



THE CORPORATION OF THE CITY OF VERNON REPORT TO COUNCIL

SUBMITTED BY: Ian Adkins,
Manager Roads, Drainage and
Airport

COUNCIL MEETING: REG COW I/C
COUNCIL MEETING DATE: August 15, 2022
REPORT DATE: August 3, 2022
FILE: 5400-11

SUBJECT: SNOW AND ICE CONTROL – SERVICE LEVEL REVIEW

PURPOSE:

In recent years, Council has made inquiries regarding the levels of service of snow and ice control, specifically related to snow removal, cul-de-sacs and lanes, bus stops, sidewalks and multi-use pathways. These are the areas of snow and ice control that typically result in the most critical feedback from the public. The purpose of this report is to provide background information to Council specifically relating to these areas of concern and provide Council options regarding service level increases should Council wish to consider one or more of these options as part of the 2023 budget deliberations.

RECOMMENDATION:

THAT Council receive the report titled “Snow and Ice Control – Service Level Review” dated August 3, 2022, respectfully submitted by the Manager of Roads, Drainage and Airport for information.

ALTERNATIVES & IMPLICATIONS:

1. THAT Council receive the report titled “Snow and Ice Control – Service Level Review” dated August 3, 2022, respectfully submitted by the Manager of Roads, Drainage and Airport;

AND FURTHER, that Council authorize Administration to bring forward a service level increase for consideration during the 2023 Budget Deliberations to increase the frequency of snow removal in the areas defined in the Snow and Ice Control policy at an estimated annual cost of \$134,000 to be funded by taxation;

AND FURTHER, that Council authorize Administration to bring forward a service level increase for consideration during the 2023 Budget Deliberations to increase the frequency of snow removal in the downtown core at an estimated annual cost of \$36,000 to be funded by taxation;

AND FURTHER, that Council authorize Administration to bring forward a service level increase for consideration during the 2023 Budget Deliberations to enhance the removal of snow from bus stops at an estimated annual cost of \$160,000 to be funded by taxation;

AND FURTHER, that Council authorize Administration to bring forward a service level increase for consideration during the 2023 Budget Deliberations to enhance snow plowing of priority lanes at an estimated annual cost of \$15,000 to be funded by taxation;

AND FURTHER, that Council authorize Administration to bring forward a service level increase for consideration during the 2023 Budget Deliberations to enhance snow plowing of cul-de-sacs at an estimated annual cost of \$80,000 to be funded by taxation;

AND FURTHER, that Council authorize Administration to bring forward a service level increase for consideration during the 2023 Budget Deliberations to enhance snow plowing of sidewalks maintained by the City to include weekend and holiday response at an estimated annual cost of \$20,000 to be funded by taxation;

Note: Any snow and ice control service level increases that are approved by Council during budget deliberations will be funded by taxation and in addition to the 3% tax revenue increase directed by Council at their special meeting held June 9, 2022.

ANALYSIS:

A. Committee Recommendations:

n/a

B. Rationale:

Snow Removal:

1. The City provides snow removal services in the downtown core, 27th Street, Highway 97, and select problem areas consistent with the Council approved Snow and Ice Control policy. Snow is removed only in situations where a lack of adequate storage prohibits the normal winter movement of vehicular and/or pedestrian traffic and for reasons of safety such as sight restrictions at intersections.
2. The 2022 budget for snow removal is \$134,000 allocated as follows:
 - 27th Street - \$36,000
 - Highway 97 - \$46,000
 - Miscellaneous problem areas - \$16,000
 - Downtown core - \$36,000
 - **Total annual budget for snow removal - \$134,000**
3. In January of 2022, City and contract crews conducted a full scale snow removal operation that removed snow from all of the areas listed above as well as high profile bus stops. The unusually high volume of snow resulted in an operation that took 4 nights and 3 days to complete at a cost of \$163,000, approximately \$29,000 over the 2022 annual budget for this service. This increased cost is attributed to unusually high volume of snow fall that occurred leading up to the removal and increases in fuel prices and contract trucking rates. Based on the current cost to provide this service, Operations only has sufficient budget to perform a full scale snow removal operation once per year.
4. Council could decide to increase the frequency of snow removal in all areas defined above at an additional cost of \$134,000 for each additional pickup. Alternatively, Council could decide to only increase the frequency of snow removal in the downtown core at an additional cost of \$36,000 for each additional pickup.
5. It is important to note that snow removal operations can only be scheduled following a snow event, when all roads and sidewalks have been plowed and there is a forecasted period of dry weather. This ensures that City and contract crews are available to respond to additional snow events and

are complying with National Safety Code regulations relating to maximum driving times. Regardless of available budget, this is often the limiting factor that determines how quickly snow removal operations can begin.

Bus Stops:

6. There are 212 bus stops within the City's municipal boundary. City and contract forces perform hand shoveling of snow around bus stop pads within 72 hours following the end of snow falls greater than 3cm consistent with the Snow and Ice Control policy. Hand shoveling is provided approximately 8 times per year at a cost of \$6,000 per removal or \$48,000 per year. Hand clearing of bus stop pads does not include the removal of windrows left by plow trucks.
7. City forces also provide clearing and/or removal of windrows at bus stops using heavy equipment. This service is provided on a limited basis at select locations (+/-50 sites) approximately 2 times per year. The cost to provide this service is approximately \$14,000 per year and is funded from the snow removal budget.
8. The estimated cost to expand the City's snow clearing and/or removal service of windrows to include all 212 bus stop locations 8 times per year would cost an additional \$20,000 per removal, or \$160,000 per year.
9. Should Council decide to proceed with an increase in service level for snow and ice control at bus stops, it is important to note that the accuracy of the estimates provided will depend on market conditions and the availability of suitable contractors at time of tendering.

Lanes:

10. The Snow and Ice Control policy defines local roads as priority 2 routes. Depending on the depth of snow fall, response times are required to be within a 24 hour period following a snow fall. Lanes are defined as priority 3 routes with a typical response time of 72 hours following a snow fall of 15cm or greater.
11. Over the past five years there has been an increase in carriage style, single family, and multi family homes that have primary and, in some cases, the only access from the lane. Operations has been receiving an increasing number of complaints from owners/occupiers of these lane access only homes regarding the level of snow plowing service provided on lanes fronting their residence.
12. The estimated cost to increase the priority of the select lanes with high concentrations of lane access only homes (approximately 4 lanes at this time) from a level 3 to a level 2 is approximately \$15,000 annually.

Cul-de-sacs:

13. The Snow and Ice Control policy defines cul-de-sacs as priority 3 roads. For snow falls less than 15cm the City's large plow trucks use the cul-de-sacs as a turn around area only, plowing one direction in and one direction out. Plow trucks are too large to be used to plow the full area of the cul-de-sac. For snow falls less than 15cm, no further action is taken.

14. When snow accumulations exceed 15cm, cul-de-sacs are then plowed to full width using a combination of smaller equipment such as pickups, skid steers, loaders and backhoes. Snow is piled at specific curb locations and not in the center of the cul-de-sac to ensure access for fire service vehicles; to maintain access to storm and sewer manholes (typically located in the center of a cul-de-sac); and reduce the potential for meltwater draining across the cul-de-sac and refreezing.
15. City wide cul-de-sac cleaning is a significant operation that takes City crews approximately 2 days to complete at a cost of \$20,000 per event and is completed approximately 3 times a year. Cul-de-sac cleaning could be initiated at 10cm of snow (approximately 4 additional cleans a year) at an estimated additional cost of \$80,000 per year.

Sidewalks:

16. The City clears snow from sidewalks adjacent to City owned properties, sidewalks fronting major arterial routes, all paved linear trails and inaccessible locations. The Snow and Ice Control policy requires sidewalk snow clearing response during normal working hours only, Monday to Friday between 7:30am and 4:00pm.
17. The City receives a significant amount of complaints regarding City maintained sidewalks and linear trails that have not been cleared over the weekend. As an example, if a snow fall was to occur on a Friday afternoon over a holiday weekend, it could be 3 or more days before the sidewalks are cleared by City crews. The estimated cost to provide sidewalk snow clearing after hours on weekends and holidays is estimated at \$20,000.
18. Snow and ice clearing services receive numerous complaints through a typical winter. Increasing service levels, even moderately, comes with significant costs. Modest increases as presented above total \$445,000 per annum.

C. Attachments:

1. Snow and Ice Control Policy
2. Snow and Ice Presentation

D. Council's Strategic Plan 2019 – 2022 Goals/Action Items:

The snow and ice control service level review involve the following goals/action items in Council's Strategic Plan 2019 – 2022:

- Vibrant Downtown

E. Relevant Policy/Bylaws/Resolutions:

1. Snow and Ice Control Policy

BUDGET/RESOURCE IMPLICATIONS:

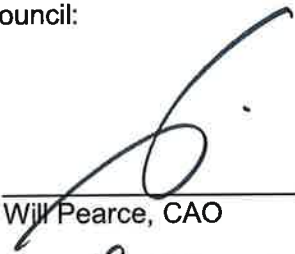
There are no budget or resource implications if Council receives the report for information. Should Council decide to move one or more of the alternative recommendations, these items will be brought forward as a service level increase with costs beyond councils 3% direction.

Prepared by: Approved for submission to Council:

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Manager, Roads Drainage and Airport



Will Pearce, CAO

Date: 09. August. 2022

James Rice

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Director, Operations Services

REVIEWED WITH

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|---|--|---|
| <input type="checkbox"/> Corporate Services | <input checked="" type="checkbox"/> Operations | <input type="checkbox"/> Current Planning |
| <input type="checkbox"/> Bylaw Compliance | <input checked="" type="checkbox"/> Public Works/Airport | <input type="checkbox"/> Long Range Planning & Sustainability |
| <input type="checkbox"/> Real Estate | <input type="checkbox"/> Facilities | <input type="checkbox"/> Building & Licensing |
| <input type="checkbox"/> RCMP | <input type="checkbox"/> Utilities | <input type="checkbox"/> Engineering Development Services |
| <input type="checkbox"/> Fire & Rescue Services | <input type="checkbox"/> Recreation Services | <input type="checkbox"/> Infrastructure Management |
| <input type="checkbox"/> Human Resources | <input type="checkbox"/> Parks | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Financial Services | | <input type="checkbox"/> Economic Development & Tourism |
| <input type="checkbox"/> COMMITTEE: | | |
| <input type="checkbox"/> OTHER: | | |


THE CORPORATION OF THE CITY OF VERNON

 3400 – 30th Street, Vernon, B.C. V1T 5E6

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Corporate Policy

Section:		
Sub-Section:		
Title:	Snow and Ice Control	

RELATED POLICIES

Number	
Title	Sidewalk – Clearing

APPROVALS

POLICY APPROVAL:	AMENDMENT APPROVAL:	SECTION AMENDED
	Amendment Approved by: <i>"Rob Sawatzky"</i> Date: February 11, 2014	Revisions to service level for sidewalk snow clearing. Added inaccessible sidewalks to Priority 3 and reduced response time for all sidewalks to normal working hours only (72 hour response time).
	Amendment Approved by: <i>"Rob Sawatzky"</i> Date: March 25, 2013	Revisions to service level for sidewalk snow clearing to reflect direction from the Municipal Insurance Association (MIA) and miscellaneous service level adjustments.
	Amendment Approved by: <i>"Wayne Lippert"</i> Date: November 14, 2011	Procedures – A. City of Vernon exclude sidewalks that are inaccessible to adjacent properties from the responsibility of adjacent property owner.

Approved by: <i>"Wayne Lippert"</i>	Amendment Approved by: <i>"Wayne Lippert"</i>	5. e) City of Vernon will assist with sidewalk clearing for major storms that exceed 150mm within 24 hrs of a storm event.
Mayor Date: January 9, 2006	Mayor Date: December 11, 2006	

POLICY

Effective and efficient delivery of snow and ice control operations is necessary to allow the City of Vernon to function under normal winter conditions. A Snow and Ice Control Policy is required to define the City of Vernon's snow and ice control service levels and to establish a framework for response priorities in which limited resources will be applied.

This policy outlines the City's procedures to deal with snow and ice conditions:

- a) To maintain municipal streets in a safe and passable condition.
- b) To maintain paved linear trails, sidewalks adjacent to City on designated arterial roads and inaccessible sidewalks in a safe and passable condition within the limits of available resources.
- c) Snow and ice control services are not intended to eliminate all hazardous conditions on City streets, sidewalks and paved linear trails at all times. Snow and ice control services are intended to assist vehicles that are properly equipped for winter driving and operated using good winter driving practices and pedestrians using caution and proper winter footwear.
- d) It is expected that under normal winter conditions, there will be situations when the immediate demand for snow and ice control services will exceed available resources. In order to maximize the benefits of operations, snow and ice control forces shall conduct operations according to the procedures identified in this policy.

DEFINITIONS

Anti-icing

A snow and ice control strategy used for the prevention of a strong bond between frozen precipitation or frost and a pavement surface by timely application of a chemical freezing point depressant.

De-icing

An operation where a treatment of a de-icer is applied to the top of an accumulation of snow, ice or frost that is already bonded to the pavement.

Downtown Core

The area bounded by 25th Avenue north to 35th Avenue and from 35th Street east to 27th Street.

End of the Event

A snow event, minor, moderate or major, will be considered to be over once precipitation stops as determined by the Public Works Manager or his designate.

Inaccessible Sidewalk

A sidewalk designated at the discretion of the Manager of Public Works, or his designate, as a sidewalk that is unreasonable for a property owner to care for and indicated on the map described in " A. Service Levels" of this policy.

Minor Event

A minor event is an event that consists of less than 3cm of snow measured at the City Operations Yard.

Moderate Event

A moderate event is an event that is 3cm or more of snow and less than 15cm of snow measured at the City Operations Yard.

Major Event

A major event is an event that consists of 15cm or more of snow measured at the City Operations Yard.

Pre-wetting

The application of a liquid de-icer to sand or salt, at the time of application.

Priority 1 Roads

- Arterials
- Collectors
- Bus Routes (school and transit)
- School Zones
- Select problem areas

Priority 2 Roads

- All roads not identified as Priority 1, except lanes and cul-de-sacs

Priority 3 Roads

- Lanes
- Cul-de-sacs

Priority 1 Sidewalks / Linear trails

- Sidewalks adjacent to City owned properties

Priority 2 Sidewalks / Linear trails

- Sidewalks fronting the following major arterial routes:
 - 27th Street from Hwy 6 to Anderson Rd
 - Highway 97 from 15th Avenue to South of 48th Avenue
 - Hwy 6 from highway 97 to Kal lake Rd
- All paved Linear Trails

Priority 3 Sidewalks / Linear trails

- Bus stops
- Sites identified on the hand clearing route
- Inaccessible sidewalks

PROCEDURES

A. Service Levels:

For the purpose of snow and ice control, operations will generally respond based on order of priority. When necessary, for reasons of safety, and at the discretion of the Public Works Manager, or his designate, the order of priority for the provision of the required services may be altered.

On an annual basis, prior to September 15, the streets, sidewalks, and linear trails included in each of the priorities shall be re-assessed as to whether or not they should be noted in a higher priority classification. Emphasis shall be given to those areas of high vehicle and pedestrian traffic flow, main arterials, steep grades, and essential service routes and bus routes.

Following the street priority classification review, a map will be prepared reflecting the resolved street, sidewalk and linear trail classifications. This information will be distributed to operating personnel and made available to interested parties upon request.

1. Minor Event (ice or snow accumulations less than 3 cm)

The following defines the City of Vernon's level of service for snow and ice control for minor events. City Operations will attempt to meet service levels identified within the restrictions of available resources.

Priority 1 Roads

- Traveled lanes and all key points sanded and/or salted within 8 hours following the end of the event.

Priority 2 Roads

- Traveled lanes and all key points sanded and/or salted within 24 hours following the end of the event.

Priority 3 Roads

- No response required

Priority 1 Sidewalks / Linear Trails

- All key points sanded and/or salted within 24 hours following the end of the event.

Priority 2 Sidewalks / Linear Trails

- No response required

Priority 3 Sidewalks / Linear Trails

- No response required

2. Moderate Event (snow accumulations 3 cm to less than 15 cm)

The following defines the City of Vernon's level of service for snow and ice control for moderate events. City Operations will attempt to meet service levels identified within the restrictions of available resources.

Priority 1 Roads

- Traveled lanes plowed and all key points sanded and/or salted within 12 hours following the end of the event.

Priority 2 Roads

- Traveled lanes plowed and all key points sanded and/or salted within 24 hours following the end of the event.

Priority 3 Roads

- No response required

Priority 1 Sidewalks / Linear Trails

- Full width plowed and all key points sanded and/or salted within 24 hours following the end of the event.

Priority 2 Sidewalks / Linear Trails

- Full width plowed and all key points sanded and/or salted within 24 hours following the end of the event.

Priority 3 Sidewalks / Linear Trails

- Full width plowed and all key points sanded and/or salted within 72 hours following the end of the event.

3. Major Event

The following defines the City of Vernon's level of service for snow and ice control for major events. City Operations will attempt to meet service levels identified within the restrictions of available resources. Following a major event, if insufficient personnel and equipment are available within the City forces, rented contractor personnel and equipment may be engaged at the discretion of the Public Works Manager or his designate.

Priority 1 Roads

- Traveled lanes plowed and all key points sanded and/or salted within 12 hours following the end of the event.

Priority 2 Roads

- Traveled lanes plowed and all key points sanded and/or salted within 36 hours following the end of the event.

Priority 3 Roads

- Traveled lanes plowed and all key points sanded and/or salted within 72 hours following the end of the event.

Priority 1 Sidewalks / Linear Trails

- Full width plowed and all key points sanded and/or salted within 24 hours following the end of the event.

Priority 2 Sidewalks / Linear Trails

- Full width plowed and all key points sanded and/or salted within 36 hours following the end of the event.

Priority 3 Sidewalks / Linear Trails

- Full width plowed and all key points sanded and/or salted within 72 hours following the end of the event.

4. Snow Removal:

The following defines the City of Vernon's level of service for snow removal. Snow removal operations shall be undertaken only in situations where lack of adequate storage prohibits the normal winter movement of vehicular and/or pedestrian traffic and for reasons of safety such as sight restrictions at intersections. Snow Removal priorities will be as follows:

Priority 1 Snow Removal - Streets in the Downtown Core, as well as 27th Street from 25th Avenue north to 48th Avenue and 30th Avenue from 35th Street to 41st Street and locations where sight restrictions have been created by piled snow.

Priority 2 Snow Removal - Highway 97 from 15th Avenue to 43rd Avenue.

Priority 3 Snow Removal - Problem windrows of snow at bus stops and school drop-off zones.

Priority 4 Snow Removal - Areas with poor drainage.

B. OPERATING PROCEDURES

1. PUBLIC RELATIONS

All inquiries will be handled by the City Operations Yard during normal work hours and the Vernon Fire Hall after hours, on weekends and holidays. Complaints of an emergency nature are to be transmitted to appropriate field personnel for action. All media inquiries are to be handled by the Public Works Manager, or his designate.

2. Response Times

The Public Works Foreman is responsible for determining the level of snow and ice response. Typical snow and Ice response times will be between the hours of 4:00am and 11:00pm, 7 days a week with maximum levels of response coordinated prior to the hours of 7:30am and 5:00pm (rush hour traffic). Snow and ice control for sidewalks will be completed during normal working hours only, Monday to Friday between 7:30am and 4:00pm.

3. Roads - Anti-Icing / De-icing:

Anti-icing and de-icing procedures are used to prevent the bond of snow and ice to the asphalt. This policy recognizes anti-icing and de-icing resources are limited and will be administered on an ad hoc basis by the Manager of Public Works or his delegate. The policy is not intended to require anti-icing or de-icing to take place or create an obligation for the City to employ anti-icing or de-icing to any specific location, under specific weather conditions or road conditions.

4. Roads - Sanding and Salting

- a) Sanding operations shall be initiated by the Public Works Manager, or his designate, and shall be continued at his discretion until service levels have been attained.
- b) Salting operations shall be undertaken in the downtown core or as required with the expressed approval of the Public Works Manager or his designate. When salting, the entire length of the road will be treated.
- c) Sanding/Salting priorities within each area shall be in accordance with the street priority designation. Sanding will only take place at the following locations or as directed by the Public Works Manager or his designate:
 - Street Signalized Intersections
 - Stop Signs
 - Railroad Crossings
 - Street Crosswalks

- Curves
 - Hills
 - School Zones
 - Bus Stops
 - Straight Sections (intermittent sanding depending on conditions)
- d) Lengths of areas to be sanded and/or salted for priority 1 roads are shown in the following table to be used as a guide for City equipment operators. Actual lengths will vary since sanding vehicles are not equipped with measuring devices.

Posted Speed Limits	Length to be Sanded at Intersections
50 km/h	61 m (200 ft.)
Over 50 km/h	152 m (500 ft.)

- e) In addition to the above, should the condition of a priority 1 road be such that icing is extensive, the whole street shall be sanded and/or salted.
- f) Unless otherwise directed by the Public Works Manager or his designate, priority 2 roads shall generally be sanded at street intersections for a length of 15 m (50 ft) back from the intersection. Actual lengths will vary since sanding vehicles are not equipped with measuring devices.
- g) Pre-wetting of sand/salt will be done as directed by the Public Works Manager or his designate.

5. Roads - Snow Plowing:

- a) Snow plowing for roads will typically commence following snow fall accumulations of 3 cm or more.
- b) Snow plowing operations shall follow the established road priority designation as closely as possible recognizing that small variations in routing are unavoidable in order to accommodate staff changes, varying road conditions and the movement of large trucks and equipment. Snow plowing priorities may also change under the direction of the Public Works Manager or his designate.
- c) During an event, snow plowing will only be conducted on priority 1 roads until the end of the event and the service level for priority 1 roads stipulated in this policy is attained.
- d) Priority 2 roads will not be serviced until all priority 1 roads have been serviced to the acceptable level stipulated in this policy.

- e) Priority 3 roads will not be serviced until all priority 2 roads have been serviced to the acceptable level stipulated in this policy. Resources will be coordinated by the Public Works Foreman or designate.
- f) If insufficient personnel and equipment are available in the City work force to meet the snow plowing schedule, private contractor personnel and equipment may be hired.
- g) In areas where snow storage is limited, snow ridges will be accumulated along the centre median of a roadway.
- h) During an event, plowing of priority 1 roads will consist of a single pass each direction from center line. Following an event, all roads will be cleared to full width, normally 1.5 meters from curb line or 1.0 meters past road edge into shoulder.

6. Roads - Snow Removal

- a) Snow removal shall be undertaken according to established priorities as defined in Section A - 4 Snow Removal.
- b) Blowers will generally be used for the loading of snow from streets.
- c) Sufficient signage and flag people will be used to ensure the safety of the workers and public.

7. Sidewalks and Linear Trails - Snow Plowing, Sanding and Salting:

- a) In accordance with Bylaw No. 4980, Section 5.7, residential and business property owners shall be responsible for the clearing of snow and ice from sidewalks adjacent to their property within 24 hours of the accumulation of such snow and ice. Bylaw Enforcement officers shall enforce this bylaw in accordance with the Sidewalk – Cleaning policy.
- b) Notwithstanding the above, the City will attempt to provide the following sidewalk / linear trail snow and ice control services:
 - Plowing of priority 1, priority 2 and priority 3 sidewalks and linear trails following moderate or major snow events. Sidewalks will be cleared using sidewalk plows and will not be expected to be plowed to bare concrete.
 - The City has limited sanding and salting capabilities for ice control on sidewalks and linear trails: Spot sanding will be provided on linear trails for steep areas, high traffic areas and known problem

areas. Sanding, salting, and de-icing of sidewalks will be the responsibility of the adjacent property owner.

- The hand clearing route map will be reviewed annually by the Manager of Public Works or his designate. Areas that will be considered for hand clearing include but are not limited to road way islands, small sections of City owned sidewalk not adjacent to a private property owner, and public stairs. Spot sanding for hand cleared areas will be provided as resources permit.
- c) Gravel trails and pedestrian routes will not be plowed or sanded.

8. Snow Dump Sites

- a) By October 1, the Public Works Foreman shall confirm proposed snow dump sites with private owners and other City Departments. Once confirmed, a list outlining these areas shall be provided to the operations personnel.
- b) The Public Works Foreman will ensure adequate drainage at all snow dump sites.
- c) The Public Works Foreman shall ensure that the snow dump sites, which are only to be used by City equipment, are properly secured in this regard.
- d) The Public Works Foreman shall arrange, at his discretion, for a loader to pile the snow in the dump sites in such a manner that congestion of snow hauling vehicles does not occur.
- e) The Public Works Foreman shall arrange to clear the snow dump sites of accumulated debris as soon as possible following the thawing of the accumulated snow.

9. City Owned Equipment

- a) The Manager, Fleet shall be responsible for the preparation and overhauling of equipment used in winter maintenance operations according to the time table defined in Section C:
- b) Throughout the winter season, the servicing and repair of all equipment used in winter maintenance operations shall be given priority by the garage.

10. Winter Shifts

- a) The Public Works Foreman will set up winter shifts starting no later than December 1 and ending no earlier March 1. These dates may be changed at the discretion of the Public Works Manager, or his designate. The schedule will be prepared prior to November 1.
- b) Personnel on shift shall do checks of all key areas at appropriate times to allow adequate response of crews before rush hour traffic periods. If slippery conditions are noted and more resources are required, the on-duty personnel will contact the Public Works Foreman or his designate.

11. Winter Staff Crew Meeting

The Public Works Foreman will schedule a crew meeting to review all snow and ice procedures and policies, prior to October 15.

C. TIME TABLE

<u>Completion Date</u>	<u>Activity</u>	<u>Responsibility</u>
September 15	Street Priority Review Sidewalk/Linear Trail Priority Review	Public Works Manager
October 1	Prepare Route Maps Designate & Sign Dumpsites Roadways Shift Schedule	Public Works Foreman Public Works Foreman Public Works Foreman
October 15	Winter Staff Crew Meeting Salters & Sanders Ready Sidewalk Plows Ready Truck Plows Mounted	Public Works Foreman Manager, Fleet Manager, Fleet Manager, Fleet
November 1	Wing Blade Mounts Installed Snow Blower Ready	Manager, Fleet Manager, Fleet
November 15	Wing Blades Installed	Manager, Fleet

SNOW AND ICE



Purpose of Presentation

In recent years, Council has made inquiries regarding the levels of service of snow and ice control, specifically related;

- Snow removal
- Snow removal at bus stops (windrows)
- Service levels of lanes and cul-de-sacs
- Service level for sidewalks/multi-use trails



These areas of typically result in the most critical feedback from the public. The purpose of this report is to provide background information and to provide Council options regarding service level increases for consideration as part of the 2023 budget deliberations



Historical Snow and Ice Events

	Minor -3cm	Moderate 3cm+	Major 15cm+	Total
2018	20	8	2	30
2019	17	9	0	26
2020	6	10	1	17
2021	11	13	0	24
2022 YTD	4	4	1	9

Snow Removal

Snow removal services are conducted in the downtown core, along 27th Street, Highway 97, at school zones and at select problem areas. Removal is only initiated under the following conditions:

- When there is lack adequate storage prohibits the normal winter movement of vehicular and/or pedestrian traffic.
- For safety reasons such as sight restrictions at intersections.



Snow Removal Continued

- Must have favourable weather when no snow is expected.
- Typically 11:00pm to 7:00am
- Requires up to 20 operators and pieces of heavy City and contracted equipment
- Downtown removal covers area within the BIA
- Costs approximately \$25,000 per night



Should council decide to increase the frequency of snow removal in all areas the estimated cost is \$134,000 for each additional pickup. Alternatively, Council could decide to only increase the frequency of snow removal in the downtown core at an estimated cost of \$36,000 for each additional pickup.



Bus Stops

Under the Snow and Ice Policy the City of Vernon provides limited snow clearing at bus stops.

- There are approximately 212 bus stops in the City of Vernon
- Listed as priority 3
- Hand shovel within 72hrs
- Windrow removed at 50 priority sites 2 times per year



The estimated cost to expand the City's snow clearing and/or removal service of windrows to include all 212 bus stop locations 8 times per year would cost an additional \$20,000 per removal, or \$160,000 per year



Lanes

Lanes are listed as a priority 3 under the snow and ice policy – 72hr response time when over 15cm



The estimated cost to increase the priority of the select lanes with high concentrations of lane access only homes (approximately 4 lanes at this time) from a level 3 to a level 2 is approximately \$15,000 annually.

Cul-De-Sacs

- Listed as a priority 3 under the snow and ice policy – 72hr response time when over 15cm
- Larger snow plow will plow into cul-de-sac, turn around and plow out to provide access
- Plowed with smaller equipment such as 1-Ton or Single Axle
- Cul-de-sacs are plowed outward to curb not to center
 - To maintain parking along curb
 - To maintain fire apparatus access
 - To maintain quick access to manholes often placed in the middle of cul-de-sacs in case of emergencies.

City wide cul-de-sac cleaning is a significant operation that takes City crews approximately 2 days to complete at a cost of \$20,000 per event and is completed approximately 3 times a year. Cul-de-sac cleaning could be initiated at 10cm of snow (approximately 4 additional cleans a year) at an estimated additional cost of \$80,000 per year.



Sidewalks and Multi-Use Paths

Snow clearing on sidewalks and multi-use paths provided by the City of Vernon are:

- Maintained only during **regular business hours of 7:00am to 3:30pm**
- Typically maintained by 3 employees/pieces of equipment – sidewalk tractor, bobcat and UTV
- Sanded and salted according to policy only at known problem areas and steep hills as equipment has limited sanding and salt capabilities.
- The City receives a significant amount of complaints regarding City maintained sidewalks and linear trails that have not been cleared over the weekend. As an example, if a snow fall was to occur on a Friday afternoon over a holiday weekend, it could be 3 or more days before the sidewalks are cleared by City crews. The estimated cost to provide sidewalk snow clearing after hours on weekends and holidays is estimated at \$20,000.



Operations

Public Works

Snow and Ice Budget

	2023 (Estimated)
Roads	\$683,593
Sidewalks/Linear Trail	\$84,531
Total Snow & Ice Budget 2023	\$768,124
Service Level Adjustment	\$445,000
Estimated Total Snow & Ice Budget 2023 incl. SLA	\$1,213,124

Questions?



Operations
Public Works