



Staff Report for Council Meeting

Date of Meeting: March 25, 2019

Report Number: SRCS.19.07

Department: Community Services

Division: Public Works Operation

Subject: **SRCS.19.07 – Snow Windrow Clearing Program Alternatives**

Purpose:

The purpose of this report is to present snow windrow clearing program alternatives for Council's consideration as requested at the February 4, 2019 Council Meeting through Member Motion 14.4.

Recommendation(s):

- a) That Council receive report SRCS.19.07 for consideration

Contact Person:

Grant Taylor, Director, Public Works Operations, Extension 2966

Report Approval:

Submitted by: Ilmar Simanovskis, Commissioner of Community Services

Approved by: Neil Garbe, Chief Administrative Officer

All reports are electronically reviewed and/or approved by the Division Director, Treasurer (as required), Town Solicitor (as required), Commissioner, and Chief Administrative Officer. Details of the reports approval are attached.

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Background:

At the February 4, 2019 Council Meeting, member motion 14.4 was adopted that directed staff to investigate options for the introduction of a snow windrow clearing program to remove the accumulation of snow at the bottom of residential driveways caused during road plowing operations. This report provides various options and costs for introducing residential windrow clearing in the Town of Richmond Hill.

Previous staff reports on Windrow Clearing Program Considerations

Staff report SRCS.15.07; Windrow Clearing Service Enhancement Alternatives was presented to the Budget Committee of the Whole on February 3, 2015 in response to a Council request for windrow clearing service enhancement alternatives. The report evaluated existing services provided in the City of Vaughan and Markham. The report identified three options for consideration that included a full windrow-clearing program similar to the Vaughan program to be delivered by contracted services, enhanced seniors windrow clearing program delivered with in-house staff, and a seniors windrow clearing program that is delivered by contracted services. The report was referred back to staff to report on additional information on the process for public consultation to expand the windrow clearing program.

Staff report SRCS.15.34; Process for Public Consultation on Expanding the Windrow Clearing Program was presented to the Committee of the Whole on June 1, 2015 and outlined additional program comparators from other municipalities as well as options for a broad public consultation process to determine community interest and support for a Town wide windrow clearing program. Council approved the public consultation initiative.

Staff report SRCS.16.05; Windrow Removal Program Community Survey Results and Potential Program Enhancements was presented to Committee of the Whole on February 9, 2016 and reported on the results of the public consultation survey.

Council adopted the recommendation to change the seniors windrow program from in-house service delivery to a contracted service, which provided for a service delivery time of 30 hours from the time the road plowing operations are completed.

Currently, the windrow clearing program includes approximately 1600 driveways for eligible residents who are 65 years of age and older and for residents with disabilities which prevent them from performing this task. The program continues to be outsourced with a current operating budget impact of \$340,000.

Proposals and Analysis

The following are potential alternatives that were investigated to deliver windrow program services within the Town.

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Status Quo (Snow Windrow Clearing): No changes to the current level of service for winter snow removal related to seniors and disabled resident windrow clearing.

Expand and Open Snow Windrow Program to Limited Number of Residents: This option considers a program that includes any resident that is interested in windrow clearing and would be based on a limit of 3,000 driveways as an initial target.

Town Wide Windrow Clearing Program (contracted service): This option considers providing the service to all eligible households and would be delivered through a separate third party contract.

Town Wide Windrow Clearing Program with Enhanced Service Delivery (in-house service): This option considers providing the service to all eligible households and would be delivered by town forces as an in-house service and would allow for the sharing of staff resources to assist in other existing public works related services.

Option 1 – Status Quo (Seniors Windrow Clearing)

This option is currently in place and focuses on providing windrow clearing services to senior's residents and those with disabilities. The service is free to eligible residents who register for the program.

Option 2 – Expand and Open Snow Windrow Program to Limited Number of Residents

This option would be delivered similar to the existing seniors and disabled program and would be provided to any resident requesting the service. The seniors program is currently delivered through a contractor and the expansion would be delivered using similar outsourced services. Residents who are interested in receiving the service would register for the program similar to the current program. As this is an added value service, it is proposed that a separate fee be charged to those residents who do not qualify for the seniors program. Driveways located on regional roads, commercial, industrial, institutional, high-rise properties and private roads would not be included in the program.

The service would be offered town-wide. As these locations would be spread across the town, it is difficult to ascertain the amount and type of equipment and resources required so resourcing needs have been estimated based on current per driveway costs. The program would start as a pilot that would initially be limited in scope to 3,000 homes. The pilot would be the beginning of an expandable program that could eventually include all residents. The transition to a town-wide service would have to be assessed based on program uptake, demand of service beyond the proposed startup level and cost efficiencies that would be realized if demand confirms that a town-wide program is desired.

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Timing for the expansion of this program could be relatively short as there is currently a contractor in place and securing additional heavy equipment similar to the units used in the seniors program could be arranged quickly.

Assuming that this program would be funded in the 2020 budget, contractor commitments could be planned for late 2019 with equipment delivery and service initiation in early 2020. This would only provide for partial service in the 2019/2020 season but would introduce the program and allow time to address any service challenges to be better prepared for the full season in 2020/2021. A risk with this early implementation is if the 3,000 home target is taken up immediately wherein the contractor may have some challenges to staff and provide the necessary equipment in this short time frame.

Option 3 – Town-Wide Windrow Clearing Program (Contracted Service)

A town wide windrow clearing program would include the clearing of approximately 55,000 residential driveways. Driveways located on regional roads, commercial, industrial, institutional, high-rise properties and private roads would not be included in the program.

Using the City of Vaughan model, a total of 35-windrow clearing heavy duty tractors are required to support a target service level that would achieve the clearing of the snow windrow within 8-12 hours of the initial plowing operation. On average, it takes 6 hours or longer to plow primary roads. Residential driveway windrow clearing would commence once plows begin servicing secondary roads (approximately during the 7th hour of operation). A typical winter would envision 8 to 10 plow events necessitating windrow removal based on a snow accumulation target of 5 cm, which is the Town's current service level target when road plowing operations commence.

A significant component of winter operations is de-icing applications, which provides for melting and clearing of the road surface. There may be a benefit to increasing salt application rates during certain types of snow events to reduce snow volume and reduce windrow removal effort and required snow storage. It is proposed that the salt application rates may be increased by 20% to 30% depending on actual conditions. Otherwise, application rates would be kept to current rates to minimize environmental impacts.

Windrow clearing machines would consist of a heavy-duty tractor retrofitted with a hydraulic gate, and bucket attachments. The hydraulic gate would raise and lower at each driveway, pushing the snow to one end creating an opening for vehicle access.

In order to meet the target service levels and associated response times, the windrow clearing equipment would require parking space at a centrally located facility. Currently, there is limited capacity at the Operations Centre to accommodate this. It is anticipated

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that this equipment can be stored at the yard but future growth demands may require additional lands to accommodate overall equipment storage needs.

Timing for the implementation of this program is based on securing a contractor and allowing sufficient time to secure the necessary equipment. Typical tendering and approval processes for this size and scope of a contract would be 4-6 months from the development of the terms of reference to the award of a contract. Once awarded, the vendor would typically require a minimum of 12 months to order and build the fleet required for the full program. Assuming approval of funding for this program in early 2019, the service would be ready for delivery in November 2020. A 2020 budget approval would result in a November 2021 program start date.

Option 4 – Town-Wide Windrow Clearing Program with Enhanced Service Delivery (In-House Service)

Similar criteria detailed in Option 3 would apply to an in-house service. However, it is anticipated that a more consistent level of service would result from the work being performed by full-time staff. Further, when staff are not engaged in snow windrow clearing, they would be performing other work thereby insuring that service levels are met while increasing overall program delivery efficiency.

Staffing requirements to deliver the windrow program in-house is 40 staff. This would accommodate the operation of the 35 tractors in addition to support operations, program management and sick/vacation allowances.

Currently, the town relies on a large seasonal workforce to deliver the winter and summer operations programs in conjunction with the full-time staff compliment. The seasonal workforce consists of 80 positions for the 7 months of summer operations and 40 positions for the 5 months of winter operations. It is proposed that this seasonal compliment be converted to a full-time year around workforce of 80 staff where the added capacity of 40 staff during the winter season would deliver the windrow clearing program and other additional services to improve overall service levels for the Town.

Based on experience, the town activates the windrow program approximately 10 times each winter season. Assuming a 12 hour service delivery time, the program takes 120 hours to accomplish some of which is completed during core business hours and the remainder requiring overtime. A full winter season consists of 840 core business hours during the 5 months of winter. It is reasonable to assume that 20% of dedicated staff time is directly working on windrow, equipment maintenance and program administration. The remaining 80% of their time will be working on enhanced service levels and customer service. Conversely, sidewalk winter maintenance operates approximately 50 events each winter season (80% of their time) similar to road de-icing operations. The remainder of their shift supports equipment maintenance (e.g., wash, lubricate, and fuel in addition to supporting program administration).

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The implementation of an in-house town-wide windrow clearing program will allow for some enhancements and provide dedicated resources to support many other activities during the winter season. Some of these tasks include more timely snow removal operations in laneways, bridge decks and in the downtown core, responding to drainage concerns where excessive snow covers catchbasins, snow removal around buried hydrants, illegal dumping and supporting an enhanced customer service experience. Further, the windrow service will result in snow storage capacity issues including road narrowing, which will require supplementary snow removal. The additional resources and equipment will support these operations.

During the summer and shoulder months, the dedicated resources will support more efficient two stream waste receptacle servicing in the parks system, and more timely response to reports of illegal dumping, support achieving service level targets especially during the spring when rapid and excessive turf growth and litter requires significant staff resources.

The town continues to grow through new development assumptions and intensification. As parks are redeveloped, additional elements are added and integrated into the design. For example, Morgan Boyle Community Park originally consisted of a junior/senior playground, traditional asphalt tennis court, senior soccer pitch, and Class D ball diamond all of which were maintained every two weeks; waste management twice weekly. The new park redevelopment included a water re-use splash pad, Class B ball diamond with tile drainage and irrigation, upgraded junior/senior playground, and upgraded tennis court with acrylic surface. Park maintenance now occurs daily; waste management 4 times weekly. These types of facility enhancements can be better supported and will make up a portion of the service level enhancements that can now be supported by the seasonal workforce conversion to full time.

Timing for the implementation of this program is contingent on final budget approval and will determine actual equipment delivery and recruiting the required labour to support sidewalk winter maintenance and windrows. Typically, the tendering and approval processes for equipment procurement can be relatively short and could be completed within 4 months from the development of the equipment specification requirements. Once awarded, the equipment supplier would require up to 12 months to order and build the fleet required for the full program. Staffing requirements would be achieved through a process of converting many of the regular seasonal staff to full-time. Assuming budget is approved in early 2019; conversion of the seasonal positions to full-time would commence immediately as would the fleet procurement and program set up.

Additional Benefits of Converting to a Full Time Workforce

There are many challenges in meeting seasonal target service levels by utilizing casual labour. Significant resources are required to recruit seasonal staff and summer students. Training is scheduled during the first couple of weeks of seasonal change over to ensure new staff have the knowledge and tools to work safely, understand operational procedures, work expectations and are provided sufficient seat time to

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operate equipment safely. Further, it takes several weeks, once staff commence their assignments, to become familiar with the town's parks system, road network, work enterprise system and are able to operate equipment efficiently.

There are many benefits to converting these casual labour resources to full-time staff, including:

- The Collective Agreement restricts seasonal staff from operating equipment that exceeds a gross vehicle weight of 12,000kg and backhoes/tractors with a bucket size 2 yards or greater. Full-time staff are required to possess a valid DZ license, which allows them to operate heavy equipment. The conversion will provide greater flexibility in scheduling daily assignments where seasonal staff cannot perform certain work.
- On average, we lose 17 full-time staff per day during the summer and shoulder months due to vacation and banked time off excluding sick time. The Collective Agreement allows staff to bank up to 80 hours, and permitted time off based on daily operational needs. Approximately 40% of full-time staff have 5 weeks' vacation or greater. New full-time staff hires will provide much needed coverage during these absences.
- Recruiting seasonal staff and summer students is challenging given our need to ensure 7 days per week coverage. Dedicated full-time staff will ensure coverage reflects the needs of the community including weekends and evenings.
- Approximately, 25% of field staff are nearing retirement eligibility within the next 5 years. These new full-time hires will ensure the knowledge gap loss is narrowed while advancing our succession planning efforts.
- The seasonal staff conversion will create efficiencies in planning and scheduling annual training programs, create incentive for staff to advance within the organization and improve morale.

Considerations

Town staff have identified several considerations and potential challenges that may occur in the delivery of a snow windrow clearing program based on input primarily from the City of Vaughan where a similar program exists.

- During heavy snow events, in excess of 10cm, the plow blade becomes less effective resulting in spillage and significantly reduced snow storage space.
- General snow storage availability is limited in newer communities where narrow lots reduce available space.
- Actual windrow clearing is not necessarily, as effective as may be expected by the resident as only 80% of the driveway width may be cleared to accommodate a single car width and some snow will remain in the driveway due to the nature of the equipment and variations in grade and slope between the road and the driveway.

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- There is a noted expectation of increased resident complaints related to when windrows are cleared (expected service timing), how long after the roads are plowed, and how much snow is removed from the driveway.
- The Vaughan experience involves higher salt application rates, which has been considered in the program.
- Driveways that are blocked by on street parked cars will not be cleared and will not be serviced at a later time.
- Streets that have waste collection on the day of a plowing operation will not be cleared for windrows due to the significant risk of obstacles and waste collection containers being placed in and around the driveway area. Windrows would be cleared the following day.
- Damage to curbs, driveways, sod and lawn sprinkler heads would increase resulting in higher damage repair costs and complaints the following spring.
- There is a significant benefit to converting existing seasonal staff to full time positions as an integral part of this strategy as this will increase workforce resilience, ensure that all programs supported by this workforce are appropriately staffed and positions filled, and will improve compliance with the CUPE Collective Agreement and work force expectations.
- A town-wide program will require additional communications support and contact centre (Access Richmond Hill) support to address inquiries and complaints.

Financial/Staffing/Other Implications:

Option 1 – Status Quo (Seniors Windrow Clearing)

- Level of Service target is 30 hours after the completion of road plowing operations. Current performance has been to complete this operation within 16 hours.
- Current cost is \$340,000/year on average, which is approximately \$210 per driveway.
- There are approximately 1,600 driveways.

Option 2 – Expand and Open Seniors Windrow Program to Limited Number of Residents

- Level of Service target is 16 hours after the completion of road plowing operations.
- Estimated Cost is \$630,000/year based on approximately \$210 per driveway.
- Start with a pilot of 3,000 driveways.
- To provide a fair approach to delivering this service, it is proposed that a user fee be charged to those residents that do not qualify for the seniors program. It is proposed that a cost recovery approach be taken with an initial fee of \$210 per season.
- This option would require funding for a program administrator, and an operator to address quality control, complaints, and service requests.

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Option 3 – Town-Wide Windrow Clearing Program (Contracted Service)

- Level of Service target is 8-12 hours after the completion of road plowing operations based on a fleet of 35 tractors with attachments.
- Program would include 55,000 residential driveways.
- Estimated Cost is \$3.85M based on approximately \$70 per driveway.
- This option would require funding for a program administrator, and operators to address quality control, complaints, and service requests.
- This option requires a competitive bidding process.

Option 4 – Town-Wide Windrow Clearing Program with Enhanced Service Delivery (In-House Service)

- Level of Service target is 8-12 hours after the completion of road plowing operations.
- Requires the Town to purchase 35 heavy-duty tractors with attachments for this program. Purchase costs for the equipment is approximately \$4.5M with a life expectancy of 10 years. This cost may be amortized through debt or lease options and would be equivalent to approximately \$495,000 annually which includes an allowance of 10% for lease financing costs.
- A full-time staffing compliment of 40 new full-time will be required to deliver the windrow program, as the equipment would need to be operated concurrent with the winter road and sidewalk clearing operations.
- Staffing requirements can be achieved by shifting to a yearly full-time staffing compliment of 80 based on the current seasonal employee staffing levels of 80 during the 7 months (31 weeks) of summer and the 40 staff for the 5 winter months (21 weeks). The follow summarizes the anticipated staffing costs.

| Description | Budget | Summary Budget |
|--|---------|----------------|
| Cost for Conversion of Seasonal Staff (additional budget required for full time hours and benefits) | | |
| Summer Conversion (80 staff for 31 weeks) | \$1.13M | |
| Winter Conversion (40 staff for 21 weeks) | \$0.82M | |
| Total Seasonal to Full Time Conversion Costs | | \$1.95M |
| Additional New Staff for Winter Season | | |
| Windrow Program Deliver (20% of 40 new staff) | \$0.34M | |
| Winter Enhancements (80% of 40 new staff) | \$1.35M | |
| Total New Winter Program Staff Costs | | \$1.69M |
| Total Additional Staff Costs | | \$3.64M |

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- Because of the nature of using in-house staff, there is a direct benefit to both enhancing existing services and providing the windrow program. The costs for the full windrow program include additional salt, fuel, equipment maintenance and ancillary operating costs. Overall windrow costs are summarized as follows:

| Description | Budget | Summary Budget |
|---|---------|----------------|
| Direct Cost for Windrow Clearing | | |
| Staffing Costs (20% of 40 new staff) | \$0.34M | |
| Fleet costs (35 units) | \$0.50M | |
| Operating Costs | | |
| Additional Salt | \$0.10M | |
| Fuel, fleet and ancillary costs | \$0.15M | |
| Total Windrow Program Costs | | \$1.09M |

- Direct costs for the snow windrow clearing program is \$1.09M for an approximate cost of \$20 per driveway.

Service Level Enhancement Costs Related to Full Time Conversion of Seasonal Staff

- Season staff conversion is a significant benefit to the overall capacity for the public works operation to deliver its current service mandate. The benefits have been described in the previous section and the related costs are as follows:

| Description | Budget | |
|--|---------|----------------|
| Service Enhancement Costs | | |
| Winter Enhancements (80% of 40 new staff) | \$1.35M | |
| Annual Enhancements (50% of seasonal salary uplift cost) | \$0.97M | |
| Total Seasonal Staff Conversion Service Enhancement Costs | | \$2.32M |
| Seasonal Staff Conversion Costs | | |
| Season Conversion Costs (50% of seasonal salary uplift cost) | \$0.97M | |
| Total non-enhancement Seasonal Staff Conversion Costs | | \$0.97M |
| Total Additional Budget Required | | \$3.29M |

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- Costs related to service enhancements and seasonal staff conversion costs total \$3.29M and are necessary for overall program delivery.

Overall budget requirements for the in-house solution is the direct costs for the windrow clearing program if \$1.09M and the staff conversion costs related to the service enhancements of \$3.29M for a total budget requirement of \$4.38M

Relationship to the Strategic Plan:

An improved residential snow windrow clearing program aligns with the Strategic Plan goal of Better Choice in Richmond Hill by exploring ways to provide better quality services. It also aligns with Stronger Connections in Richmond Hill by improving the function of our streets and neighbourhoods.

Conclusion:

This Report presents alternatives to enhance the Town's residential snow windrow clearing program for Council's consideration.

Should Council choose to proceed with a town-wide windrow clearing program, staff recommend that Option 4 be considered. This option provides greater control of the program, and allows for year around service enhancement. These redirected resources will benefit the community in areas where complaints are currently experienced, minimizing the impact of additional contracted services, providing for more resource flexibility and utilization within the department, and enhancing the full-time compliment for better staff retention and resource management.

Attachments:

The following attached documents may include scanned images of appendixes, maps and photographs. If you require an alternative format please call contact person listed in this document.

- SRCS.15.07 – Windrow Clearing Service Enhancements Alternatives
- SRCS.15.34 – Process for Public Consultation on Expanding the Windrow
- SRCS.16.05 – Windrow Removal Program Community Survey Results

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Report Approval Details

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|----------------------|--|
| Document Title: | SRCS.19.07 - Snow Windrow Clearing Program Alternatives.docx |
| Attachments: | - SRCS.15.07 Windrow Clearing Service Enhancement Alternatives.pdf - SRCS.15.34 Process for Public Consultation on Expanding the Windrow Clearing Program.pdf - SRCS.16.05 ALL.pdf |
| Final Approval Date: | Mar 21, 2019 |

This report and all of its attachments were approved and signed as outlined below:

Grant Taylor - Mar 21, 2019 - 11:30 AM

Ilmar Simanovskis - Mar 21, 2019 - 11:34 AM

Neil Garbe - Mar 21, 2019 - 11:36 AM