



Committee of the Whole Report

Report Number: RD2021-005
Meeting Date: November 2, 2021
Title: Update - Street Sweeping Level of Service Policy
Description: As per Council resolution CR2021-380, staff were directed to provide a report to Council that indicates an increased level of service, and associated budget implications, for sweeping operations as well as alternatives to sweeping, in addition to modified schedules, for these activities.
Author and Title: David Lembke, Manager, Roads Operations West A
Chris Porter, Manager, Roads Operations East

Recommendation(s):

That Report RD2021-005, Update - Street Sweeping Level of Service Policy, be received;

That Council approve the proposed amendments to Policy CP2021-005 attached as Appendix A;

That Staff be directed to increase the Level of Service for city wide street sweeping by increasing the amount of contracted resources by four (4) additional street sweepers for a total of eight (8) units, and four (4) additional water trucks;

That Council approve an additional \$81,000 in the 2022 Budget resulting from the increased level of service; and

That this recommendation be brought forward at the next available Council meeting.

Department Head: _____

Financial/Legal/HR/Other: _____

Chief Administrative Officer: _____

Background:

The City's Public Works Roads Division (Roads) currently completes sweeping operations at various times of the year, predominantly following the end of winter operations in the spring. The primary reasons for sweeping services in the spring are to prevent winter control materials from entering the storm sewer infrastructure, to improve motoring safety and reduce nuisance dust. Sweeping operations may also be carried out prior to holiday weekends or special events within Central Business Districts (CBD) or in the fall to remove leaves and other debris from curb, gutter and the road surface in order to prevent it from entering storm infrastructure or obstruct drainage.

A list of roads that receive spring street sweeping annually can be found in Schedule A of Council Policy CP2021-005, which Staff have proposed amendments to. Sweeping operations on roads that are not identified on Schedule A are generally limited to the sweeping of hard surface intersections, bridge decks, and areas where curb and gutter or other storm infrastructure exists.

The internal sweeping resources of the City of Kawartha Lakes (City) consist of a variety of equipment including but not limited to:

- Trackless sidewalk units equipped with rotating broom attachments
- Elgin Pelican 3 wheel sweeper(s)
- Elgin Eagle 4 wheel sweeper(s)
- Tractor backhoes and loaders with front rotating broom attachment(s).

Roads also contracts street sweeping services on an annual basis. Contracted sweeping services run simultaneously with sweeping operations completed by City equipment and Staff. In order to ensure that these resources are utilized as efficiently and effectively as possible, the City has adopted a Policy of having the resources deployed when the needs are the greatest as weather allows.

At the Council Meeting of August 10th 2021, Council adopted the following resolution:

CR2021-380

That the Memorandum from Councillor Elmslie, Councillor Richardson and, Councillor Veale, **regarding Spring Street Sweeping**, be received;

That staff be instructed to come back with a report in Q4, 2021, indicating an increased level of service, and associated budget implications, for sweeping; and

That staff include alternatives to sweeping, in addition to modified schedules, for these activities.

This report addresses that direction.

Rationale:

Typically, spring street sweeping commences in mid-April pending current weather and a favorable extended forecast. Street sweeping operations currently start in the City's Southern Operating Areas and work North. The City's internal resources focus on completing sweeping operations in the various CBD's across the City while the contracted resources complement other internal resources to sweep the other roads outside of the CBD's listed in Appendix A of CP2021-005.

The contractor complemented operation typically includes two crews, one starting in the East Maintenance Area and one in the West A Maintenance Area. On average, each Operating Area completes sweeping in approximately 1.5 – 2.5 weeks (950 total contracted hours). Therefore, it has historically taken approximately nine (9) to eleven (11) weeks, pending weather and unforeseen maintenance needs, to complete all sweeping operations City Wide.

Currently, City Wide contractor complemented sweeping operations consists of the following:

- Four (4) contracted street sweepers working in tandem in two (2) separate Operating Areas,
- Two (2) existing City owned Tandem Axle Dump Trucks equipped with water tank, in two (2) separate Operating Areas,
- Four (4) existing City owned Tandem Axle Dump Trucks to haul material, working in two (2) separate Operating Areas.

The above noted operation allows for two (2) contractor complemented sweeping operations to be undertaken at a time in two (2) Operating Areas, therefore allowing staff to undertake other spring maintenance operations that are required at this time of year such as pot hole patching, spring grading, dust control etc.

In order to enhance this level of service, Staff recommend that the budget be increased from \$170,000 to \$251,000 (estimated - for an increase of \$81,000) to allow for the use of four (4) additional contracted street sweepers for a total of eight (8), and four

(4) additional contracted water trucks. This increase to the procurement agreement will allow the Roads Division to improve the level of service for sweeping by enabling sweeping operations simultaneously in four (4) Operating Areas at a time. It is anticipated that, if proceeding with this recommendation, City Wide Sweeping Operations could be completed in four (4) to five (5) weeks City Wide. Additionally, this would allow the City owned water truck(s), to remain with spring grading and dust control operations, or allow an increase to staff completing other spring maintenance operations during one of the Divisions peak periods for general road maintenance.

The proposed sweeping operation at four (4) Operating Areas would consist of the following:

- Eight (8) contracted sweepers, working in tandem in four (4) Operating Areas,
- Four (4) contracted water trucks, working in four (4) Operating Areas
- Eight (8) existing City owned Tandem Axle Dump Trucks hauling material in four (4) Operating Areas

The total cost of contracting additional street sweepers and water trucks and complete street sweeping operations simultaneously in four (4) Operating Areas is \$251,000, with an estimated timeline of 4 weeks until completion. It should be noted that the increase in cost is a contractual increase only, internal operational costs would be minimally impacted by the proposed recommendation.

Other Alternatives Considered:

Option 2:

Increasing contracted services for street sweeping operations and purchasing additional water tanks for internal fleet. This option would include an increased number of contracted sweeping units from four (4) to eight (8), and the purchase of four (4) Poly Water Tanks. Option 2 includes the following:

- Eight (8) contracted sweepers, working in tandem in four (4) Operating Areas,
- Four (4) existing City owned Tandem Axle Dump Trucks equipped with newly purchased Poly water tanks, working in four (4) Operating Areas,
- Eight (8) existing City owned Tandem Axle Dump Trucks hauling material in four (4) Operating Areas.

The total cost to amend the current procurement agreement and purchase four (4) Poly Water tanks is \$284,000 and includes an estimated timeline of 4 weeks to complete. It should be noted that the increase in cost to procure poly water tanks is not an annual

cost. Replacement thereof would then fall within the Fleet program. Operation of the additional water trucks would also require re-allocation of approximately \$29,000 within the operational budget for wage and equipment costs to sweeping operations. This budget would need to be pulled from other maintenance operations such as hot/cold mix patching, gravel patching, brushing, ditching, etc. Future operational costs related to installation of the poly tanks and routine maintenance are unknown at this time.

Staff do not recommend this option as internal operators would be required to operate the additional water trucks. This would limit resources available for other road maintenance operations that are regulated under Ontario Regulation 239/02 (Minimum Maintenance Standards), which may increase the City's exposure to liability claims. The poly water tanks would also need to be procured through a competitive process and may have a long lag time before the City receives them, which may make this option unachievable for spring 2022 sweeping operations.

Option 3:

Amending the current procurement agreement #2020-3042 to complete street sweeping operations with an earlier start date. This option would include an increased number of contracted sweeping units from four (4) to eight (8), the addition of four (4) contracted water trucks, a budget increase of \$81,000, and an early start date of April 1 or before, pending winter operations, current forecast at the time, and the extended forecast at the time. Option 3 includes the following:

- Eight (8) contracted sweepers, working in tandem in four (4) Operating Areas,
- Four (4) contracted water trucks, working in four (4) Operating Areas
- Eight (8) existing City owned Tandem Axle Dump Trucks hauling material in four (4) Operating Areas

The total cost to amend the current procurement agreement by contracting additional street sweepers and water trucks and complete street sweeping operations simultaneously at four (4) Operating Areas is \$251,000, with an estimated timeline of four (4) weeks until completion. It should be noted that, similar to the recommendation, the increase in cost is a contractual increase only, internal operational costs would be minimally impacted by the proposed changes unless re-sweeping is required.

Staff do not recommend this option. While it is similar to the report recommendation, it includes a provision for an early start. It should be noted that in the event of an early spring with a late season winter storm at the end of April, there is a risk that the Roads Division would have to re-sweep some or all rural and urban areas where sweeping

operations have been completed previously. Additionally, this would also add increased strain to other maintenance operations, as internal operators would be required to operate the required equipment and therefore would limit resources available for other road maintenance operations that are regulated under Ontario Regulation 239/02 (Minimum Maintenance Standards), which may increase the City's exposure to liability claims. The estimated incremental, unbudgeted, cost to do so is as follows:

- Re-sweep 25% of all roads = \$63,000
- Re-sweep 50% of all roads = \$126,000
- Re-sweep 75% of all roads = \$188,000
- Re-sweep 100% of all roads = \$251,000

Furthermore, it would be very difficult to secure the contractor after we have released them as the contractor completes street sweeping in other municipalities across the province. Not only would there be additional cost implications, but the sweeping operation could potentially be on hold until early summer.

Other Considerations:

Staff have reviewed an option to increase internal fleet and resources, but given the initial capital cost and the limited seasonal operation times, Staff believe that contracted services is still the best service delivery model.

Staff have continued to investigate additional sweeping improvement options and have found alternative sweeping technologies which may improve the end result of the operation. This alternative would include adding a dustless regenerative air street sweeper to work with the traditional mechanical sweepers in select areas to assess its capabilities within the City's Road Network. If Council wishes to explore this option and as with any new technology, Staff recommend proceeding with a pilot program to ensure it is successful within the City's road network.

Mechanical street sweepers use a combination of brooms and conveyors to pickup material whereas dustless regenerative air street sweepers use brooms to move debris into the path of the sweeper head. The regenerative air process blows air into one end of the sweeper head and onto the road surface which removes loose material, and the other end has a suction hose that vacuums up the material. The air is then recycled by re-circulating back through the system to the sweeper head.

Dustless regenerative air sweepers are reported to have additional positive environmental effects compared to traditional mechanical sweepers. One of the main effects is reducing the amount of materials entering storm sewers or ditches; these materials may otherwise end up contaminating surface water or entering watercourses.

Additionally, the removal of fines from street surface can help reduce airborne particulate which is a common concern following sweeping operations, particularly on windy days. A study in the City of Toronto found that these types of sweepers can reduce airborne fine particulate matter, at street level, by at least 27 per cent.

The cost to purchase a dustless regenerative air sweeper is approximately \$400,000.00, 35% higher than mechanical sweepers. The cost to hire contractors with these types of sweepers is approximately \$180 per hour, 16% higher than the current contracted mechanical sweeper rate.

If Council wishes to add a one (1) week pilot program to sweeping operations in the spring of 2022 at an estimated cost of \$10,000.00 the following resolution would need to be added in addition to the aforementioned recommendation:

“That a Pilot Project be put in place for spring sweeping operations for the spring of 2022 trialing a dustless regenerative air sweeper in various locations within the City’s Road Network;”.

Alignment to Strategic Priorities

This report aligns with the 2020-2023 Strategic Plan as follows:

A Healthy Environment

- Protect and enhance water quality by keeping winter control materials out of the City’s storm system
- Commitment to leadership in environmentally friendly business practices

An Exceptional Quality of Life

- Improve the health and wellbeing of residents

A Vibrant and Growing Economy

- Create an environment to attract business to Kawartha Lakes

Good Government

- Increase efficiency and effectiveness of service delivery

Financial/Operation Impacts:

The annual budgetary impact to increase contracted services for the recommended option as outlined in this report is \$81,000. Staff propose that the Roads Operational City Wide Budget for sweeping be increased from \$170,000 to \$251,000. This will allow Roads to provide an increased level of service and an increased operational efficiency.

Additionally, if Council elects to add the Pilot Program to trial a dustless regenerative air sweeper for one week in the spring of 2022, an additional budget of \$10,000 would be required to the Roads Operational City Wide Budget for sweeping.

Consultations:

Director of Public Works
Manager Road Operations (West B)
Manager of Fleet and Transit

Attachments:

Appendix A – Draft Amendment to CP2021-005 Street Sweeping Level of Service Policy



Draft Amendments
to CP2021-005 Stree

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