

OPERATIONS COMMITTEE AGENDA

Operations Committee Meeting

Wednesday, October 14, 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

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ROLL CALL

DECLARATIONS OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF

REGULAR AGENDA

MANAGERS' REPORTS

R-1. Report dated September 25, 2020 from the General Manager of Growth and Infrastructure regarding All Way Stop Control - Moss Street at Beaumont Avenue, Sudbury.

4 - 7

(RESOLUTION PREPARED)

(This report provides a recommendation regarding all way stop control - Moss Street at Beaumont Avenue, Sudbury.)

R-2. Report dated September 25, 2020 from the General Manager of Growth and Infrastructure regarding All Way Stop Control - Attlee Avenue at Roland Street, Sudbury.

8 - 11

(FOR INFORMATION ONLY)

(This report provides information regarding all way stop control - Attlee Avenue at Roland Street, Sudbury.)

R-3. Report dated September 29, 2020 from the General Manager of Growth and Infrastructure regarding Mechanical Ice Breaker - Pilot Project - Supplemental Report. (RESOLUTION PREPARED)

12 - 20

(This report provides a recommendation regarding costs associated with adding an additional Mechanical Ice Breaker for Sidewalk Winter Maintenance - Pilot Project.)

MEMBERS' MOTIONS

ADDENDUM

CIVIC PETITIONS

QUESTION PERIOD

ADJOURNMENT



Request for Decision

All Way Stop Control - Moss Street at Beaumont Avenue, Sudbury

| Presented To: | Operations Committee |
|---------------|----------------------------|
| Presented: | Wednesday, Oct 14, 2020 |
| Report Date | Friday, Sep 25, 2020 |
| Type: | Managers' Reports |

Resolution

THAT the City of Greater Sudbury controls the intersection of Moss Street at Beaumont Avenue with an All-Way Stop;

AND THAT the City of Greater Sudbury directs staff to amend Traffic and Parking By-Law 2010-1 to implement the recommended change, as outlined in the report entitled "All-Way Stop Control – Moss Street at Beaumont Avenue", from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on October 14, 2020.

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to operational matters.

Report Summary

This report responds to a request from Ward Councillor Landry-Altmann and area residents to determine if an all-way stop is warranted at the intersection of Moss Street and Beaumont Avenue. This report presents results of the traffic study and provides a recommendation for traffic control at this intersection.

Financial Implications

There are no financial implications associated with this report. Recommendations of this report may be carried out within existing approved budget and staff complement.

Signed By

Report Prepared By

David Knutson Traffic and Transportation Technologist Digitally Signed Sep 25, 20

Manager Review

Joe Rocca Traffic and Asset Management Supervisor Digitally Signed Sep 25, 20

Division Review

David Shelsted Director of Infrastructure Capital Planning Services Digitally Signed Sep 25, 20

Financial Implications

Steve Facey
Manager of Financial Planning &
Budgeting
Digitally Signed Sep 25, 20

Recommended by the Department

Tony Cecutti General Manager of Growth and Infrastructure Digitally Signed Sep 28, 20

Recommended by the C.A.O.

Ed Archer Chief Administrative Officer Digitally Signed Sep 29, 20

All-Way Stop Control – Moss Street at Beaumont Avenue

Background

City staff received a request from Ward Councillor Landry-Altmann and area residents to determine if an all-way stop is warranted at the intersection of Moss Street and Beaumont Avenue. This intersection is located in Ward 12, north of LaSalle Boulevard and is currently controlled with a stop sign facing westbound traffic on Moss Street (Figure 1)

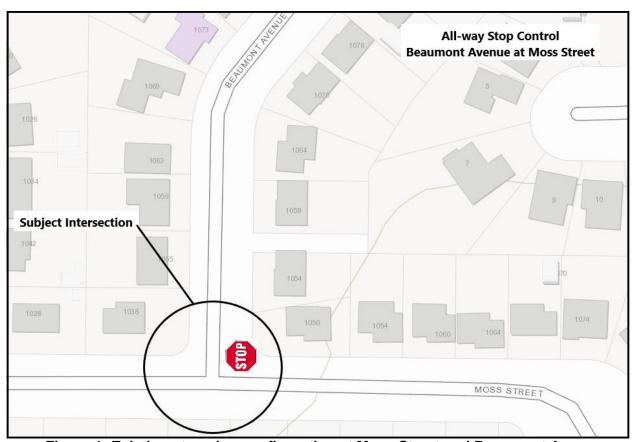


Figure 1: Existing stop sign configuration at Moss Street and Beaumont Avenue

The current stop sign configuration is not a standard form of traffic control at a "T" intersection. Typically at a "T" intersection, vehicles on the intersecting road are required to stop or yield to vehicles on the through road. Intersections with a non standard system of traffic control may create driver confusion and conflicts between various turning movements.

In an effort to gauge resident support, Councillor Landry-Altmann surveyed the residents of Moss Street and Beaumont Avenue to determine whether or not they supported an all-way stop at the intersection. In total, 30 residents responded and the results of the survey indicated that 77% of residents were in favor of an all-way stop and expressed safety and a high volume of cut through traffic at the intersection as their main concerns.

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Data Collection and Analysis

In 2008, City Council adopted an all-way stop policy for the City of Greater Sudbury. The policy is based on a jurisdictional scan of Ontario municipalities and reduces the requirements to have all-way stops installed.

Staff conducted a turning movement count on November 20, 2019 at this intersection and applied the data to the all-way stop policy. As shown in Appendix A, the minimum vehicle volumes meet the requirements to have an all-way stop installed.

A review of the collision information from 2017 to 2020 year to date revealed that there were no collisions that may be susceptible to relief through an all-way stop during this three year period. The all-way stop warrant for a local road requires there be a minimum of 2 collisions per year over a 3 year period.

Based on the volume of traffic, staff recommend the installation of an all-way stop at the intersection of Moss Street and Beaumont Avenue.

APPENDIX A



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

| Location: | Moss Street at Beaumont Avenue | Date: | May 11, 2020 | |
|-----------------------|--------------------------------|----------|--------------|--|
| Date of TM Count: | November 20, 2019 | Analyst: | DK | |
| Type of Intersection: | Т | | | |
| Roadway Type | Local | • | | |
| AADT of Main Road: | 900 | • | | |

All-Way Stop Warrant Summary

| Warrant #1 | Minimum Vehicle Volume | 100 | % |
|------------|-------------------------|-----|-----|
| Warrant #2 | Collision History | 0 | % |
| Warrant #3 | Traffic Control Signals | No | Y/N |

All-Way Stop Warranted?

| Yes | Y/N |
|-----|-----|
| | |

| Warrant #1 - Minimum | Vehicle Volur | me | | | |
|---|-----------------------------|-----------------|-----------------|----------------------|-----------------------|
| Roadway Type | Arterial/Major Collector | Minor Collector | Local | Vehicles per hour | Percent Compliance |
| AADT | > 5000 | 1000 - 5000 | < 1000 | | |
| Count Period | 7 hours | 4 peak hours | 4 peak hours | | |
| Total vehicle volume from all approaches is ≥ | 500/hr | 350/hr | 250/hr | 292 | 100% |
| Veh + Pedestrian volume from side street is ≥ | 200/hr | 140/hr | N/A | 147 | N/A |
| Traffic Split | 70/30 | 70/30 | 70/30 | 50/50 | 100% |

| Warrant #2 - Collision History | | | | | |
|---|-----------------------------|--------------------|-------|----------------------------|-----------------------|
| Roadway Type | Arterial/Major Collector | Minor Collector | Local | Total Number of Collisions | Percent Compliance |
| Total Collisions over a 3 year period | 12* | 9* | 6* | 0 | 0% |
| Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. No Y/N | | | | | |

^{*} Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.



For Information Only

All Way Stop Control - Attlee Avenue at Roland Street, Sudbury

| Presented To: | Operations Committee |
|---------------|----------------------------|
| Presented: | Wednesday, Oct 14, 2020 |
| Report Date | Friday, Sep 25, 2020 |
| Type: | Managers' Reports |

Resolution

For Information Only

Relationship to the Strategic Plan / Health Impact Assessment

This report refers to operational matters.

Report Summary

This report responds to a request from Ward Councillor Landry-Altmann and area residents to determine if an all-way stop is warranted at the intersection of Attlee Avenue and Roland Street. This report presents results of the traffic study and provides information regarding traffic control at this intersection.

Financial Implications

Recommendations of this report may be carried out within existing approved budget and staff complement.

Signed By

Report Prepared By

David Knutson Traffic and Transportation Technologist Digitally Signed Sep 25, 20

Manager Review

Joe Rocca Traffic and Asset Management Supervisor Digitally Signed Sep 25, 20

Division Review

David Shelsted Director of Infrastructure Capital Planning Services Digitally Signed Sep 25, 20

Financial Implications

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

Recommended by the Department

Tony Cecutti General Manager of Growth and Infrastructure Digitally Signed Sep 28, 20

Recommended by the C.A.O.

Ed Archer Chief Administrative Officer Digitally Signed Sep 29, 20

All-Way Stop Control – Attlee Avenue at Roland Street

Background

City staff received a request from Ward Councillor Landry-Altmann and area residents to determine if an all-way stop is warranted at the intersection of Attlee Avenue and Roland Street. This intersection is located in Ward 12, one block north of LaSalle Boulevard and is currently controlled with stop signs facing eastbound traffic on Roland Street and westbound traffic from the private entrance (Figure 1).

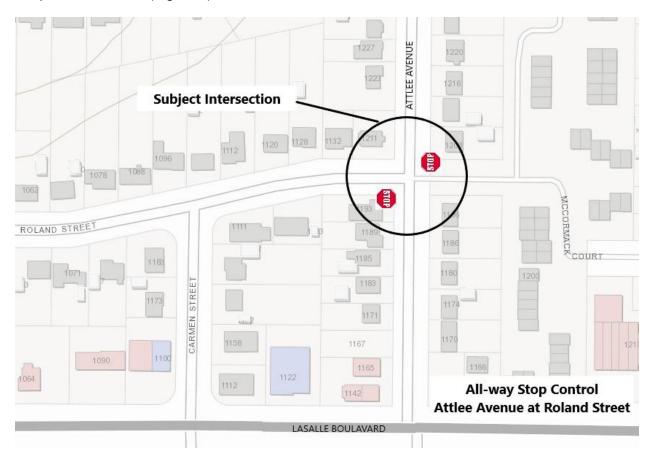


Figure 1: Existing stop sign configuration at Attlee Avenue and Roland Street

In an effort to gauge resident support, Ward 12 Councillor Landry-Altmann surveyed the residents of Attlee Avenue and Roland Street to determine whether or not they supported an all-way stop at the intersection. In total, 48 residents responded and results from the survey indicate that area residents are divided on whether they want an all-way stop installed at this intersection with 48% in favor and 52% opposed.

Data Collection and Analysis

In 2008, City Council adopted an All-Way Stop Policy for the City of Greater Sudbury. The policy is based on a jurisdictional scan of Ontario municipalities and reduces the requirements to have all-way stops installed.

On November 25, 2019, staff conducted a turning movement count at this intersection and applied the data to the all-way stop policy. As shown in Appendix A, the total vehicle volume from all approaches at this specific intersection meets only 38% of the minimum vehicle volume required to warrant an all-way stop.

A review of the collision history from 2017 to 2020 year-to-date revealed that there was a single collision that may potentially have been prevented with an all-way stop at this location. The all-way stop warrant for a local road requires there be a minimum of two (2) collisions per year over a three (3) year period to qualify for the installation of an all-way stop.

From the written feedback included on the survey, staff noted that approximately 5% of residents indicated that speeding is one of their main concerns. It is important to note that all-way stops are not effective as a speed control device. Studies have shown that stop signs only influence drivers to slow down within close proximity of the intersection and speeds may actually increase mid-block as drivers attempt to make up for the perceived lost time.

In addition to completing the all-way stop warrant, staff reviewed this section of Attlee Avenue against the City's Traffic Calming Policy and warrant to determine if it would qualify which would help to address the speeding concerns some residents expressed in the survey. The traffic calming warrant includes an initial screening where a combination of requirements must be met for a section of roadway to be eligible for traffic calming. The segment of Attlee Avenue, north of LaSalle Boulevard, did not pass the initial screening for traffic calming due to low vehicle volumes and is therefore not recommended to have traffic calming features installed on it.

At this time, based on the vehicle volumes and collision history, an all-way stop is not warranted at the intersection of Attlee Avenue and Roland Street.

Resources Cited:

City of Greater Sudbury, *Traffic Calming Policy*, Accessed online: http://agendasonline.greatersudbury.ca/index.cfm?pg=feed&action=file&attachment=1993.pdf

APPENDIX A



CITY OF GREATER SUDBURY ALL-WAY STOP WARRANTS

| Location: | Attlee Avenue at Roland Street | Date: | 5/11/2020 | |
|--|--------------------------------|---------------|-----------|---|
| Date of TM Count: | 11/25/2019 | Analyst: | SB | |
| Type of Intersection: | Cross | • | | |
| | All-Way Stop Warrant S | Summarv | | |
| \\\\-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | ············· | 1 000/10/ | |
| Warrant #1 | Minimum Vehicle Volume | | 38% % | |
| Warrant #2 | Collision History | | 0% % | |
| Warrant #3 | Traffic Control Signals | | NO Y/I | N |
| | All-Way Stop Warranted? | | NO Y/I | N |

| vvarrant #3 | Warrant #3 Traffic Control Signals are warranted and urgently needed, signs to be used as interim measures. NO Y/N | | | | |
|--|--|--------------------|--------------|-------------------------------------|-----------------------|
| over 3 year period Warrant #3 | 4* | 3* | 2* | 0 | 0% |
| Collisions per Year | 4* | 2* | 0* | | |
| Roadway Type | Arterial/Major Collector | Minor Collector | Local | Number of Collisions per year | Percent Compliance |
| Warrant #2 - Collision H | listory | | | | |
| Traffic Split | 70/30 | 70/30 | 70/30 | 59/41 | 100% |
| Veh + Pedestrian volumes from side street is ≥ | 200/hr | 140/hr | N/A | | |
| Total vehicle volume from all approaches is ≥ | 500 | 350 | 250 | 94 | 38% |
| Count Period | 7 hours | 4 peak hours | 4 peak hours | | |
| AADT | > 5000 | 1000 - 5000 | < 1000 | | |
| Roadway Type | Arterial/Major Collector | Minor Collector | Local | Vehicles per hour | Percent Compliance |

^{*} Only those collisions susceptible to relief through multi-way stop control must be consider (i.e. right angle and turning types).

- If the intersection meets warrant # 1, then the all-way stop is recommended regardless of the remaining warrants.
- If the intersection does not meet warrant #1 and does not meet warrant #2, then the all-way stop is not recommended.
- If the intersection does not meet warrant #1 and does meet warrant #2, then the all-way stop is recommended.



Request for Decision

Mechanical Ice Breaker - Pilot Project - Supplemental Report

| Presented To: | Operations Committee |
|---------------|----------------------------|
| Presented: | Wednesday, Oct 14, 2020 |
| Report Date | Tuesday, Sep 29, 2020 |
| Type: | Managers' Reports |

Resolution

THAT the City of Greater Sudbury directs staff to utilize additional part-time staff to enhance the pilot project for mechanical ice breaking on winter sidewalks as outlined in the report, entitled "Mechanical Ice Breaker-Pilot Project – Supplement Report", from the General Manager of Growth and Infrastructure, presented at the Operations Committee meeting on October 14, 2020.

Relationship to the Strategic Plan / Health Impact Assessment

A pillar of the Strategic Plan 2019 – 2027 is the Asset Management and Service Excellence strategic initiative. One of the key principles of this initiative is to continually look for innovative and cost-effective approaches for the operational services staff deliver each day. Utilizing this continuous improvement approach ensures Linear Infrastructure Services provides efficient, high quality operational activities that meet the needs of residents and supports how they work, live and play in Greater Sudbury.

Report Summary

The City of Greater Sudbury is committed to building and maintaining an active transportation network. The City

recognizes the importance of clearing sidewalks and enabling residents to maintain healthy, active lifestyles and in providing safe access to destinations such as school, work and commercial areas. City staff strive, insofar as reasonably practicable, to provide safe winter road and sidewalk conditions for vehicular and pedestrian traffic as set out in the appropriate level of service.

This report recommends that staff modify the previously approved pilot program for enhanced winter sidewalk maintenance with a mechanical ice breaker attachment to include two downtown sidewalk routes rather than the single sidewalk route proposed in the original report. As part of the pilot program, staff will monitor the results with utilization of this technology throughout the 2020 - 2021 winter season and return in

Signed By

Report Prepared By

Brad Thom

Director, Linear and Infrastructure Services

Digitally Signed Sep 29, 20

Division Review

Brad Thom

Director, Linear and Infrastructure

Services

Digitally Signed Sep 29, 20

Financial Implications

Steve Facey

Manager of Financial Planning &

Budgeting

Digitally Signed Sep 30, 20

Recommended by the Department

Tony Cecutti

General Manager of Growth and

Infrastructure

Digitally Signed Sep 30, 20

Recommended by the C.A.O.

Ed Archer

Chief Administrative Officer Digitally Signed Sep 30, 20 the second quarter of 2021 with a report detailing our findings. The report will also contain financial information on the potential costs associated with delivering this type of enhanced service to other areas of the City.

Financial Implications

Annual operating costs for two routes are estimated to be \$36,706 of which \$19,750 was previously approved through resolution OP2020-22.

For the purpose of this report and the addition of one route, approximately \$5,934 will be expended in 2020. These costs will form part of the 2020 year-end position. The remaining estimated costs of \$11,021 would be realized in 2021 and would be included as a one-time expenditure in the operating budget should the resolution be accepted.

The 2020 expenditures are unbudgeted and could increase the 2020 deficit, if approved. These costs could be offset if favourable weather conditions are realized during the 2020/2021 winter season. As this is a pilot project for an enhanced level of service, the costs are incremental to the organization.

Mechanical Ice Breaker for Winter Sidewalk Maintenance Pilot Project – Supplemental Report

Background

In September 2020, staff prepared a report entitled "Mechanical Ice Breaker for Winter Sidewalk Maintenance – Pilot Project" that requested approval to purchase a mechanical ice breaker to support a pilot project. Operations Committee supported the request and passed the Resolution #OP2020-22. At the time this report was published, the resolution has not been ratified but is scheduled to be reviewed by Council at the October 6, 2020 meeting. At the September 14, 2020 Operation Committee Meeting the members of committee asked staff to return with a supplemental report to the "Mechanical Ice Breaker for Winter Sidewalk Maintenance – Pilot Project" report that would consider options to expand the use of the ice breaker technology to some additional sidewalks. This report has been prepared to address this request.

The "Mechanical Ice Breaker for Winter Sidewalk Maintenance – Pilot Project" report may be read in its entirety at:

https://agendasonline.greatersudbury.ca/?pg=agenda&action=navigator&lang=en&id=1490&itemid=19
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Analysis

The goals of the proposed pilot project is to assess the effectiveness of a mechanical ice breaker for clearing ice and snow pack from sidewalk surfaces and also validate the operational cost estimate to provide this service. The pilot project will allow staff to determine whether the operational costs estimate is reasonable and provide a basis to provide a more accurate cost estimate in order to review the purchase of additional mechanical ice breakers in the future. The original operational estimate was based on an assumption that the ice breaker attachment will be required 25% (on one sidewalk route) of the time over the course of a winter season.

In order for the pilot to be effective, it is important that there be a clear test area where the ice breaker attachment is used and a comparable control section where the icebreaker attachment is not used. This is critical to assess and determine whether the ice breaker attachment is effective. If the test area is not clearly separated from the control area, it will be difficult to ascertain what factors contributed to the condition of the sidewalks. This could lead to an incorrect conclusion that improved sidewalk conditions were a result solely of the ice breaker attachment.

As part of the pilot program, staff will monitor the results with utilization of this technology throughout the 2020 - 2021 winter season and return in the second quarter of 2021 with a report detailing the findings. The report will also contain financial information on the potential costs associated with delivering this type of enhanced service to other areas of the City.

At the September 14, 2020 meeting, Operations Committee asked staff to review options to expand the use of the mechanical ice breaker beyond one sidewalk maintenance route for the 2020/2021 winter season and report back at the next committee meeting in October.

Staff have reviewed two options described herein.

Option #1 – Expand the use of the Mechanical Ice Breaker Attachment to include two sidewalk routes in the downtown core.

The first would be to continue the pilot project with one ice breaker unit and increase the planned utilization of the unit over the course of the winter. With this scenario, staff would fully utilize the ice breaker unit when conditions warrant over two downtown sidewalk routes rather than single route indentified in the original pilot project report. Appendix A (Option 1) contains a drawing highlighting the limits of the routes that would be included if this option is accepted. This would result in no increase to the capital cost to purchase the ice breaker unit. An increase to the operating budget for labour requirements and additional fuel would be needed to account for the full utilization of the ice breaker attachment this winter. The total cost (operating and

capital) for this pilot project option is \$64,206 with \$47,250 previously approved through resolution OP2020-22.

It is estimated that total incremental operating costs would be \$16,956 for this additional sidewalk route. The incremental operating costs for the period of November and December 2020 are \$5,934. This service enhancement is currently not included within the 2020 budget and any overage as a result of this service enhancement would be included in the year-end position.

The estimated incremental operating costs for the period of January to April, 2021 for this additional sidewalk route are \$11,021 and would be included in the 2021 operating budget if approved by subsequent resolution.

Option #2 - Expand the use of the Mechanical Ice Breaker Attachment to include two sidewalk routes and purchase an additional Mechanical Ice Breaker Attachment to complete two additional routes.

With this option, staff reviewed the potential to expand the pilot project to include a second ice breaker attachment and two additional routes. Appendix A (Option 2) contains a drawing highlighting the limits of the routes that would be included if this option is accepted. This would allow the pilot project to extend to multiple sidewalk routes within the City. Once again this option is based on the utilization of one of our spare sidewalk plows (MT) to complete the work. One of the significant differences of applying mechanical ice breaking treatment to sidewalk routes outside the downtown core is the winter sidewalk plowing service level. The approved winter sidewalk plowing service level for the two routes within the former City downtown core allows for plowing/cleanup each day, five days a week. The winter sidewalk plowing service level for all other sidewalks in the City allows for plowing when 8 centimeters of snow has accumulated or icy conditions are detected. The mechanical ice breaker treatment may have to include additional snow plowing (with a separate sidewalk plow) for any sidewalk route outside of the two downtown routes which could increase the costs. The pilot project will assist staff in determining the level and cost of additional snowplowing that may be required to support the use of the mechanical ice breaker outside of the

downtown core. The total cost for this option would be double the costs of option one. The total cost for this option would be \$128,411, with \$47,250 previously approved through resolution OP2020-22.

After careful review and consideration, staff recommend option one, which will address the concerns raised by Operations Committee at the meeting on September 14, 2020 and still allows staff the opportunity to ensure the pilot project provides sufficient information to compile a report on the total cost to offer this enhanced service across the entire City in the event Council chooses to do so

Financials

Option #1 allows for the addition of one additional sidewalk route in the downtown area. Option #2 allows for the purchase an additional mechanical ice breaker and delivery of the enhanced service to a total of four routes.

| | | Option 1 | | Option 2 |
|---|----|----------|----|----------|
| Total Capital Cost | \$ | 27,500 | \$ | 55,000 |
| Previously Approved Capital (OP2020-22) | \$ | 27,500 | \$ | 27,500 |
| New Purchase (Approval Required) | \$ | - | \$ | 27,500 |
| Incremental Operating Labour | Ś | 32,458 | ¢ | 64,915 |
| Maintenance | \$ | 2,750 | | 5,500 |
| Fuel | \$ | 1,498 | \$ | 2,996 |
| Estimated Annual Operating Costs | \$ | 36,706 | \$ | 73,411 |
| Previously Approved Operating Costs (OP2020-22) | \$ | 19,750 | \$ | 19,750 |
| Incremental Operating Costs (Approval Required) | \$ | 16,956 | \$ | 53,661 |
| Total Pilot Program Cost | \$ | 64,206 | \$ | 128,411 |

It is estimated that incremental operating costs for the period of November and December, 2020 are 35% of total operating costs and for the period of January to April, 2021 are 65% of total operating costs.

Conclusion and Next Steps

It was evident during our demonstration in the winter of 2019 - 2020, that the sidewalks maintained with the mechanical ice breaker had a smoother surface. In addition to the

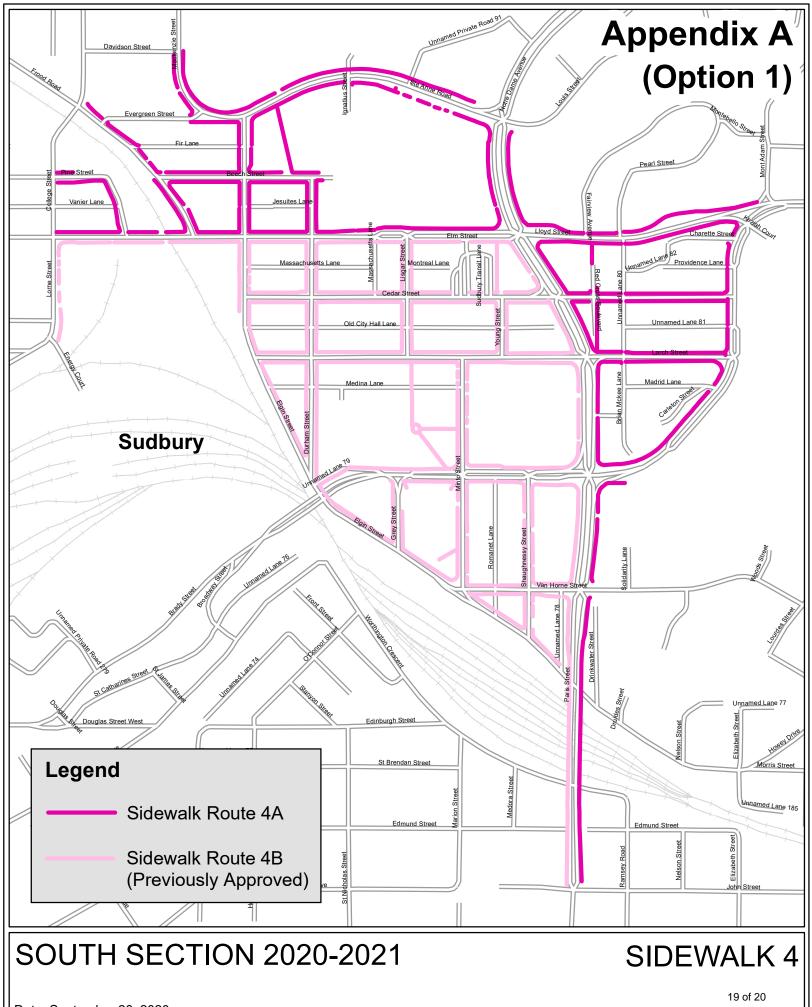
smoother surface, staff noticed that sidewalks were returned to full width and had less ice/snow pack after they were treated with this attachment. The pilot project, if approved, would commence at the beginning of the 2020 - 2021 winter season with staff returning to Council at the end of the winter season with a detailed report on how the technology worked and if warranted, options on how a full program could be delivered.

Resources

- -- Operations Committee Report dated September 14, 2020 titled "Mechanical Ice
 Breaker for Sidewalk Winter Maintenance Pilot Project"

 https://agendasonline.greatersudbury.ca/?pg=agenda&action=navigator&lang=en&id=1490&itemid=19279
- Operations Committee Report dated August 21, 2017 titled "Enhanced Sidewalk Winter Maintenance Plan"
- https://agendasonline.greatersudbury.ca/index.cfm?pg=agenda&action=navigator&id=1145&itemid=13719&lang=en
- Operations Committee Report dated February 10, 2020 titled "Winter Control Operations Update"
- https://agendasonline.greatersudbury.ca/index.cfm?pg=agenda&action=navigator&id=1483&itemid=17845&lang=en
- Greater Sudbury's Community Energy and Emissions Plan Draft

 https://www.greatersudbury.ca/live/environment-and-sustainability1/pdfdocuments/draft-greater-sudbury-community-and-energy-plan-executive-summary/



Date: September 28, 2020 Created by the GIS Operations Section, Growth & Infrastructure, City of Greater Sudbury

