm Street in Sudbury between Big Nickel Road and Regent Street. An objective of this capital project was to apply a Complete Streets lens to the corridor by reconfiguring the existing roadway to include a two-way centre left turn lane and on road bike lanes along each side of Elm Street. The area this reconfiguration occurred is outlined in Figure 1 below.

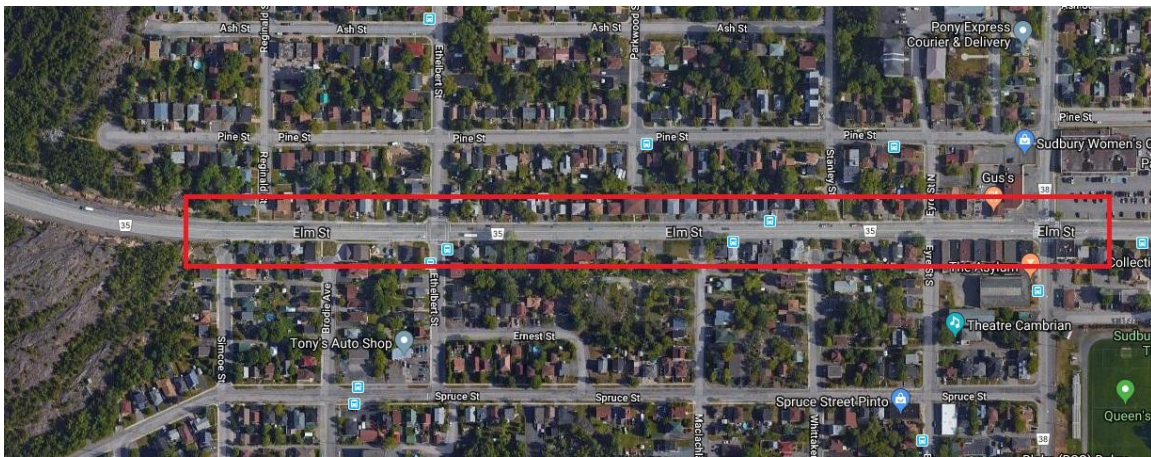


Figure 1 – Area of Reconfigured Road

This newly created two-way centre left turn lane will improve safety on this major arterial road by allowing an area outside of the through lane for left turn maneuvers to occur.

It is recommended that the City's Traffic and Parking Bylaw 2010-1 be amended to designate the new centre lane for two-way left turns. The necessary signs and pavement markings have been installed as part of the rehabilitation project.

Presented To:	Operations Committee
Presented:	Monday, Nov 16, 2020
Report Date	Monday, Oct 26, 2020
Type:	Managers' Reports

Request for Decision

Open Streets in Greater Sudbury

Resolution

THAT the City of Greater Sudbury directs staff to prepare a business case for consideration during the 2021 Budget process to host four Open Streets events on Maley Drive in 2021 at a total cost of \$40,000;

AND THAT the City of Greater Sudbury directs staff to explore opportunities to expand the Open Streets program to consider alternative municipal streets to Maley Drive and host future car-free events in 2022 and beyond, as outlined in the report entitled "Open Streets in Greater Sudbury", from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on November 16, 2020.

Relationship to the Strategic Plan / Health Impact Assessment

This report supports the 2019-2027 City of Greater Sudbury Strategic Plan in the goal area of 'Create a Healthier Community', by investing in infrastructure and programs to support community recreation with a focus on quality of life for residents. This report further supports this goal area by building community pride through the internal and external promotion of the City.

Report Summary

This report responds to Resolution OP2019-25, provides a brief overview of Open Streets programs and outlines how the City of Greater Sudbury could provide opportunities for residents to walk and cycle through the temporary closure of specific municipal streets to motorized traffic on a regular or seasonal basis.

Financial Implications

Signed By

Report Prepared By

Marisa Talarico
Active Transportation Coordinator
Digitally Signed Oct 26, 20

Manager Review

Joe Rocca
Traffic and Asset Management
Supervisor
Digitally Signed Oct 26, 20

Division Review

David Shelsted
Director of Infrastructure Capital
Planning Services
Digitally Signed Oct 26, 20

Financial Implications

Steve Facey
Manager of Financial Planning &
Budgeting
Digitally Signed Oct 27, 20

Recommended by the Department

Tony Cecutti
General Manager of Growth and
Infrastructure
Digitally Signed Oct 30, 20

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Nov 4, 20

If approved, staff will prepare a business case for the 2021 Budget. The cost of providing a regularly scheduled Open Streets event for residents and visitors to access Maley Drive, while closing the route to vehicular traffic, is approximately \$10,000 per event. The business case will be for four events, amounting to \$40,000.

Open Streets in Greater Sudbury

Background:

Significant strides have been made to deliver on the recommendations of the Transportation Master Plan (2016) which suggests the City explore opportunities to expand upon its leadership role through the development, implementation and promotion of outreach programs with local partners to educate residents about the many benefits that participating in active transportation provides. Providing programming and events, like Open Streets, are also a great way to engage residents in the community.

Open Streets are unique programs that have been held in over 100 cities in North America and involve temporarily repurposing municipal streets into car-free spaces for people to walk, cycle, or participate in other programmed activities. These types of events can be held on a single day or can be recurring on a weekly, monthly or annual basis and have been shown to help encourage physical activity, civic engagement, and transportation behavior changes.

To be successful, Open Streets events typically require that they take place on an iconic route at a regular frequency include activity hubs of complementary programming and are free and accessible to participate in. The best Open Streets programs are designed to be inclusive of all ages, abilities and socio-economic circumstances. All users, including walkers, runners, cyclists, rollers, strollers and those with mobility devices should feel welcome at the event.

Building an Open Streets Program in Greater Sudbury

To better understand the requirements of developing an Open Streets program and hosting regular events, staff have conducted research and reached out to other internal departments and external community partners to gather information. Considerations generally include:

- **Location** – A controlled access roadway, like the Maley Drive Extension, would generally present fewer traffic control challenges than a more urban arterial road with multiple intersections and commercial driveways. However, this type of roadway does not necessarily maximize any potential economic or social benefits to the local community that may be realized from the event being held on a commercial corridor or in a town centre.
- **Day of The Week** – Sundays are the most popular day to host open streets events as traffic volumes are typically lower, making it easier to manage traffic flow or to eliminate vehicles from the route. Hosting an event on the weekend also generally enables more people to participate in leisure activities.
- **Number of Program Dates** – There are compelling reasons to consider multiple program or event dates. As part of the goal with Open Streets is to provide the community with a consistent opportunity to get active, setting aside time at regular intervals can achieve this. These types of programs tend to also grow through word-of-mouth and providing multiple dates enables more people to participate. Multiple dates can also provide a measure of protection for the program from poor weather.
- **Road Closure(s) / Traffic Congestion** – In urban areas on commercial corridors, Open Streets programs typically have select intersections open along the route to allow traffic to flow perpendicular to the street closure. Operationally, the fewer open intersections you have the easier the route is to manage.

- **Site Accessibility / Parking** – Choosing a location that is accessible by multiple modes of transportation will ensure that the highest numbers of people are able to participate in the program. Should a site be chosen that has limited access for people on foot, bicycle or arriving by transit, parking will need to be provided, as well as a safe way for participants to access the site. One option could be to provide a transit shuttle from the parking area, which would increase the cost of providing this program.
- **Health and Safety** – Any future Open Streets events would be hosted outdoors and in full compliance with any Public Health Sudbury and Districts or other public health authority's requirements related to the ongoing COVID-19 pandemic.
- **Communications and Marketing** – The most important factor involved in delivering a successful Open Streets program is that people show up to participate. Communicating with the public and promoting the program will be a significant undertaking leading up to and including on the day(s) programming takes place.

Beat the Traffic – Maley Drive Extension

To celebrate the completion of the first phase of the Maley Drive Extension, the City hosted its first Open Streets type of event called "Beat the Traffic". This initial event was modeled after similar events that have previously been held on freeway segments elsewhere in Ontario. On October 20, 2019, approximately 1,200 residents of all ages walked, ran, cycled, rollerbladed, wheeled and pushed strollers down the nearly 3 km of new road on Maley Drive between Barry Downe Road and Notre Dame Avenue.

Building upon the success of the inaugural event, members of Council expressed interest in continuing to provide this type of programming for residents of Greater Sudbury. On October 21, 2019, the Operations Committee passed Resolution OP2019-25 directing staff to explore the possibility of closing a section of Maley Drive on a regular basis to enable more active transportation opportunities. Staff estimates the cost to host additional Open Streets events on Maley Drive to be \$10,000 per event. This cost assumes that a future event would be held on a Sunday and includes funding for staff time, traffic material, promotional material and a transit shuttle.

Below are the specific considerations for future Open Streets events on Maley Drive:

- **Location** – Maley Drive between Barry Downe Road and Notre Dame Avenue is considered a controlled access roadway with no intersections. This would require closing access at each end only.
- **Day of The Week** – Sunday has generally lower traffic volumes on Maley Drive and surrounding roads, minimizing potential traffic interruptions to the public. The duration of an Open Streets event is typically four hours.

.../3

- **Number of Program Dates** – Costs to host this event one time are relatively fixed (approximately \$10,000) and could be scaled to the number of events which Council chooses to host. It is important to note that the unionized staff who would be working to setup and take down the event are not obligated to work Sunday shifts and would need to accept these shifts. If events are scheduled at a high frequency, it may become challenging to find a sufficient number of staff who are willing to accept these shifts. If there are not enough staff willing to accept these shifts, the setup and take down of the event could be contracted out. Staff anticipates these costs would be higher than what has been estimated in this report.
- **Road Closure(s) / Traffic Congestion** – Linear Infrastructure Services staff are able to set up and tear down any materials required for road closures.
- **Site Accessibility / Parking** – Maley Drive between Barry Downe Road and Notre Dame Avenue is relatively inaccessible by foot, bicycle or by transit and generally must be accessed by vehicle. As the roadway is now open, vehicle parking will need to be offsite which may impact the number of participants in the event. Parking could potentially be located at one or both of the post-secondary institutions near the event location and participants would then require a shuttle to access the event site. Staff have investigated the option to provide a Greater Sudbury Transit shuttle from these potential parking areas. Also of consideration is that transit vehicles currently operating as private shuttles have a recommended maximum capacity of 50% occupancy or 15 riders, due to current Covid-19 related restrictions. Detailed discussions regarding parking locations and shuttle service to take place upon approval.
- **Health and Safety** – Any future Open Streets events would be hosted outdoors and in full compliance with any Public Health Sudbury and Districts or other public health authority's requirements related to the ongoing COVID-19 pandemic.
- **Communications and Marketing** – Communicating with the public and promoting the event may be undertaken by internal staff with funds to bolster marketing efforts with paid social media, radio or newspaper ads.



Case Study: Open Streets Windsor

During the October 19, 2019 Operations Committee meeting, a discussion took place about the potential to host an Open Streets event elsewhere in the Greater Sudbury community. Staff has also been approached previously by members of Council wishing to explore this idea further. To provide an example of what delivering this program in a more commercial or urban area may entitle, a brief case study on Open Streets Windsor is provided here for the Committee's information.

The City of Windsor has hosted the annual Open Streets Windsor event every September since 2016 to an audience of up to 10,000 participants. Open Streets Windsor covers an approximately eight kilometer span through a number of neighbourhoods from east to west. Throughout the route, Business Improvement Associations, community organizations and not-for-profit organizations host over 200 activities, concentrated in eight hub locations. Participatory activities include exercise and dance classes, art-making, installations, workshops, performances, street games, water stations, obstacle courses and neighbourhood tours.

Open Streets Windsor requires over 300 volunteers to assist in the road closures and dozens of volunteer organizations to host activities for participants. The City of Windsor dedicates a full-time staff project manager to planning this event for a minimum of four months each year and the event is allocated an operating budget of approximately \$110,000. In addition to this operating budget, Open Streets Windsor relies on community and corporate sponsorships to cover the balance of the costs associated with delivering this large-scale annual event.

Next Steps

Developing and implementing an Open Streets program would build upon the success of Beat the Traffic and the growing interest in active transportation in the community and will ultimately lead to increased civic pride, engagement and potentially more residents choosing to walk, bike, take transit or carpool to access destinations.

Due to the ongoing Covid-19 pandemic and the uncertainty of how people may be able to gather in 2021, staff recommend that an Open Streets event only on Maley Drive be considered for 2021 and that these events be held once a month, starting in June and ending in September. These events would be limited to using active modes of transportation on Maley Drive and would not include any programmed activities. As there is no existing funding in place to host these events, staff will prepare a business case for consideration during the 2021 Budget process to host four Open Streets events on Maley Drive in 2021 at a total cost of \$40,000.

Staff also recommend that work continue with internal partners to refine the full cost of delivering an expanded Open Streets program and a report with these details be brought back to the Operations Committee by the fourth quarter of 2021 and in advance of the 2022 budget deliberations.

For Information Only

Wastewater Operational Savings

Presented To: Operations Committee

Presented: Monday, Nov 16, 2020

Report Date: Wednesday, Oct 28, 2020

Type: Correspondence for Information Only

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

This report supports initiatives to "Optimize Asset Service Life through the Establishment of Maintenance Plans" (1.1) and "Demonstrate Innovation and Cost-Effective Service Delivery" (1.5) as laid out in the City of Greater Sudbury's Strategic Plan for 2019-2027. More specifically, the date presented shows how Wastewater Treatment Operations continue to avoid significant utilities costs while performing critical equipment repairs and upgrades to enhance operational effectiveness.

Report Summary

The report provides approximate costs for operational projects and repairs completed in 2019 by Wastewater Treatment employees, along with estimated savings through participation in the IESO ICI program and operational initiatives. Details are also provided on the costs associated with the new Sudbury WWTP generator. This report was requested as part of the annual update on Wastewater Operations and Energy Savings presented to the Operations Committee on June 15, 2020.

Financial Implications

The work completed by Wastewater Treatment employees to address equipment failures and process issues achieved saving through offsetting contractor costs and improving operational efficiencies at various CGS facilities.

Signed By

Report Prepared By

Michael Loken
Process Engineer
Digitally Signed Oct 28, 20

Division Review

Mike Jensen
Director of Water/Wastewater Services
Digitally Signed Oct 28, 20

Financial Implications

Steve Facey
Manager of Financial Planning & Budgeting
Digitally Signed Oct 28, 20

Recommended by the Department

Tony Cecutti
General Manager of Growth and Infrastructure
Digitally Signed Oct 30, 20

Recommended by the C.A.O.

Ed Archer
Chief Administrative Officer
Digitally Signed Nov 4, 20

Resolution

For information only.

Relationship to the Strategic Plan / Health Impact Assessment

This report supports initiatives to “Optimize Asset Service Life through the Establishment of Maintenance Plans” (1.1) and “Demonstrate Innovation and Cost-Effective Service Delivery” (1.5) as laid out in the City of Greater Sudbury’s Strategic Plan for 2019-2027. More specifically, the data presented shows how Wastewater Treatment Operations continue to avoid significant utilities costs while performing critical equipment repairs and upgrades to enhance operational effectiveness.

Report Summary

The report provides approximate costs for operational projects and repairs completed in 2019 by Wastewater Treatment employees, along with estimated savings through participation in the IESO ICI program and operational initiatives. Details are also provided on the costs associated with the new Sudbury WWTP generator. This report was requested as part of the annual update on Wastewater Operations and Energy Savings presented to the Operations Committee on June 15th, 2020.

Financial Implications

The work completed by Wastewater Treatment employees to address equipment failures and process issues achieved savings through offsetting contractor costs and improving operational efficiencies at various CGS facilities.

Summary:

Due to the diligent work of Wastewater Treatment employees, significant electricity cost mitigation and operational savings have resulted from participation in the Industrial Conservation Initiative (ICI) program and through preventative maintenance (tank cleaning) activities as shown below:

Year	Electricity Cost Avoidance (\$)	Operational Savings (\$)	Maintenance & Repair Costs (\$)
2017	\$ 211,918	\$ -	\$ -
2018	\$ 300,093	\$ 180,000	\$ 90,576
2019	\$ 421,402	\$ 78,500	\$ 363,418
Total	\$ 933,414	\$ 258,500	\$ 453,994

Net Savings:	\$ 737,920
--------------	------------

In addition to the net savings achieved, a number of critical equipment repairs were completed in 2019 at the Azilda, Lively and Sudbury WWTPs. These repairs, which were performed by Wastewater Treatment employees, were completed with no compliance issues or adverse environmental incidents, for a total of approximately \$72,140 as follows:

- Azilda, Lively & Sudbury WWTP Clarifier Repairs: \$29,380
- Azilda WWTP MCC Fire Repairs: \$8,390
- Lively WWTP Tank Repairs: \$34,370

Background:

As part of the annual update on Wastewater Operational Projects and Energy Savings given to the Operations Committee on June 15th 2020, a follow up report was requested to provide additional details on the following items:

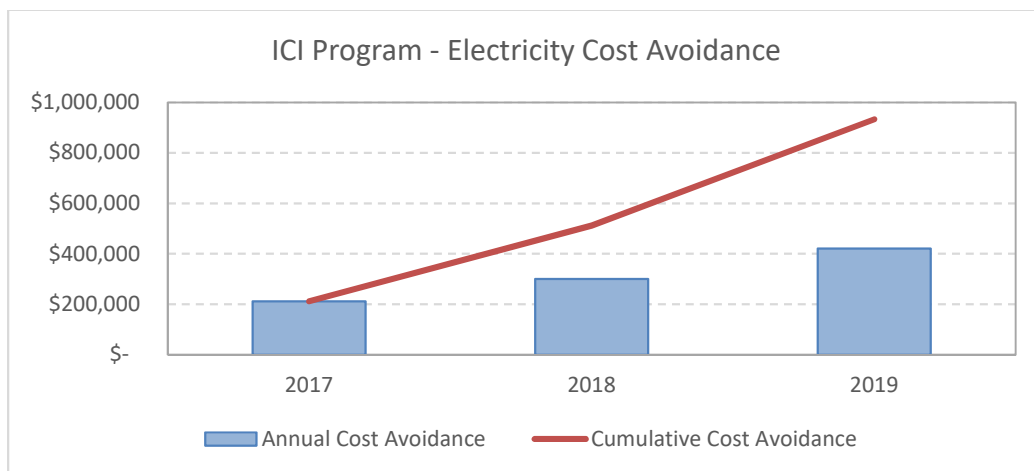
1. Cumulative electricity costs avoided through participation in the Industrial Conservation Initiative (ICI) for the period from 2017 to 2020;
2. Estimated cost for the Sudbury Wastewater Treatment Plant (WWTP) generator project, including the incremental cost to classify the generator as a “standby” (instead of “emergency”) unit;
3. Total costs and energy savings resulting from the tank cleaning and preventative maintenance activities from 2018 to 2020, and;
4. Cost associated with critical equipment repairs at the Azilda, Lively and Sudbury WWTP completed in 2019.

Electricity Cost Avoidance:

I. Cumulative Savings from the ICI Program

As detailed in the initial report submitted to Operations Committee, the Sudbury WWTP participates in the Industrial Conservation Initiative (ICI), which is administered by the Independent Electricity System Operator (IESO). By reducing the electrical consumption at the plant during the 5 peak electrical power demand hours in Ontario during a given year, staff can significantly reduce the amount of Global Adjustment billed to the facility the following year.

The Sudbury WWTP has been participating in the ICI since 2016, resulting in mitigated electrical costs starting in May of 2017. Annual and cumulative cost avoidance achieved by participating in the program are as follows:



II. Sudbury WWTP Generator Project

As part of long term capital planning and asset management, a project is currently underway to install a new generator at the Sudbury WWTP, our largest wastewater facility. Although the main driver for this work is to increase the available power during a power outage (as the existing emergency generator cannot fully power the facility), it also provided an opportunity to mitigate additional utility charges.

By investing additional funds into emissions control measures for the proposed diesel generator, we are able to operate it as a “standby”, rather than an “emergency”, unit. This provides the flexibility to run the generator outside of planned or forced power outages, allowing the Sudbury WWTP to completely remove itself from the electrical grid during the 5 peak hours used to calculate GA charges. If the facility is able to successfully do this, we will be able to completely mitigate the GA currently charged to the facility.

Current estimate costs and savings for the generator project are as follows¹:

- Total estimated cost for SWWTP Generator: \$6,015,000
- Cost for emissions control²: \$750,000
- Global Adjustment Cost Mitigation³: \$280,500

Based solely on the costs mitigated through Global Adjustment abatement, the cost of the additional emissions control equipment required to operate as a standby unit has a payback of 2.7 years.

Operational Savings & Preventative Maintenance:

The City of Greater Sudbury currently operates 10 wastewater treatment facilities, 9 of which use an activated sludge process. In this type of treatment bacteria, protozoa, and other microorganisms (the “activated sludge”) feed on organic matter in the wastewater, removing contaminants such as phosphorous and ammonia. In order to promote microbial growth and proper mixing where this process occurs, air is continually injected into the aeration tanks using high capacity blowers.

Over time, even under ideal conditions, the piping and headers used to blow air into the tanks can plug (due to dirt or sludge accumulation) or break as they reach the end of their effective service life. These failures significantly reduce the effectiveness of mixing and oxygen transfer in the treatment process. Ideally, preventative cleaning and maintenance should be performed every 5 to 7 years, however, historically Wastewater Treatment has done these tasks on a much less frequent timeframe.

To address these deficiencies, a pilot project was done in 2018 to clean one of the eight aeration tanks at the Sudbury WWTP. The goal was not only to address process deficiencies, but also to assess the resulting energy savings from improving the aeration efficiency. Based on the results, a three year tender to clean out the aeration tanks at all CGS wastewater treatment plants, and the chlorine contact chamber at the Sudbury WWTP was issued.

A summary of the costs incurred, and estimated savings for 2018 and 2019 is as follows:

Year	Plant	Tank	Cost (\$)			Est. Savings (\$/year)
			Cleanout	Maintenance	Total	
2018	Sudbury	Aeration Tank 4	\$ 78,856	\$ 11,720	\$ 90,576	\$ 180,000
2019	Sudbury	Aeration Tank 1	\$ 65,000	\$ 11,720	\$ 76,720	\$ 62,500
2019	Sudbury	CI Contact Chamber	\$ 238,834	\$ -	\$ 238,834	\$ - ⁴
2019	Walden	Aeration Tanks 1 & 2	\$ 41,865	\$ 6,000	\$ 47,865	\$ 16,000

¹ Capital cost estimates obtained from Akli Ben-Anteur, Water/Wastewater Project Engineer, 14-Aug-2020

² Incremental costs required to operate as a “standby” unit

³ Estimated as 75% of the actual Global Adjustment charges from 06 2019 to 06 2020.

⁴ Cleaning the chlorine contact chamber does not result in any energy savings. However, it improves the quality of the final effluent and ensures that the facility is running at full capacity.

The funds to complete the tank cleanouts and preventative maintenance has been made available without increasing the water rate past the approved amounts due to the cost mitigation and operational savings achieved as part of other initiatives.

It is expected that the tank cleaning program will cost approximately \$350,000 a year for 2020 and 2021, which will be the end of the current three year contract. It is anticipated that a new contract will be tendered at this point to begin clean outs of the Capreol and Wahnapiatae Lagoons to ensure ongoing operational sustainability and environmental compliance.

Critical Equipment Repairs:

A number of key equipment failures occurred in 2019 which affected treatment operations. In all cases, repairs were completed by wastewater treatment employees without any releases or non-compliance incidents, and were as follows:

I. Clarifiers, Various Facilities

Clarifiers are large circular tanks that separate the activated sludge from the final effluent, which is disinfected and discharged to the environment. In smaller facilities, the loss of a clarifier could result in significant compliance issues as the sludge, which contains all of the nitrogen and phosphorous removed from the raw wastewater, would not be effectively separated from the effluent. In larger facilities with multiple clarifiers, such as the Sudbury WWTP, the capacity of the facility would be reduced until repairs are completed.

The clarifiers that were repaired in 2019 were as follows:

Facility / Tank	Potential Impact	Approximate Repair Cost (\$)	Notes
Sudbury WWTP Clarifier #2	Reduced Capacity	\$ 2,590	Capacity of Sudbury WWTP reduced by 17% during repairs
Azilda WWTP	Non-Compliance (Final Effluent)	\$ 840	Components required were covered under warranty
Lively WWTP	Non-Compliance (Final Effluent)	\$ 5,950	Flow diverted to Walden WWTP during repairs

II. Azilda WWTP Fire

In March 2019, a failure in a Motor Control Centre (MCC) resulted in a fire which damaged key electrical infrastructure at the facility. The root cause of the failure was identified as a starter motor for a blower that was approximately 40 years old. The facility operated in a limited capacity while repairs were completed in approximately 1 day.

Total cost of the repairs was approximately \$8,390.

III. Lively WWTP Tank Walls

The Lively WWTP suffered a number of failures on the clarifier and vessel walls in late 2019. These failures resulted in a number of non-compliances as partially treated wastewater short circuited the process. Flow was diverted to the Walden WWTP while wastewater treatment staff worked with a local contractor to execute repairs.

Total cost of the repairs was approximately \$34,370.