

Executive Summary

Phase 1 of the Snow and Ice Changes were implemented in the winter season of 2022/2023. The overall feedback of the project showed good communication and realized operational efficiencies.

The project goals were achieved as follows:

- Transportation Operations implemented plowing to the right in Phase 1 areas. Learnings shared by the school bussing authority and Transit will be incorporated into Phase 2. The operational approach will also assess the full resource need for the Phase 2 network.
- The City activated snow routes six times when a significant snow event was triggered. The proactive messaging through various media was successful. Plowing commenced quickly once snow routes were active and parking bans were lifted shortly after. Parking bans were enforced, first with courtesy tickets and later with parking tickets.
- The collected feedback from residents and stakeholders during Phase 1 will inform the design and approach for Phase 2. Specifically, the City will focus on offering a variety of tools to stay informed, seek project feedback in the spring of 2024, and educate residents about the City's snow and ice control service levels more in depth.

Background

The City of Lethbridge Snow and Ice Control policy CC-34 establishes priorities, standards and service levels of the snow and ice control program. The goal of the program is to have the City function under normal winter weather conditions, reduce snow and ice hazards and provide the public with adequate mobility on City controlled roadways, sidewalks and pathways. The City is responsible to maintain 740 km of paved roads and lanes, 95 km of gravel roads and lanes and 100 km of regional trails.

It is important to note, snow and ice control is split into two main functions: **Plowing** and **Removal**.

The Snow and Ice control policy also establishes service levels for roadways based on a priority route system.

Plowing priority routes:

- Priority 1 plowing – assigned arterial roadways which are to be completed within 24 hours of the snowfall ending. Currently, 131 kms are Priority 1 roads.
- Priority 2 plowing – assigned remaining arterials and collectors which are to be completed within 48 hours of the snowfall ending. Currently, 45 road kms are Priority 2 roads.
- Priority 3 plowing – assigned remaining collectors, controlled intersections and bus routes which are to be completed within 72 hours of the snowfall ending. Currently, 29 kms are Priority 3 roads.
- Priority 4 plowing – all other city-controlled roads and laneways which are to be completed within 96 hours of the snowfall ending. Priority 4 service level assures that these roadways are passable for emergency services and the general public. Sand and salt is applied at the same time and at intersections, hills and curves.

Removal priority routes:

- Priority 1 removal – Snow removal focuses on the downtown area, the hospital and central collector roads that are narrow and become easily impassable. During an average winter, snow is removed two- four times along these roads. Currently, 30 kms are Priority 1 roads.
- Priority 2 removal – Snow removal focuses around school zones and transit routes in areas that drift in easily. Historically, snow removal occurs in these areas every 5 years. Currently, 35 road kms are Priority 2 roads.

- Priority 3 removal – Snow removal focusses on additional transit routes that become often impassable. Historically, snow removal occurs in these areas every 5 years. Currently, 53 kms are Priority 3 roads.
- Priority 4 removal - Priority 4 roadways are residential roads where snow removal only commences in emergency situations.

Timeline of events

Why are we changing snow and ice controls?

In June 2022, Council approved modifications to snow and ice control services, in a phased approach, focusing on more plowing. This decision followed recommendations from:

- 2020 Klynveld Peat Marwick Goerdeler (KPMG) report;
Recommendation stated the City modify service levels for both Snow and Ice Control and Street Sweeping. The goal was to align with practices seen in other municipalities, due to financial and operational efficiencies. KPMG proposed to look at increasing snow plowing activities and decreasing snow removal activities.
- March 4, 2021, Transportation presented to the Civic Works committee several suggested service level modifications for both Snow and Ice Control and Street Sweeping. Administration recommended engaging with the public to get their feedback on possible service level modifications as per City Council policy CC-60.
- In 2021, Argyle Consulting was hired to complete public engagement about snow and ice control and sweeping service level options and to report on the outcomes. The City used this feedback to determine recommendations for service level modifications to Council. Generally, the public was satisfied with sweeping service levels but would like to see more plowing and parking enforcement for both programs.

Phase 1 commenced November 1, 2022, with changes to plowing practices along approximately 25 km of road network and the declaration of parking bans along those routes and enforcement.

In the winter of 2023/24, Phase 2 will incorporate the feedback and operational considerations gathered during Phase 1, to deliver a service level change affecting a broader network of streets and roads in the city. This report provides a status update about operations, parking enforcement and stakeholder feedback gathered during Phase 1.

Phase 1 Report and Overview

Goals

- Implement plowing to the right in Phase 1 areas and monitor operations;
- Activate snow routes when a significant snow event was triggered;
- Enforce parking bans while limiting the time they are in effect, keeping in mind to not inconvenience residents for too long; and
- Collect feedback from residents and stakeholders to inform the design and approach for Phase 2.

Operations

Plowing is performed in combination with the application of deicers in the form of activated abrasives. Depending on the temperature conditions, abrasives consist of a pre-wetted sand and salt mixture. The salt content decreases with decreasing temperatures. If ambient temperatures are below -15 degrees Celsius, salt is not able to liquefy the ice to encourage melting and evaporation. Salt application is most successful when a bond between ice and pavement surface has not been formed yet.

When evaluating snow and ice control service and performance, the following operational considerations must be made:

- Cycle time and number of cycles (passes) of which the plow has to plow a road segment – which is a function of resources (personnel and equipment);
- Length of snow event and total snow accumulation;
- Ambient and pavement temperature; and
- The presence or absence of ice and its pavement bond.

During the 2022/23 winter season, the City experienced nine snow events. During six of those, the established trigger was reached and snow routes for Phase 1 areas were activated. The table below summarizes key conditions and operational performance as well as residential feedback received through 311 for each event.

Topic	2022			2023			Average
	Nov 5-8	Dec 14-15	Dec 17-22	Feb 19-23	Mar 5-8	Mar 10-13	
Snow Events 2022/2023							
Actual Snow accumulation (cm)	10	12	11	25	14	11	10
Average Day Temperature	-13.3	-8	-26.5	-13.5	-16	-14	-13
Plow cycles	1	2	2	2	1	1	2
Total Hours to complete to reasonable conditions	7	19	25	24	14	13	17
311 - Complaints Recorded	18	28	42	21	3	13	21
311 - Complaints Actioned	2	0	4	2	0	2	2

Activation of snow routes

Historically, Lethbridge had 64 km of snow routes in place but rarely declared them. Snow routes were in plowing and snow removal areas. When parked vehicles impede the operations of snow plowing and removal, it creates inefficiencies including:

- longer times to clear individual roads;
- less roads able to be cleared with existing equipment; and
- ultimately additional cost to snow control efforts in Lethbridge.

To allow more efficient operation, a snow route activation process and associated parking bans were put into place for Phase 1 areas. Snow routes are activated and on-street parking restrictions go into effect whenever snow accumulation is significant enough to create unsafe driving conditions, as determined by Transportation Operations.

How do residents know if they're on a snow route?

To clearly indicate Phase 1 snow routes:

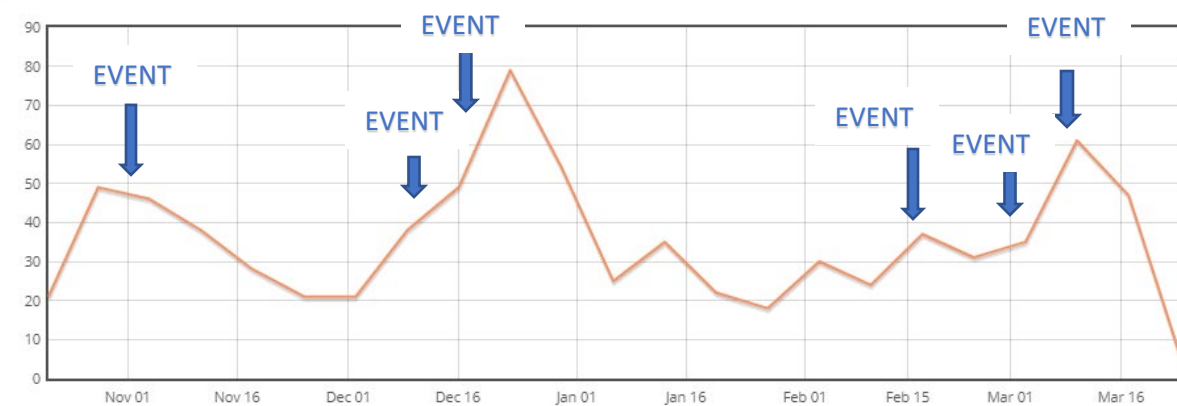
- An additional blue snowflake tab was attached above the existing snow route parking sign;
- 1,800 residents living in these areas received a postcard, directly to their address, with key information about the snow route declaration process and notification tools available to avoid receiving parking tickets;
- 1,140 residential properties along snow routes, who were not part of Phase 1, were notified with a letter indicating they won't be affected in 2023;
- Media events, social media, website information, PSA's and news releases were also used to inform residents.

The City’s goal was to minimize the time residents would be asked to not park along routes when activated. During the six recorded snow events, plows started clearing Phase 1 routes, on average, six hours after the snow route became active. On average, parking restrictions were lifted within 36 hours and occurred during weekdays.

Notifying residents of snow route activation

All notifications went out on time following the established declaration process. City staff ensured all tools were employed to inform residents via different mediums (Loop App, social media, PSA’s, media and website).

- The Lethbridge Loop App Notification subscriptions from addresses on Phase 1 routes reached more than 900 subscribers by the end of the 2022/23 season.
- Loop subscription activity increased with communication and promotion close to each event as shown in the graph below.



Enforcement of parking bans along activated snow routes

To transition residents to the snow route parking bans, courtesy tickets were issues until the end of January 2023. Parking enforcement started February 1, 2023. The table below shows the events, the duration of each event’s parking ban along snow routes and the number of tickets issued.

	2022			2023			Average
	Nov 5-8	Dec 14-15	Dec 17-22	Feb 19-23	Mar 5-8	Mar 10-13	
Snow Events 2022/2023							
Hours (parking ban active to rescinding)	29	31	46	48	32	30	36
Courtesy tickets distributed	410	395	331	0	0	0	379
Parking tickets distributed	0	0	0	97	78	37	71

The number of courtesy tickets distributed during the first three events decreased over time. The number of parking tickets issued also decreased during subsequent snow events. Parking ticket complaints were only related to 6% of all issued tickets.

Feedback from residents and stakeholders

The City identified different target audiences and stakeholders and applied varying engagement strategies to understand their needs, preferences and feedback on the project.

Stakeholders

Businesses and residents along snow routes – received an informational postcard and had several feedback opportunities throughout the project:

- Online open survey during the winter season
- In-person public engagement during the Community Conversation event on January 18, 2023
- Other tools to keep residents informed included:
 - project-specific webpage;
 - interactive map;
 - courtesy parking enforcement reminders;
 - snow flake signs along Phase 1 routes;
 - media events;
 - public service announcements;
 - social media posts;
 - Wider public advertising was not used during this phase as the changes only apply to a small number of residents and stakeholders. Wider advertisements may have caused confusion within the community.
- An end-of-season resident and stakeholder online survey ran from May 23 – June 9

Other stakeholders the City communicated with via email, phone and direct conversation included:

- Post-Secondary, School busing provider, Alberta Health Services Volunteer Lethbridge Downtown BRZ and Internal City departments.

What we learned from Phase 1

Theme	Key learnings Phase 1	Phase 2 adjustments
Phase 1 operatorial implementation	Concerns from school busing authority about windrows on boulevards/ in bus unloading areas	Monitor these areas and adjust extent of no-pow areas if needed
	Access-A-Ride loading/ unloading issues for some residents	Create system with Transit to issue internal service request Communicate clearly to residents to inform 311 about issues
	Staffing availability challenges for Phase 1	Create term positions to assure capacity
Snow route declaration & parking enforcement	Pro-active messaging for parking bans with courtesy tickets and Loop App notifications worked well	Continue Loop App notification for whole community.
	Staffing/resources were difficult to meet to enforce parking bans in Phase 1 areas	Assign a dedicated parking enforcement resource for Phase 2 season 2023/24
Engagement and communication tools	Post card distribution and timing just before snow event was beneficial	Directly communicate with all residents along all snow routes and before the first significant snowfall

	Consider how we will communicate “you are on a snow route” in the future	Signs with start and end indicators for school no-plow zones, one online map with all information
	Loop App was a good tool, but we will have to offer alternatives	Explore ability to use the Loop app for whole community and develop alternatives to how residents can stay informed (PSA, socials etc.)
	Communication tools like print, web page, survey, maps helped.	Consolidate maps/ simplify messaging and information. Create more graphic and/or video resources to create education and awareness about the different levels of snow clearing services the City offers
	Driveway/ sidewalk shoveling most common residential challenge	Encourage neighbours to help other neighbours shovel their driveways and sidewalks

Next steps

The Phase 2 snow route network will be much larger and affect a broader area of the city. It’s anticipated residents who do not live on snow routes will be affected more frequently. To address this, communication efforts will include an education and awareness campaign targeted at motorists in Lethbridge.

Activity objectives for Phase 2 will focus on the following themes:

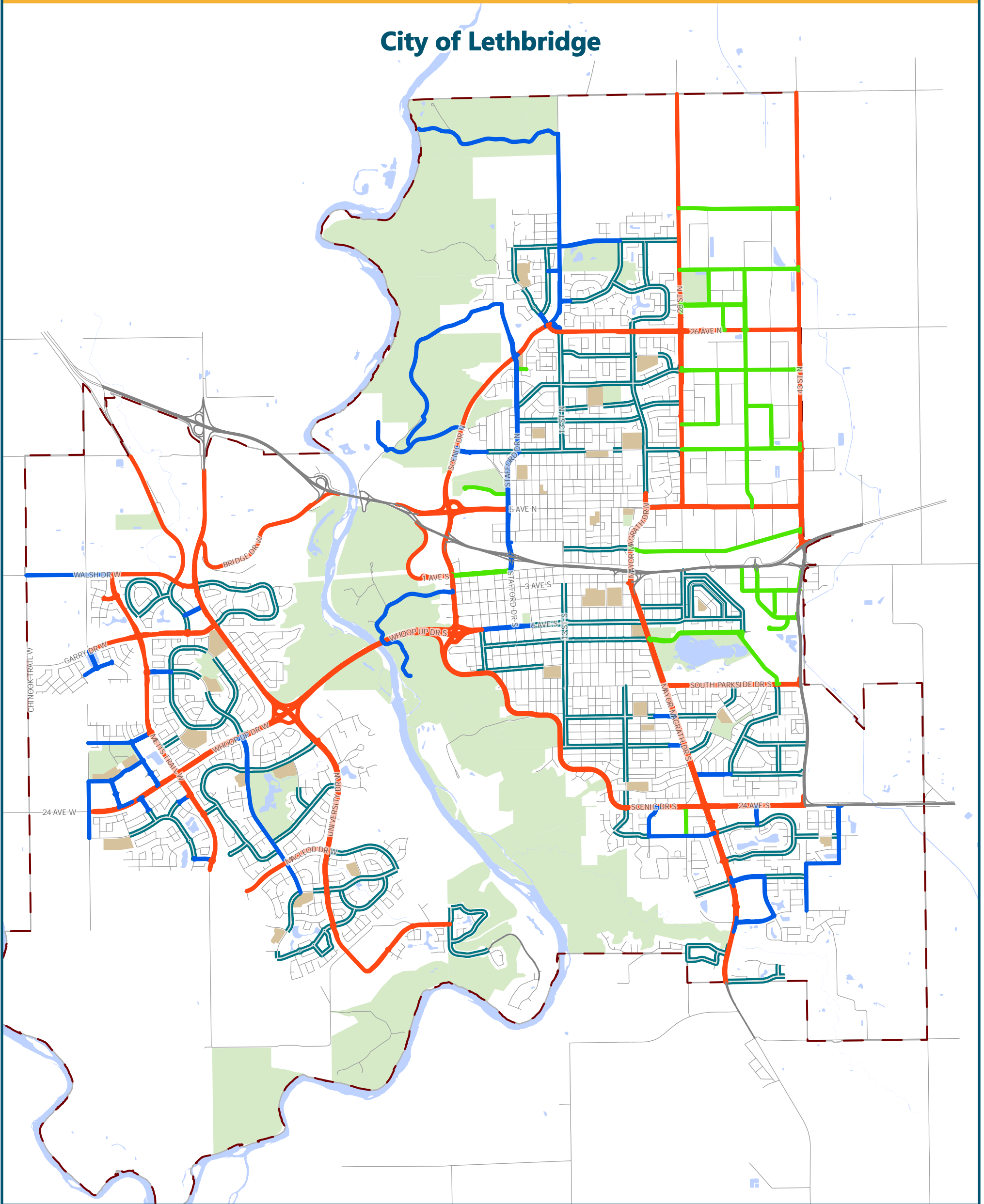
- Update snow route signage along all Phase 2 routes (underway);
- Directly communicate with all residents along all snow clearing and snow routes before the first significant snowfall. Assure impacted residents understand the extensive communication is only for the 2023/24 season and other communication tools will be used for future seasons;
- Optimize operational approaches further and assess full need for resources;
- Monitor snow route activation practices and parking enforcement;
- Collect and analyze feedback from affected residents in winter 2023/24 (from existing communication lines: 311, social media, interactions, surveys);
- Conduct stakeholder engagement activities in Spring of 2024 to investigate awareness and knowledge of snow route parking restrictions and the benefits of the change, within residents of snow routes and the community;
- Confirm and identify motivators/barriers to support for the program.
- Develop a variety of communication materials to educate residents about snow and ice service levels.

Appendices

Appendix 1 – Snow and Ice Control Program 2023/24 map

Snow & Ice Control Program 2023/2024

City of Lethbridge



Snow Plowing

- Priority 1 | 131 Km
- Priority 2 | 45 Km
- Priority 3 | 29 Km

Snow Route

- Phase 2 | 83 Km



Creation Date: Aug 14, 2023