



Public Works and Infrastructure Committee

**Thursday, September 7, 2017
4:00 PM**

Henry Baker Hall, Main Floor, City Hall



OFFICE OF THE CITY CLERK

Public Agenda Public Works and Infrastructure Committee Thursday, September 7, 2017

Approval of Public Agenda

Adoption of Minutes

Minutes of the meeting held on June 8, 2017.

Administration Reports

PWI17-13 The Waste Management Bylaw No. 2012-63: Amendment to Implement Biweekly Curbside Garbage Collection

Recommendation

1. That the City Manager, or their delegate, be authorized to amend the frequency of waste collection.
2. That the City Solicitor be instructed to prepare and bring forward the necessary amendments to *The Waste Management Bylaw No. 2012-63* (the “Bylaw”) to permit the City Manager, or his or her delegate, to amend the frequency of waste collection as identified in this report below.
3. That this report be forwarded to the September 25, 2017 meeting of City Council for approval.

PWI17-14 Winter Maintenance Summary Report

Recommendation

That this report be received and filed.

PWI17-15 Snow Storage Site User Fee Update

Recommendation

That this report be received and filed

Adjournment

AT REGINA, SASKATCHEWAN, THURSDAY, JUNE 8, 2017

AT A MEETING OF PUBLIC WORKS AND INFRASTRUCTURE
COMMITTEE
HELD IN PUBLIC SESSION

AT 4:00 PM

These are considered a draft rendering of the official minutes. Official minutes can be obtained through the Office of the City Clerk once approved.

Present: Councillor Sharron Bryce, in the Chair
Councillor Lori Bresciani
Councillor John Findura
Councillor Jason Mancinelli
Councillor Barbara Young

Also in Attendance: Council Officer, Elaine Gohlke
Legal Counsel, Jayne Krueger
Executive Director, Transportation & Utilities, Karen Gasmo
Executive Director, City Planning & Development, Diana Hawryluk
Director, Water Works, Pat Wilson
Manager, Development Engineering, Dustin McCall
Manager, Environmental Engineering, Chris Seeley

APPROVAL OF PUBLIC AGENDA

Councillor Young moved, AND IT WAS RESOLVED, that the agenda for this meeting be approved, as submitted.

ADOPTION OF MINUTES

Councillor Bresciani moved, AND IT WAS RESOLVED, that the minutes for the meeting held on May 11, 2017 be adopted, as circulated.

ADMINISTRATION REPORTS

PWI17-11 Request for Proposal (RFP) - Engineering Services for Detailed Design and Construction of Creeks Wastewater Pumping Station Expansion

Recommendation

1. That City Council Approve issuance of a Request for Proposal (RFP) to initiate the engagement of professional engineering services for the design and construction supervision of the Creeks Wastewater Pumping Station Expansion.

2. That City Council delegate authority to the Executive Director, City Planning & Development to award the RFP, provided the fee for engineering services is less than the project budget including contingency.
3. This report be forward to the June 26, 2017 meeting of City Council for approval.

Councillor Young moved, AND IT WAS RESOLVED, that the recommendation contained in the report be concurred in.

PWI17-12 Lead Service Connection Management Program

Recommendation

1. That City Council approve the additional elements to the Lead Service Connection Management Program. These elements are:
 - (a) a water filter program (See Appendix A) that provides eligible residents and property owners with either:
 - (i) a lead-removal filter that is certified to remove lead with sufficient replacement inserts to last for 12 months; or
 - (ii) a rebate of up to \$100 per location for the purchase of a filter certified to remove lead; and
 - (b) free annual water testing (In-Home Point of Use Testing) for lead for eligible homeowners and property owners (See Appendix A).
2. That Administration be directed to provide a report to City Council prior to April 30, 2018 outlining enhancements to the Lead Service Connection Management Program.
3. That this report be forwarded to the June 26, 2017 meeting of City Council for approval.

Councillor Findura moved, AND IT WAS RESOLVED, that the recommendation contained in the report be concurred in.

ADJOURNMENT

Councillor Young moved, AND IT WAS RESOLVED, that the meeting adjourn.

The meeting adjourned at 4:24 p.m.

Chairperson

Secretary

September 7, 2017

To: Members
Public Works and Infrastructure Committee

Re: The Waste Management Bylaw No. 2012-63: Amendment to Implement Biweekly
Curbside Garbage Collection

RECOMMENDATION

1. That the City Manager, or their delegate, be authorized to amend the frequency of waste collection.
2. That the City Solicitor be instructed to prepare and bring forward the necessary amendments to *The Waste Management Bylaw No. 2012-63* (the “Bylaw”) to permit the City Manager, or his or her delegate, to amend the frequency of waste collection as identified in this report below.
3. That this report be forwarded to the September 25, 2017 meeting of City Council for approval.

CONCLUSION

The Administration recommends approval of the following amendments to the Bylaw:

1. Add a definition for “collection frequency” to the Definitions in Part 1 General of the Bylaw with “collection frequency” to mean: “the recurrence of collection service, described as weekly, biweekly, or any other term referring to the repetitiveness of the collection service.”
2. Repeal sections 6 and 7 from Part II City Waste Services of the Bylaw.
3. Amend section 9 of Part II City Waste Services of the Bylaw to state: “City waste services shall occur on a collection schedule and collection frequency as set and amended by the City Manager, or his designate, from time to time.”

BACKGROUND

In April 2017, City Council approved amendments to the 2017 Budget which included changing the frequency of solid waste curbside collection from weekly to biweekly, beginning in November, 2017 through to March, 2018.

Currently, section 6 of the Bylaw states: “The City shall provide garbage service to each designated property once per week.” In order to proceed with the change from weekly to biweekly collection, the Bylaw will require amendment.

DISCUSSION

A number of solid waste operational matters are delegated to the City Manager through section 4 clauses (a) to (o), of the Bylaw, entitled, Authority of City Manager. This section provides the Administration with the ability to make business decisions such as determining who receives City waste services, establish cart sizes, specify collection days, as well as set volume and weight limits and types of waste eligible for collection as part of the city service.

However, the Bylaw is specific as to the frequency of garbage and recycling collection, namely weekly for garbage, and biweekly for recycling.

City Council's decision to move to biweekly garbage collection in November 2017 will reduce the collection frequency during the winter months. This change in frequency during certain times of the year occurs in comparable municipalities, including Saskatoon. The frequency of garbage collection will revert to weekly in spring 2018. There is an intention to deliver weekly garbage collection over the Christmas period.

The proposed amendments to the Bylaw would allow Administration to change collection frequency from weekly to biweekly and then back based on yearly calendars, as well other factors that may affect the effectiveness of the service.

RECOMMENDATION IMPLICATIONS

Financial Implications

As stated in *CM17-5, 2017 Amended General Operating Budget*, altering curbside garbage collection from weekly to biweekly in the winter of 2017/2018 has an anticipated cost reduction of \$132,000. This represents a savings in labour and fuel costs.

Environmental Implications

None with respect to this recommendation.

Policy and/or Strategic Implications

Waste Plan Regina, the City's waste management plan, supports the move to biweekly solid waste collection once diversion options are in place.

Other Implications

This Bylaw amendment allows Administration to alter the frequency of waste collection to single-family homes. This will reduce solid waste service during the winter to over 64,000 households.

Accessibility Implications

None with respect to this recommendation.

COMMUNICATIONS

The public will be notified of the change to the Bylaw. The impact to residents will come as a result of changing to biweekly curbside garbage collection for the winter months.

A strategy will be developed to communicate the change in service to residents that receive curbside garbage collection. The Administration is preparing a plan to communicate the change to the public through a variety of communication methods including the option for residents to sign up for collection reminders on www.regina.ca/waste.

DELEGATED AUTHORITY

The disposition of this report requires City Council approval.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "L. Legault".

Lisa Legault, Director
Solid Waste

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Karen Gasmu".

Karen Gasmu, Executive Director
Transportation & Utilities

Report prepared by:

Lisa Legault, Director, Solid Waste

Ben Brodie, Acting Manager, Waste Diversion Services

Whitney Schiefner, Waste Minimization Specialist

September 7, 2017

To: Members
Public Works and Infrastructure Committee

Re: Winter Maintenance Summary Report

RECOMMENDATION

That this report be received and filed.

CONCLUSION

The 2016/2017 winter season can be described as below average due to lower snowfall accumulations and warmer temperatures. The below average winter, combined with an increased collaboration with other branches in the City of Regina (City), is anticipated to result in a surplus of \$2 million in the 2017 Winter Maintenance budget.

The Annual Winter Maintenance Summary (Appendix A) provides an overview of the winter maintenance activities for the 2016/2017 season. The following are some of the major highlights from that report:

- generated over \$296,000 in revenue at the Snow Storage Site;
- above-average temperatures and below average snowfall allowed collaboration with other branches, resulting in a combined cost savings and cost avoidance of over \$858,000; and
- successful experimentation of liquid salt which is anticipated to result in safer roads, better winter driving conditions, and reduced amount of sand and salt usage.

BACKGROUND

The purpose of the Winter Maintenance Program provides winter maintenance activities to effectively support the health, safety, attractiveness and economic viability of the city. The Winter Maintenance Policy (Policy) was first adopted in 2006, in effort to provide an acceptable and consistent level of service, when maintaining the road network, and to ensure safe winter driving conditions for the citizens of Regina. This includes guidelines and timelines regarding the plowing of streets, sidewalks, and alleys following snow events, as well as for routine maintenance of the road network during the winter months. Within the Policy, there are several general objectives laid out to support the purpose of the program, which the Administration strives to meet in both performance and end conditions. This report discusses the application of the Policy as it relates to operational, environmental and financial implications.

DISCUSSION

Appendix A of this report provides a detailed overall summary of the 2016/2017 winter maintenance activities. The following are highlights of that report.

Policy Objectives:

There are several objectives outlined in the Policy to ensure the winter maintenance levels of service are adequately funded and consistently applied throughout the community. It is expected that Policy objectives are generally met by winter maintenance crews. Occasionally, there are circumstances which prevent total compliance with the Policy such as snow clearing in the downtown core and lack of resources during the holiday season.

The downtown core is prioritized as Category 2 roads which require plowing within 36 hours. This in itself is not a challenge, however, the change from one-way traffic to two-way traffic eliminated the opportunity to store the snow in the parking lane and remove at a later date once snow ridges exceeded Policy guidelines. Plowing and removing snow from the downtown core is a major activity that utilizes many internal and external resources, and in order to achieve other objectives within the Systematic Plowing operation, this activity must be completed over two different nights. All other Category 2 roads are plowed within 36 hours. Administration is not recommending a policy change at this time and is currently planning on reviewing and updating the Winter Maintenance Policy commencing in 2018. This will address snow removal in the downtown core as part of this process.

The other challenge that we faced in completing Policy requirements was sidewalk clearing over two different major snowfall events. During the first major snowfall event on November 29, 2016, recent enhancements and routing changes delayed completion by 24 hours. This was addressed and took place quicker and more efficiently during the next snowfall. The other challenge came as a result of a lack of both internal and external resources over the New Year's Day statutory holiday during the snow storm that took place on December 30, 2016. Priority was given to road plowing activities which delayed the clearing of sidewalks beyond the Policy timeline.

Environmental Conditions:

The winter season is defined as the period from October 1 to April 30. In general terms, based on the five-year average, the 2016/2017 season can be described as below average with the following characteristics:

- below average snowfall accumulations;
- below average number of snow days;
- above average number of freeze and thaw cycles; and
- above average temperatures.

Budget & Expenditures:

The Winter Maintenance budget is used for the delivery of services to meet Policy objectives. The 2016 budget was \$9.068 million and total expenditures were \$6.256 million with a surplus of \$2.812 million. The 2017 budget is \$9.234 million, with current expenditures of \$4.331 million as of June 30, 2017. The total expenditures for 2017 are forecasted to be \$7.132 million, based on average conditions expected for October through December.

The Winter Maintenance Reserve is in place to fund shortfalls as a result of extreme snowfall events or severe winter conditions. The Winter Maintenance Reserve currently has a balance of \$6.392 million and is \$2.5 million above its' maximum balance. However, the Finance

department is currently in the process of reviewing all of the City's reserves, including determining reasonable minimum and maximum limits for the reserves. It is anticipated that changes will be made to the Winter Road Maintenance Reserve levels to ensure better alignment of the reserve limits based on risks and best practices.

Success in Collaboration:

Over the last number of years, the Winter District Maintenance Branch has found success in collaborating with the various branches and departments throughout the city which allowed Winter Maintenance crews to perform work that would otherwise be done by an external contractor. This reduced expenditures paid in favour of a contractor, as well as labour costs in the Winter Maintenance budget for a total combined cost savings of approximately \$858,000:

- Asphalt Production and Materials Engineering;
- Landfill Operations;
- Water and Sewer Construction;
- Sweeping and Alleys Services;
- Concrete Services; and
- Asphalt Services.

Communications:

The Communications Department worked with Winter District Maintenance staff to develop an advertising campaign to help educate residents and drivers about the work we do to keep streets safe, to set expectations about snow clearing and to reiterate safety messages. The plan was aimed at reducing the number of Service Requests received through Service Regina and social media channels, in addition to ensuring balanced and fair media coverage.

Service Regina received and directed 1,477 customer Service Requests to Winter District Maintenance staff, which is a major reduction in the volume when compared to the peak of 10,315 Service Requests in 2012, and the five year average of 4,000 per season. Winter District Maintenance staff responded to these customers 91 per cent of the time within 48 hours.

In addition, the Winter District Maintenance Branch received 24 media requests and it was reported that all media was either positive or neutral in tone.

Enhancements and Future Initiatives:

With a commitment to continuous improvement, the following initiatives to help improve winter maintenance services for future seasons will be considered:

- Snow Routes Pilot Project;
- active transportation corridors; and
- liquid salt.

RECOMMENDATION IMPLICATIONS

Financial Implications

None with respect to this report.

Environmental Implications

None with respect to this report.

Policy and/or Strategic Implications

Roadways & Transportation will continue to review the Policy to ensure that it aligns with *Design Regina: The Official Community Plan, Bylaw No. 2013-48* and the *Transportation Master Plan*.

Other Implications

None with respect to this report.

Accessibility Implications

None with respect to this report.

COMMUNICATIONS

Since the implementation of the Policy, Winter District Maintenance staff have engaged in stakeholder meetings with both internal and external groups to discuss the challenges the winter season brings, and ways to better communicate and mitigate the challenges.

In addition, the annual summary report is sent to a list of interested parties that has evolved over time, and both of these processes continue today.

DELEGATED AUTHORITY

As there are no recommendations to change the policy at this time, the Public Works and Infrastructure Committee has delegated authority to receive and file this report.

Respectfully submitted,




Norman Kyle, Director
Roadways & Transportation

Respectfully submitted,



Karen Gasmo, Executive Director
Transportation and Utilities

Report prepared by: Chris Warren, Manager, Winter Maintenance

The background of the entire page is a blue-tinted photograph. In the foreground, there is a dense forest of trees. Behind the trees, a city skyline is visible, featuring several tall buildings and a prominent tower. The sky is a clear, light blue.

ANNUAL WINTER MAINTENANCE SUMMARY

2016/2017

Branch Mandate

In accordance with the approved Winter Maintenance Policy, effectively provide winter maintenance activities to roads, alleys, sidewalks that will support the health, attractiveness and economic viability of the community during the winter months.

Introduction

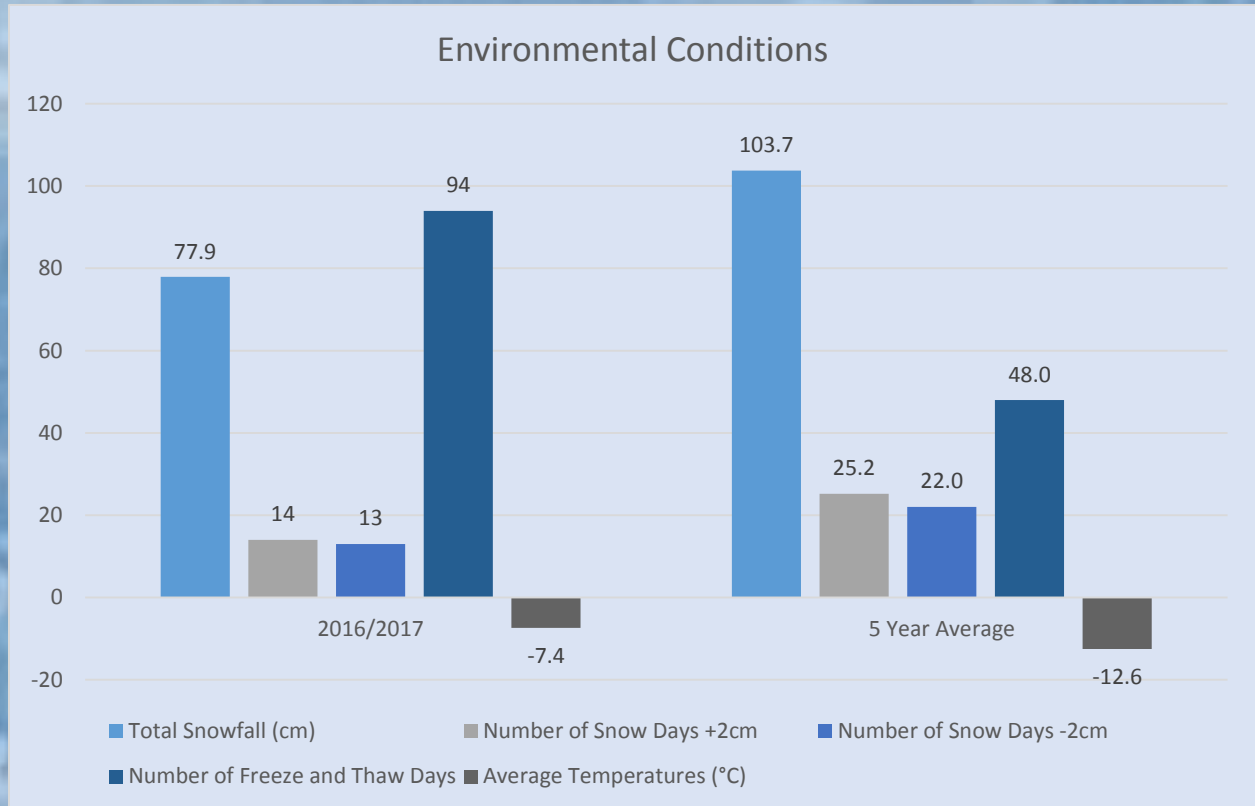
On December 18, 2006, City Council approved the Winter Maintenance Policy (Policy), which was officially implemented November 2007. Council has approved policy amendments to improve service in November 2010, December 2014 and December 2015. Administration is committed to the annual review of this Policy to facilitate continual improvement.

The purpose of the Winter Maintenance Program is to provide winter maintenance that effectively supports the health, safety, attractiveness, and economic viability of the City. The Policy was created in an effort to provide an acceptable and consistent level of service when maintaining the road network and to ensure safe winter driving conditions for the citizens of Regina. This includes guidelines and timelines regarding the plowing of streets, sidewalks, and alleys following snow events, and routine maintenance of the road network during the winter months.

2016/2017 Accomplishments

- * Winter Maintenance Policy objectives met 97 per cent overall;
- * completed five Systematic Plows of the arterial and collector road network;
- * removed snow from all arterial and collector roads;
- * applied over 11,000 tonnes of sand and salt to mitigate slippery road conditions;
- * stored and maintained over 200,000 cubic meters of snow at the Snow Storage Site;
- * generated over \$296,000 in revenue at the Snow Storage Site;
- * 91 per cent success rate in responding to customer Service Requests within 48 hours;
- * above-average temperatures & below average snowfall allowed collaboration with other branches resulting in a total cost savings of \$858,000;
- * innovations and efficiencies realized and resulting in future budget reductions of \$495,000; and
- * successful experimentation of liquid salt which will result in better roads, safer winter driving conditions, and reduced amount of sand and salt usage.

In 2016/2017 winter season, Regina residents experienced below average snowfall, extensive slippery conditions, and warmer temperatures.

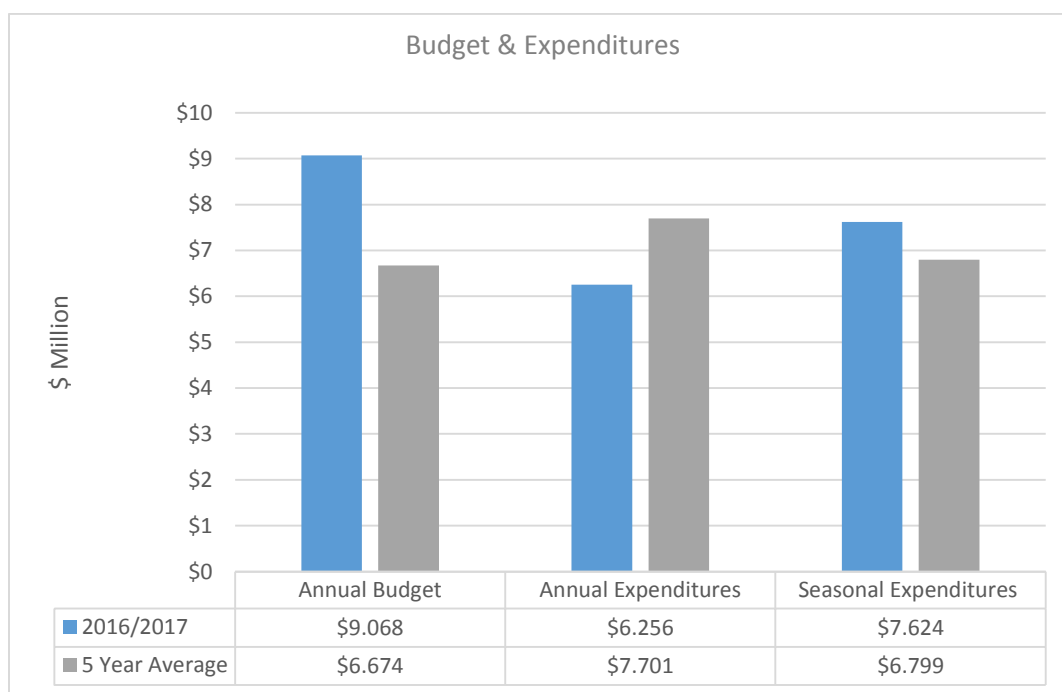


Budget & Expenditures

The Winter Maintenance budget is used for the delivery of services to meet the objectives outlined in the Policy. The 2016 budget was \$9.068 million and total expenditures were \$6.256 million, with a surplus of 2.812 million. The 2017 budget is \$9.234 million, with current expenditures of \$4.331 million as of June 30, 2017. The total expenditures for 2017 are forecasted to be \$7.132 million, based on average conditions expected for October through December, 2017, it is anticipated that there will be another surplus of approximately \$2.1 million at the end of 2017, based on another below average winter and work performed and funded from other areas.

Projected expenditures are below seasonal norms due below average snow falls and reallocation of resources to other areas.

The Winter Maintenance Reserve is in place to fund shortfalls as a result of extreme snow events or severe winter conditions. It has a current balance of \$6.392 million and is \$2.5 million above its' maximum balance. However, the Finance department is currently in the process of reviewing all of the City's reserves, including determining reasonable minimum and maximum limits for the reserves. It is anticipated that changes will be made to the Winter Road Maintenance Reserve levels to ensure better alignment of the limits of the Winter Maintenance Reserve to the purpose of the reserve, risks and best practices.



**Seasonal expenditures represent traditional winter season expenditures between October and April*

POLICY OBJECTIVES



All roads are made passable for **EMERGENCY RESPONSE VEHICLES**



PRIORITY 1 ROADS: Normal winter driving conditions and reasonable sidewalk access are provided on key routes through systematic plowing and sanding operations



PRIORITY 2 ROADS: Normal winter driving conditions and reasonable sidewalk access are provided along regional commercial developments and secondary routes through systematic plowing and sanding operations



PRIORITY 3 ROADS: Normal winter driving conditions are provided along tertiary routes through systematic plowing & sanding operations



Safety and travel efficiency are provided through the plowing and removal of windrows from in front of **GUARD RAILS** & off of **BRIDGE DECKS**



ALLEYS are passable for the collection of solid waste collection & access by utility companies & the public



Normal winter driving conditions are maintained with **SNOW REMOVAL** operations



RESIDENTIAL and low volume routes are made passable through **PLOWING** operations

Policy Objective Achievements

The community experienced five major snow events requiring winter maintenance activities outlined in the policy. Highlights of those activities are as follows:

- Systematic Plowing of the Category 1-4 roads on three occasions;
- systematic Plowing of the Category 1-2 roads on two occasions;
- plowing of all alleys on one occasion;
- clearing of Guard Rails and Bridge Decks on five occasions;
- residential Ice Shaving of all Category 5 roads on at least two occasions;
- filling sand box locations for community use on thirteen occasions;
- snow removal on Category 1-4 roads to maximize lane widths and sightlines on our priority network at least once;
- snow removal in the downtown core on five occasions;
- snow removal around 87 community schools on one occasion, and clearing of school bus unloading zones on four additional occasions;
- checking and plowing sidewalks on at least 20 occasions;
- maintenance and storage of over 200,000 cubic meters of snow at the Snow Storage Site;
- checking and plowing of all transit stops on at least four occasions;
- checking and clearing of snow at Transit “Hotspots” after every snow event; and
- ice control activities resulting in the application of 11,000 tonnes of sand and salt to mitigate slippery conditions due to an above average freeze and thaw cycles.

The winter maintenance team strives to meet Policy objectives and proudly reports that all objectives were met with the exception of the following:

- Systematic Plowing – Category 2 Roads

Objective achievement is measured based on the overall plowing completion of Category 2 roads during systematic plowing operations within the Winter Maintenance Policy timelines of 36 hours.

This objective was achieved 95 per cent of the time due to the operational requirement to perform plowing and snow removal activities in the downtown core at the same time. When the streets in the downtown core changed from one-way traffic to two-way, the ability to store snow in the parking lane was no longer possible. This program is a major activity that utilizes many internal and external resources, and in order to achieve other objectives within the Systematic Plowing operation, must be completed over two different nights. With the exception of downtown core, all other Category 2 roads achieved 100 per cent completion within the Winter Maintenance Policy timelines.

- Sidewalk Plowing

Objective achievement is measured based on the overall completion of the sidewalk plowing activity within the Winter Maintenance Policy timelines. Crews were able to clear the majority of the sidewalks that we maintain within 72 hours of the snowfall for the single snow event requiring a Systematic Plow with the exception of two snow events.

The first major snow event of the season took place on November 29, 2017. This was the first event where the recent enhancements and routing changes to the sidewalk clearing network took effect causing delayed completion within the timelines. All sidewalks were cleared by December 3, 2017, approximately 24 hours beyond the timeline.

The second time that the Policy objectives were not met took place during the December 30, 2017 snow event. Winter crews had a difficult time securing both City and contractor resources to complete all tasks because of the New Year's Day Statutory Holiday. To ensure the safety of the travelling public, the available resources were focused on street plowing, which ensured 100 per cent completion in plowing Category 1 and 2 roads within 36 hours. The remaining sidewalks were cleared by January 7, 2017.

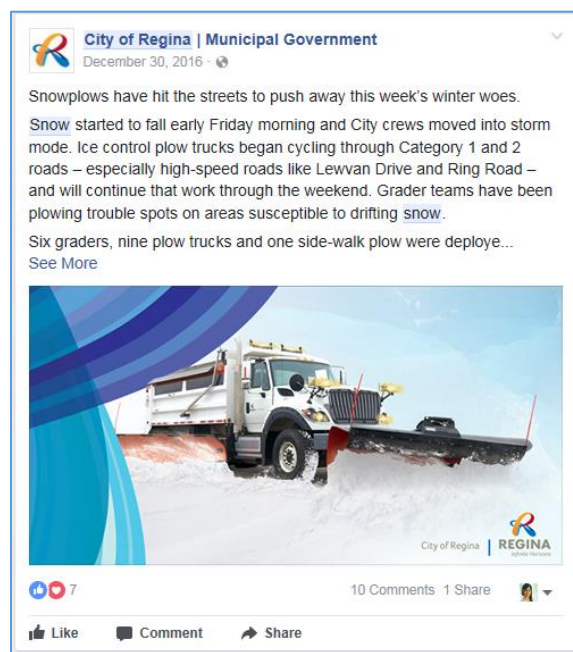
Policy objectives were met 97 per cent of the time during the 2016/2017 season overall.

Communications

The Communications Department worked with the Roadways & Transportation Department to develop an advertising campaign to help educate residents and drivers about the work we do to keep streets safe, to set expectations about snow clearing and to reiterate safety messages.

The plan anticipated reducing the number of Service Requests received through Service Regina and social media channels, in addition to ensuring balanced and fair media coverage.

The campaign used a number of paid communication tools such as radio, traditional and television billboards, in addition to online advertising to help inform the public of our winter operations and activities. These tactics featured winter maintenance equipment and provided information about what the equipment does. Similar advertising was used on our social media channels, Facebook and Twitter, as well as shared information through Regina.ca.



Service Regina received and directed 1,477 customer Service Requests to Winter District Maintenance staff. This is a major reduction in volume when compared to the peak of 10,315 Service Requests in 2012, and the five year average of 4,000 per season. The majority of these calls required a



response of some sort, whether it be an inspection of the location, scheduling of an activity, providing a response, or calling the customer. 284 customers requested a call back and Winter District Maintenance staff responded to these customers 91 per cent of the time within 48 hours. Although there is room for improvement, we recognize the effort that it takes for staff to respond to concerns given the demands of delivering the service on 24 hour a day, seven day a week basis.

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24 media requests
All positive or neutral
in tone.

Success in Collaboration

Due to the below average season and in an effort to maintain staffing levels necessary for storm and snow removal response, Winter Maintenance crews were allocated to other activities throughout the corporation when possible. A collaborative effort was made between departments, showcasing the mutual benefits for all parties. In some cases, Winter Maintenance crews performed work that would otherwise be done by an external contractor. This reduced expenditures paid in favour of a contractor, as well as labour costs in the Winter Maintenance budget.

Less snow and warmer temperatures allowed for collaboration with other departments and branches to help deliver services.

Winter District Maintenance staff continue to investigate innovative solutions to reduce the cost of delivering policy objectives and maximizing resources, assisting other departments when there is capacity, and reducing spending on contracted services.

Operational Support

Asphalt Production & Materials Engineering

The Asphalt Production & Materials Engineering Branch requires various materials and aggregated hauled to their site for City use year-round. Winter Maintenance crews performed this work and contributed to a cost avoidance of over \$244,000 to the Winter Maintenance budget.



Landfill Operations

Over the 2016/2017 winter season, Winter Maintenance crews assisted Landfill Operations by performing various work, including road grading, hauling dirt and fill for garbage cover. This contributed to a savings of more than \$10,000¹ in favour of hiring a contractor and a cost avoidance of almost \$9,900 to the Winter Maintenance budget.

Water & Sewer Construction

Water & Sewer Construction requires trucking services for repairing water or sewer breaks and for construction projects during the winter months. Over the 2016/2017 winter season, Winter Maintenance crews provided these services, saving more than \$29,000² in contracted services. The work performed also contributed to a cost avoidance of over \$29,000 to the Winter Maintenance budget.



Sweeping & Alleys

Because of the lack of snow and warmer temperatures, Sweeping & Alleys programming, including maintenance of grid roads and gravel alleys, continued sporadically throughout winter months. Winter Maintenance crews also performed the Boulevard and Arterial Street Sweeping program in April, completing these programs in their entirety for the first time in a number of years. This activity contributed to a cost avoidance of almost \$223,000 to the Winter Maintenance budget.



¹ Based on actual Winter Maintenance cost vs. 2016 Contractor rate for same amount of hourly work performed

² Based on actual Winter Maintenance cost vs. 2016 Contractor rate for same amount of hourly work performed

Concrete Services

Favourable conditions for concrete work in the 2016/2017 winter season allowed for the continuation of activities generally carried out in the spring, including picking up tarps, backfilling open cuts, gutter patching and landscaping, as well as building concrete forms. In anticipation of the upcoming construction season, these activities were carried out sporadically throughout winter months. This contributed to a cost avoidance of almost \$32,000 to the Winter Maintenance budget.

Asphalt Services

Much like Concrete Services, the Asphalt Services branch was able to continue programming due to the favourable conditions experienced in the 2016/2017 winter season. Taking advantage of the capacity in Winter Maintenance, crews were able to continue with work including shoulder grading, filling potholes and backfilling sunken utility cut repairs. This contributed to a cost avoidance of more than \$282,000 to the Winter Maintenance budget.



Innovation & Efficiency

Over the years, Winter Maintenance staff have strived to modernize and improve in the delivery of the Winter Maintenance Policy. This has been achieved through many avenues such as researching best practices in other municipalities, pilot projects, data gathering and analysis of current state, engaging employees in optimum delivery of day to day services, and ongoing stakeholder engagement and feedback sessions. This has resulted in an enhanced and cost effective delivery of the Winter Maintenance Program, and subsequent decrease in expenditures.

Innovation and efficiency results in savings and subsequent budgetary reductions of \$495,000

As a result of the innovation and efficiency, there is a request to reduce the Winter Maintenance budget by \$495,000 in 2018. Moreover, Winter District Maintenance staff will continue to investigate innovative solutions to reduce the cost of delivering Policy objectives and ensuring the services delivered benefit the community as a whole.

Material Savings - \$100,000

Over the last two years, the Winter District Maintenance Branch has tested and trialed the use of liquid salt within the community. Research had shown that incorporating liquid salt into the Ice Control program had many potential benefits such as a reduction in the amount of sand and dry salt needed, a reduced amount of time that pavement reaches bare and dry conditions, and a reduced number of cycling requirements providing tangible benefits in our community. The success of this trial was conducted in conjunction with a capital business case to upgrade our Ice Control equipment during equipment replacement. As a result, we are set to receive 10 replacement ice control trucks capable of applying liquid salt, and reducing cycle times due to salt spreading technology. Based on the success of the testing and trials, liquid salt is set to be expanded to additional routes during the winter of 2017/2018, with full implementation planned by the end of 2018. Conservative estimates are that with reduced cycle times and reaching bare pavement faster than ever before, we will be using 20 per cent less sand/dry salt on City streets.

Contractor Savings - \$100,000

One of the most high profile activities of the Winter District Maintenance Branch is the Systematic Plowing activity, which is plowing of the arterial and collector roads (Category 1 – 4) after a major snow event greater than five centimeters. During an average winter, the 490 km of Category 1 to Category 4 roads are plowed five times, requiring approximately seven to 12 teams

consisting of 24 graders plowing over 60 hours in a row (five 12-hour shifts). One of the challenges experienced, however, was that many of the Category 3 roads were taking between 60 and 72 hours to complete, despite a policy timeline of 48 hours.

In an effort to adhere to the Policy without expanding plowing operations and increasing costs, Winter District Maintenance staff analysed the Systematic Plowing routes to find efficiencies in travel time and overlap, as this seemed to be one of the issues in the extended plowing timelines. Over four years of route optimization efforts, we have consistently met our timelines without increasing resources, and have consistently completed the entire Systematic Plow in 48 hours without any major challenges. Therefore, the savings are a result of the elimination of an entire 12 hour shift where contractor support would have been required over the multiple Systematic Plows in an average season.

Equipment Rental Savings (Grader) - \$85,000

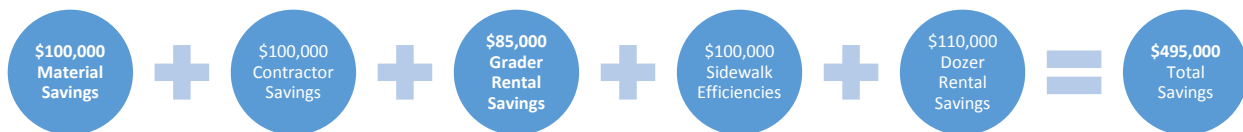
As one of our highest profile activities, the Systematic Plow relies heavily on our grader fleet as the primary equipment used. As our existing graders aged, we began to experience significant downtime, rising from 31 per cent in 2012 to 47 per cent in 2015. As a result, it was necessary to rent additional equipment to ensure we had the minimum number of graders available to meet policy timelines. Since then, we have successfully acquired two additional graders through Capital Budget business cases (2016 and 2017), and have replaced the old fleet to an improved and more capable fleet in 2016. As a result of extensive and enhanced employee engagement activities in the specification and tender writing process combined with operational efficiencies to minimize damage to hidden hazards, we saw the downtime decrease to 19 per cent in the 2016/2017 season. Therefore, there is no longer the requirement to rent additional graders to ensure adherence to the policy.

Sidewalk Efficiency Savings - \$100,000

Over the last number of years, Winter Maintenance has enhanced sidewalk clearing activities, adding an additional 30 km of sidewalks to the program. This has resulted in increased citizen satisfaction and reduced service calls for these areas. Winter Maintenance staff have continued to evaluate this program and have found further efficiencies through route optimization, enhanced mapping with GIS, and increased operator training. The combination of the enhancement and efficiencies have shown that we've increased our daily production by 35 per cent, as well as decreased our cost by 20 per cent. Therefore, we are able to reduce the budget by \$100,000.

Equipment Rental Savings (Dozer) - \$110,000

In meetings with the Real Estate Branch in 2010/2011, the Winter District Maintenance Branch was informed that the land used to store snow during the winter months was in high demand, and the City of Regina may look at developing and selling up to half of the 80 acres we had historically utilized. As a result, it was understood that we needed to reduce space that might be available in the future and enhance our procedures to create a smaller footprint in our snow storage activity. Utilizing a dozer allowed Winter Maintenance crews to stockpile the snow up to heights of 60 feet by building a ramp and pushing snow to the top of the ramp. This process reduced our footprint as traditional methods of stacking snow only allowed for a maximum pile height of 15 feet, and has been used ever since. We have since been informed that the land is no longer as desirable as it was once thought, and that there are no long term plans for development of the site. As a result, we can eliminate the rental of the dozer and employ traditional methods of stacking snow while utilizing the entire site. In the event of an above average season where space becomes an issue, we can procure a dozer rental in a short period of time at reduced costs.



Looking Forward

With a commitment to continuous improvement, we are excited to embark on initiatives that will help improve winter maintenance services for future seasons. Recommendations have already been, or will be, put forward in the coming years.

Enhancements and Future Initiatives

Further to the successes already achieved, the following are additional proposed changes to be brought forward in the future intended to enhance the City's winter maintenance services.

Snow Routes Project

Over the last several years, much attention has been paid to the difficulties and challenges presented by parked cars during plowing and removal operations throughout the winter months. As a result, Winter Maintenance staff and the Communications Department engaged the community in effort to gauge interest in implementing a Snow Route program. Feedback was positive and City Council subsequently approved a pilot program on 5 km of the road network to commence during the 2017/2018 season.

To ensure there was a benchmark, or current state in place, a series of success indicators were determined and testing/analysis began during the 2016/2017 season without snow routes in place. Winter Maintenance staff will analyze the same indicators this upcoming season, giving statistical analysis on the benefits, challenges, and areas we can improve on, as well as recommendations on whether the snow route should be expanded further into the community.

Throughout the summer of 2017, the Winter District Maintenance Branch has enlisted the help of other internal branches such Traffic Engineering, Communications, Finance, Parking Services and Operational Services and Business Support to help

FUTURE INITIATIVES



Snow Routes Pilot Project



Active Transportation Corridors



Use of Liquid Salt In Ice Control

ensure the pilot project is well communicated and operational effective. A report will follow in 2018 highlighting the successes, challenges, and recommendations for the future.

Active Transportation Corridors

The City has five on-street bicycle routes totalling 11 km which are cleared as part of the winter maintenance processes. Out of that, 9.7 km of on-street bicycle routes are on Category 1 and 2 roads and 1.3 km are located on Category 3 roads, which are cleared of snow within 48 hours.



In accordance with *Design Regina: The Official Community Plan* and the recently approved *Transportation Master Plan (TMP)*, the City's bike network will be expanded over the next 25 years to provide residents with active options for getting around. This will have implications to the Winter Maintenance budget and operations as the various phases are implemented. Administration will work to develop a winter maintenance policy for active transportation corridors including off-street and on-street cycling routes in accordance with *TMP, Policy 4.29*.

Maintenance activities on these networks are currently performed by different departments, and there may be an opportunity to share resources and coordinate levels of service for an enhanced user experience and increase efficiencies.

Use of Liquid Salt in Ice Control

Historically, the City used dry sand and salt to mitigate slippery conditions, however, this is only effective on calm days with little wind, lower traffic volumes and when the temperature is -10 degrees Celsius or warmer. With daily average lows range from -10 to -20 degrees Celsius throughout the winter months, this makes the current system ineffective for much of the season. Winter Maintenance staff have tested the effectiveness of using liquid salt in our Ice Control program and have determined through testing and monitoring that benefits can be expected.

BENEFITS



Approximately 20 per cent in dry material savings



Sand/salt mixture immediately sticks to the pavement and stays in lane



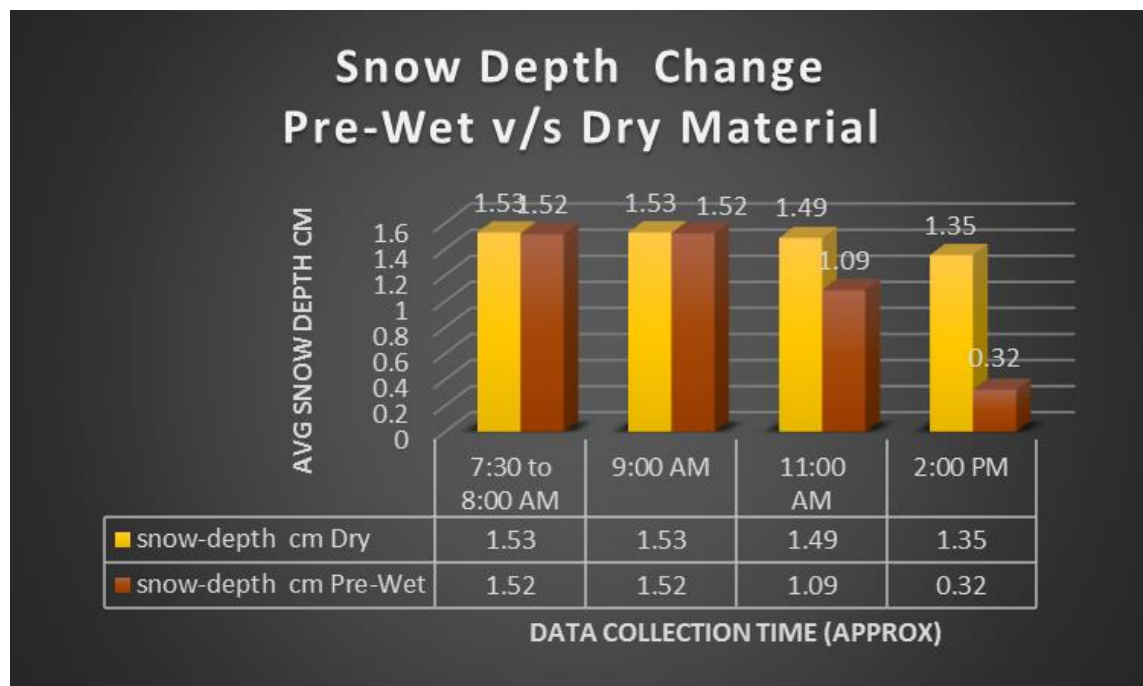
Bare/dry pavement conditions are reached quicker



Prevents snow and ice from bonding with pavement surface

Liquid salt trials were conducted over the last two winter seasons and statistical analysis has shown that the depth of snowpack on the road surface is reduced exponentially by 79 per cent and the pavement surface condition improved by 33 per cent when pre-wetting the sand with

liquid salt in favour of dry sand and salt. This means that the pavement conditions are returned to good driving condition in a reduced amount of time, and also reducing the amount of sand and salt required. Studies have also shown that magnesium chloride, which is the liquid salt used during the trials, is far less corrosive than the dry salt (sodium chloride) currently used in our ice control program. The less corrosive material, combined with the reduction in overall material used in a season, will prove to be a benefit in reducing any negative affects salt has on the infrastructure and environment.



Due to the success of the trials, the use of liquid salt will be expanded to approximately 30 per cent of the road network next season, with the intentions of expanding it city wide in 2018/2019 if we continue to experience positive benefits. There is a significant amount of training and education that is involved with liquid salt usage, and Winter Maintenance staff are taking a phased and methodical approach to its implementation. There will also be a communication plan to inform the community on the benefits of liquid salt and to answer any questions that citizens may have.

Jan 11, 2017, Montague St - After 3 Applications



September 7, 2017

To: Members
Public Works and Infrastructure Committee

Re: Snow Storage Site User Fee Update

RECOMMENDATION

That this report be received and filed.

CONCLUSION

A snow storage site fee was implemented during the 2016-2017 winter season. Key observations and feedback generally showed a high level of overall satisfaction amongst the private users of the snow storage site. Opportunities for improvement identified from the inaugural season include, but are not limited to, improving user experience such as reduction of travel time on site, consistent reading of the radio frequency tags, improved roads and lighting, emailing of invoices, online payments, as well as the possibility of alleviating some process delays experienced with the pre-paid process.

BACKGROUND

In response to Council Motion *CR15-86*, Administration was instructed to align the operations of the snow storage site with the City of Regina's Official Community Plan (OCP) and to establish a permit process and fee structure for the City-owned and operated snow storage site. Also in response to *CR14-121*, Administration was requested to provide a report back to Public Works and Infrastructure Committee on the feedback received on the implementation of the fee and permit process.

DISCUSSION

Prior to the implementation of user fees at the snow storage site for the 2016-2017 winter season, a focused communication plan was put in place to ensure that contractors were well informed about the changes relating to using the snow storage site. Communications included information on the new application, payment and billing processes, use of Radio Frequency Identification (RFID) tags and an unrestricted traffic movement plan on site. The appropriately placed traffic signs and availability of Winter Maintenance staff at all times helped in safe and efficient truck movement. The presence of the trained staff also helped with mitigating technology related challenges, as well as simultaneously educating the site users on the new processes implemented. This was particularly required due to frequently changing truck operators from the snow hauling industry.

The site access is managed through RFID technology. RFID Tags are issued for each truck at the time of registration and identify each time that vehicles access the site for billing purposes.

Compliance of the customer in acquiring an appropriate permit in advance of the 2016/2017 opening of the snow storage site was nearly 100 per cent. Approximately 500 RFID tags were issued to more than 150 applicants for different truck categories.

Over 12,400 private trucks entered the snow site between November 2016 and March 2017. The monthly summary of transactions were as follows:

- November – 240;
- December – 2050;
- January – 4933;
- February – 3645; and
- March – 1605.

A snow storage site feedback survey was carried out from April 3 to 14, 2017 to gather feedback on the fee implementation from specific site user groups (Appendix A). This included business owners, contractor owner/operators, truck operators and private citizens. A total of 86 participants covering various user groups completed the survey. The survey findings highlighted a general high level of overall satisfaction amongst the respondents. In addition, the steady decline in snow storage site related service requests received during the season shows overall concerns were higher on the onset of the season. This can be attributed to users and the Winter Maintenance staff learning the new process and mitigating issues as the season progressed.

Survey results indicated truck operators and businesses were highly satisfied with:

- ease to access and exit the site;
- reduced waiting times;
- smooth traffic movement;
- general safety;
- service provided by site attendants;
- ease of understanding invoices; and
- being knowledgeable about site rules before arriving.

Suggested areas of improvement from the survey were:

- reducing application processing times;
- reducing issue time of replacement tags;
- reducing time for adding additional funds to existing pre-paid tags;
- reducing travel time on site;
- consistency in reading RFID tags;
- electronic invoicing;
- online payment options; and
- improvement of roads and lighting.

Some key challenges observed by Administration included:

- incomplete application forms resulting in follow-ups and delays;
- frequently changing operators of trucks, requiring on-going education;
- improper location of RFID tag on truck windshield (not following installation instructions); and

- pre-paid customers not loading sufficient use limits on their RFID tags and not maintaining record of their use limits.

Based on users' feedback and observations the following changes will be implemented within the next two seasons:

- alleviating some of the pain points and challenges in the pre-paid fee payment process. This may include looking into ways to minimise the need for frequently adding use limits to the existing tags, educating the users on maintaining track of their balance use limits and possible reduction in the service level timelines to add use limits to existing tags;
- enhancement of the RFID reader and sensors capability;
- improvement of roads, lighting and drainage conditions on the site;
- further education on Snow Storage site rules and expectations; and
- further education on how to properly file the application form to avoid delays in processing.

Suggestions relating to emailing invoices and implementing online payments is being discussed with internal departments for future consideration.

RECOMMENDATION IMPLICATIONS

Financial Implications

As part of Council Motion *CR15-86*, Administration was authorized to incur a onetime usage of the winter maintenance reserve to fund the capital costs associated with the snow storage site fee implementation. The report identified the capital costs to implement the snow site storage fee to be \$362,000. The actual costs to date to implement this project are \$349,000. The additional \$13,000 is planned for additional site improvements during the 2017/18 winter season.

For the 2016/17 winter season, revenue from the snow storage site were projected to be approximately \$208,000 with actual revenues being approximately \$290,000. Going forward, we will continue to monitor revenues and operating costs to ensure we are providing quality services at an equitable price.

Environmental Implications

The City is following national standards and guidelines and exceeds provincial requirements for environmental stewardship. The snow storage site is managed in accordance with the City's Salt Management Plan.

Policy and/or Strategic Implications

Charges for the use of the snow storage site facility align with the financial principles of the OCP. Goal 1.1.2 states that "Where some of the benefits of a program or service are city-wide and some of the benefits are directly attributable to specific beneficiaries, the costs are to be paid for by a combination of general revenues of the City of Regina and user fees or other similar charges."

Other Implications

None with respect to this report.

Accessibility Implications

None with respect to this report.

COMMUNICATIONS

Any changes related to the Snow Storage Site that will impact users will be communicated during the oncoming winter seasons. Information on the website regarding the Snow Storage Site and Service Regina scripts will be updated to provide all details relating to any such changes. Snow Storage Site staff will be available on site to assist users during season.

DELEGATED AUTHORITY

There is no delegated authority associated with this report as it is for informational purposes only.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'N. Kyle'.

Norman Kyle, Director
Roadways & Transportation

Respectfully submitted,

A handwritten signature in blue ink, appearing to read 'Karen Gasmo'.

Karen Gasmo, Executive Director
Transportation and Utilities

Report prepared by: Neeraj Saroj, Senior Engineer, Roadways & Transportation

Appendix A: Snow Storage Site Survey Result

Survey period: April 3 to 14, 2017

Total respondents: 86 responses

The survey questions were developed and targeted the following four categories of user groups, in order to get their feedback at the end of the first season of fee implementation:

1. Business owners only (Did not operate their trucks but hired others to haul their snow)
2. Business owner/Operator (Business owners who operated their own trucks to haul snow)
3. Operator only (truck operators hired by Business owners)
4. Resident user (residents who hauled their own residential snow in a small truck and hand-shovelled to unload on site)

Figure 1: Number of Respondents by Type/ Category:





Response	Chart	Percentage	Count
Business owner only		18.6%	16
Business owner/Operator		67.4%	58
Operator only		11.6%	10
Resident user		2.3%	2
		Total Responses	86

Figure 1 indicates that 18.6% of the total 86 respondents of the survey were Business Owners only, 67.4% of the total respondents were Business Owner and Independent Owner/Operators, 11.6% of 86 respondents were Operators only and 2.3% of 86 respondents were Resident Users.

Criteria for measuring satisfaction levels based on the survey results:

As indicated in the below tables, the satisfaction level for each category was separately measured on a scale of 1 to 5 for each question.

Level 1 and 2 indicated Not Satisfied, level 3 indicated Somewhat Satisfied.

For the purpose of measuring the satisfaction levels, only levels 4 and 5 were considered as Satisfied.

Figure 2: Business Owner Responses

Rate the following where 1 = completely disagree and 5 = completely agree.

	1	2	3	4	5	Total Responses
The application process was simple	0 (0.0%)	0 (0.0%)	1 (8.3%)	6 (50.0%)	5 (41.7%)	12
Invoices were easy to understand	0 (0.0%)	1 (8.3%)	0 (0.0%)	2 (16.7%)	9 (75.0%)	12
I am satisfied with the service	1 (8.3%)	0 (0.0%)	1 (8.3%)	2 (16.7%)	8 (66.7%)	12

Figure 3: Business Owner/Operator Responses

Rate the following where 1 = completely disagree and 5 = completely agree.

	1	2	3	4	5	Total Responses
The application process was simple	6 (10.9%)	4 (7.3%)	14 (25.5%)	24 (43.6%)	7 (12.7%)	55
Invoices were easy to understand	3 (5.5%)	4 (7.3%)	10 (18.2%)	21 (38.2%)	17 (30.9%)	55
I was knowledgeable about the site rules before arriving	3 (5.5%)	9 (16.4%)	4 (7.3%)	13 (23.6%)	26 (47.3%)	55
It was easy to access and exit the site	3 (5.5%)	7 (12.7%)	9 (16.4%)	14 (25.5%)	22 (40.0%)	55
The wait time was 2 minutes or less to enter the site	2 (3.6%)	2 (3.6%)	9 (16.4%)	11 (20.0%)	31 (56.4%)	55
Signage was easy to understand and follow	1 (1.8%)	4 (7.3%)	10 (18.2%)	15 (27.3%)	25 (45.5%)	55
Traffic flow was smooth	1 (1.9%)	4 (7.4%)	8 (14.8%)	17 (31.5%)	24 (44.4%)	54
It was safe to operate trucks on site	2 (3.7%)	1 (1.9%)	7 (13.0%)	21 (38.9%)	23 (42.6%)	54

The site was well lit	2 (3.7%)	0 (0.0%)	12 (22.2%)	25 (46.3%)	15 (27.8%)	54
Site attendants were courteous and helpful	0 (0.0%)	4 (7.4%)	13 (24.1%)	23 (42.6%)	14 (25.9%)	54
I am satisfied with the service	3 (5.6%)	1 (1.9%)	13 (24.1%)	16 (29.6%)	21 (38.9%)	54

Figure 4: Operator Responses

Rate the following where 1 = completely disagree and 5 = completely agree.

	1	2	3	4	5	Total Responses
I was knowledgeable about the site rules before arriving	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (37.5%)	5 (62.5%)	8
It was easy to access and exit the site	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (14.3%)	6 (85.7%)	7
The wait time was 2 minutes or less to enter the site	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (12.5%)	7 (87.5%)	8
Signage was easy to understand and follow	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (25.0%)	6 (75.0%)	8
Traffic flow was smooth	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (12.5%)	7 (87.5%)	8
It was safe to operate trucks on site	0 (0.0%)	0 (0.0%)	0 (0.0%)	7 (87.5%)	1 (12.5%)	8
The site was well lit	0 (0.0%)	0 (0.0%)	4 (50.0%)	4 (50.0%)	0 (0.0%)	8
Site attendants were courteous and helpful	0 (0.0%)	0 (0.0%)	0 (0.0%)	8 (100.0%)	0 (0.0%)	8
I am satisfied with the service	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (25.0%)	6 (75.0%)	8

Figure 5: Resident User Response

Rate the following where 1 = completely disagree and 5 = completely agree.

	1	2	3	4	5	Total Responses
The application process was simple	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	2
Invoices were easy to understand	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1
I was knowledgeable about the site rules before arriving	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)	2
The wait time was 2 minutes or less to enter the site	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	1
It was easy to access and exit the site	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (100.0%)	1
Signage was easy to understand and follow	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)	2
Traffic flow was smooth	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	2
It was safe to operate trucks on site	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	2
The site was well lit	0 (0.0%)	0 (0.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)	2
Site attendants were courteous and helpful	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (50.0%)	1 (50.0%)	2
I am satisfied with the service	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)	2

Summary of survey responses:

Survey Questions	Satisfaction Rate % reflects respondents indicating higher levels of satisfaction (levels 4,5 only)			
	Business Owners	Business Owner/ Operator	Operator Only	Residents Only
Application Process was simple	92%	56%		100%
Invoices were easy to understand	92%	69%		50%
I am satisfied with the service	75%	69%		100%
I was knowledgeable about the site rules before entering the site		71%	100%	100%
It was easy to access and exit the site		65%	100%	100%
Wait time was less than 2 minutes		76%	100%	100%
Site was well lit		74%	50%	0%
It was safe to operate trucks on the site		81%	100%	100%
Traffic flow was smooth		76%	100%	100%
Signage was easy to understand and follow		73%	100%	100%
Site attendants were courteous and helpful		69%	100%	100%

Comments:**Suggestions/ critical comments:**

- Invoices should be emailed or faxed out instead of mailed
- Invoices from City should come at an earlier date-just after the month end
- Would prefer tickets issued for each load as proof of our visit for their clients
- Should have only three truck categories: \$5, \$15, \$35 (remove \$25)
- Dump trucks and dump trailers pulled by $\frac{3}{4}$ ton truck should be the same as they can haul same amount of snow
- Long drive on the site
- Create separate area for dump trailers
- Service levels of more than 2 days (pre-paid tag activation) is high
- My $\frac{3}{4}$ ton truck tag was not read 4-5 times during the season. Had to do an additional loop to make it work.
- The charges should be based on the trailer size rather than the truck size. F150 and F350 trucks should be charged the same.
- The distance between scanner and lights should be more as the reaction time for the operators to respond to the green arrow was very short.
- City should not increase the fee during next year
- Quality of roads should be improved
- Quality of lighting on the site should be improved
- Tags should be delivered on the snow site
- Why private operators have to pay for managing City's snow?

- City should put a scale at some stage
- Snow dumping should be free

Positive Comments:

- Fee structure is reasonable and suites most businesses
- Overall flow was good
- Not against reasonable snow dump fee
- System and process worked well
- All good
- Good experience. No major issues
- Fairly smooth working
- System improved significantly over the months.
- Trucks did not have to stop
- Overall no big issues
- Satisfactory experience for our operators
- Staff on site explained stuff properly.
- I liked the pricing structure as it suited most users
- Price was reasonable
- Just the first time drivers had trouble getting to the exit road
- Surprisingly we didn't face any major issues on the snow dump after all changes
- Site was managed well. Signage was good
- Overall experience was satisfactory. No wait times. Good flow of trucks.
- Found the handouts quite informative and helpful. Site staff also handed the leaflets.
- Needed some learning initially but it was very smooth after a few visits.
- Overall quite smooth operation considering first year of fee