



CITY OF CALGARY  
**RECEIVED**  
 IN COUNCIL CHAMBER  
 JAN 18 2021  
 ITEM: 11.4.6 PFC 2021-0077  
DISTRIBUTION  
 CITY CLERK'S DEPARTMENT

## Snow Event #11 / 12 Snapshot



- Snowfall Event #11: Up to 40cm in 24 hours in some parts of Calgary. Snow started evening of Dec. 21
- Snowfall Event #12: 7cm of snow on successive days (Dec. 26/27)
- Combined Cost: \$4.2M
- 311 Service Requests: 7258 (Dec. 21 - Jan 6)
- Priority 1 & 2 routes completed within 48 hours



# Snow Event #11 / 12 Snapshot

## Snow Event #11, December 21-25, 2020

<b>Estimated Cost</b>	<b>1.7M</b>		
<b>Materials used</b>	Salt 2,475 tonnes	Pickle 2,270 tonnes	Calcium/Brine 576 litres
<b>Lane KM required to be cleared (16,342 km)</b>	P1 routes 4,048km	P2 routes 3,211km	P3/4 routes 9,083km

## Snow Event #12, December 26, 2020 – January 3, 2021

<b>Estimated Cost</b>	<b>2.5M</b>		
<b>Materials used</b>	Salt 4,320 tonnes	Pickle 1,570 tonnes	Calcium/Brine 0 litres
<b>Lane KM required to be cleared (16,342 km)</b>	P1 routes 4,048km	P2 routes 3,211km	P3/4 routes 9,083km



## Event Overviews

- Storm Totals: Up to 47cm of snowfall over two events (1 month worth of snowfall in short time)
- Comparable Events: Sept. 29, 2019 (30cm), Oct. 2 2018 (33cm), Mar. 17 1998 (39cm)
- No Snow Route Parking Ban called
- Maximum response within 24 hours of the event
- Calgary Transit provided service throughout the storm by utilizing snow detours





## City Response

The Roads department has activated the highest response level, all crews, contractors and equipment have been dispatched.

### Actions Prior to Storm:

- Maximized equipment availability
- Fleet mechanics available at night
- Staff planning (holding over staff and callouts for OT)
- Topped up SNIC materials
- Pre-treated roadways with salt



## Progress



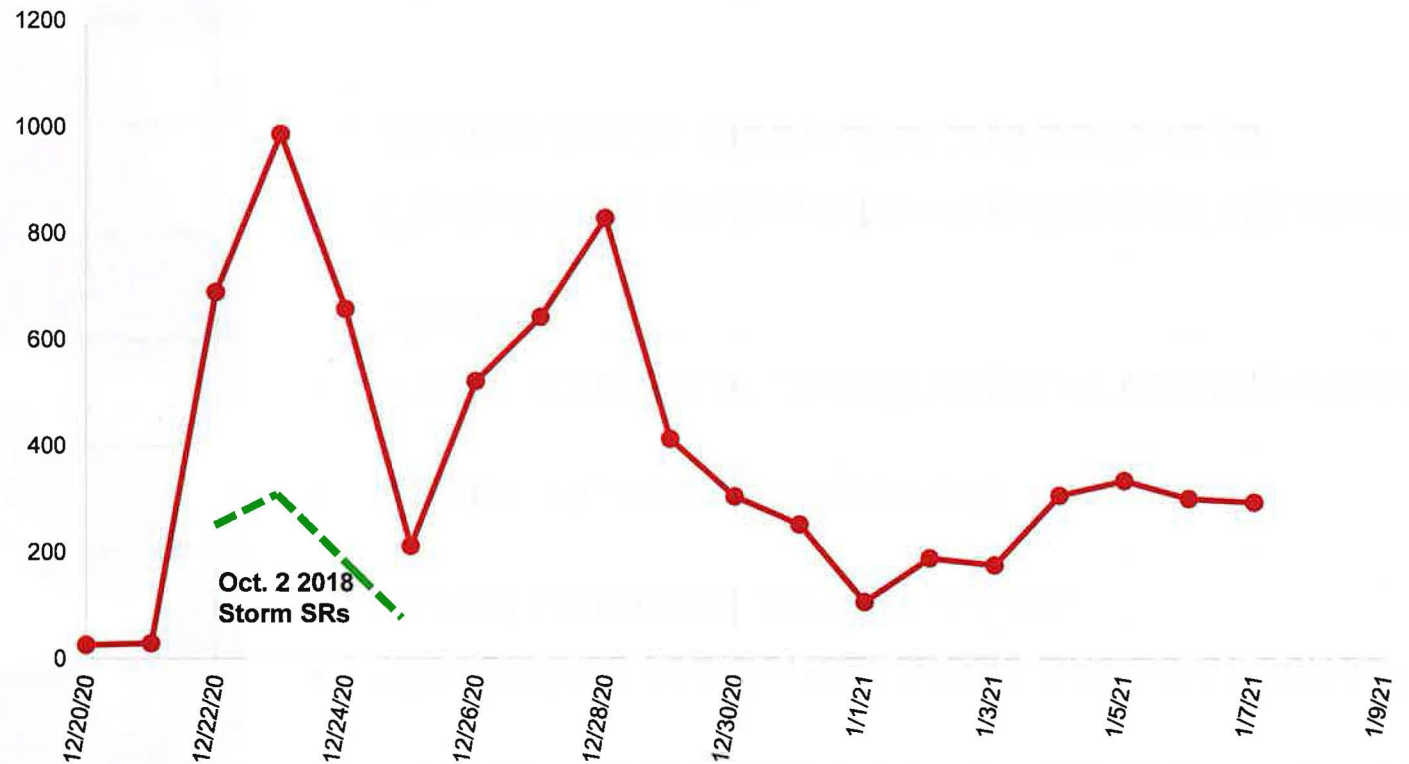
- Priority 1 & 2 Routes completed within 48 hours
- Moved into residential areas ahead of schedule to address local access issues
- Transit delays during event
- Parks contractor coordinated sidewalk/pathway clearing
- Contractors deployed to provide assistance on trouble spots, sidewalks and pathways



# SNIC Service Requests

Date	SR Count (no Duplicates)
12/20	26
12/21	29
12/22	689
12/23	986
12/24	657
12/25	211
12/26	521
12/27	642
12/28	828
12/29	412
12/30	304
12/31	251
1/1	106
1/2	188
1/3	175
1/4	306
1/5	334
1/6	300
1/7	293
<b>Total</b>	<b>7258</b>

Daily SNIC Service Requests Dec. 20 – Jan. 7



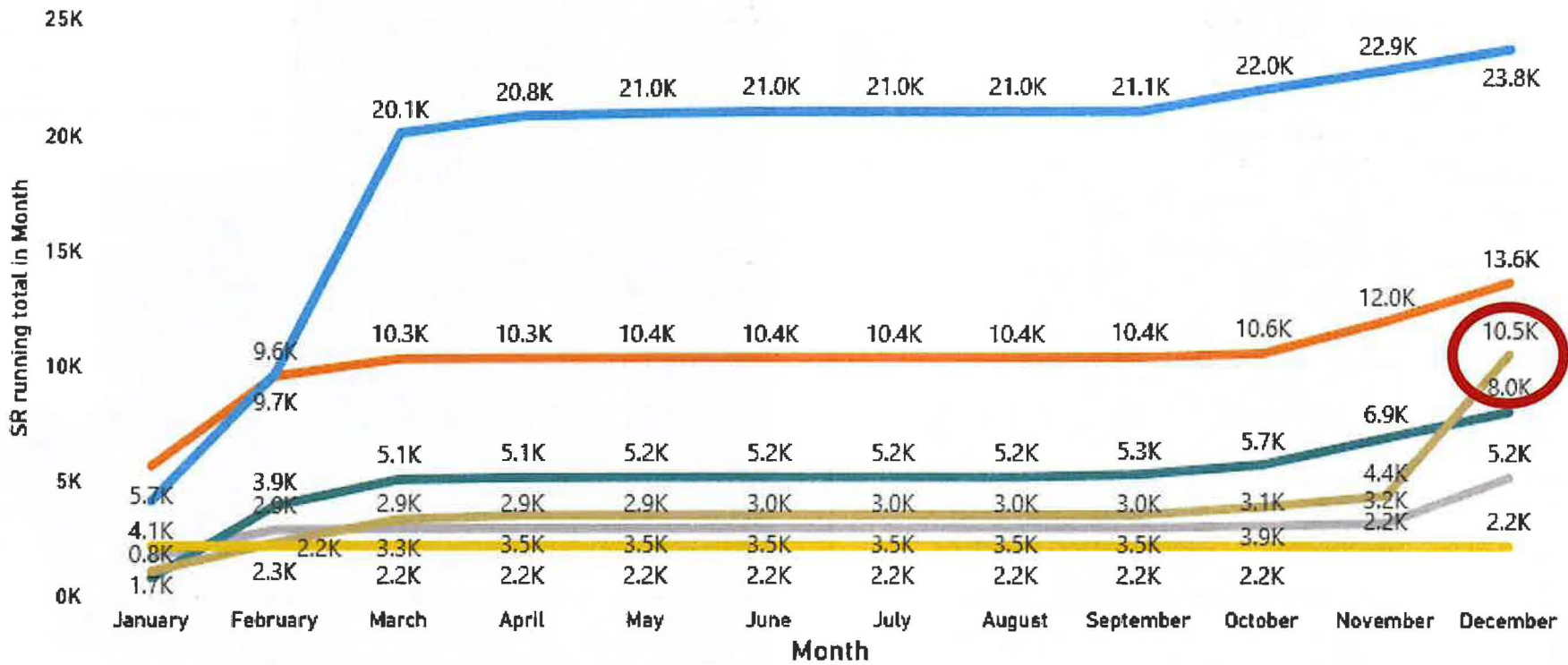
SR Type by Ward	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Roads - Snow and Ice Control	203	109	40	125	62	135	114	101	102	91	211	117	158	133





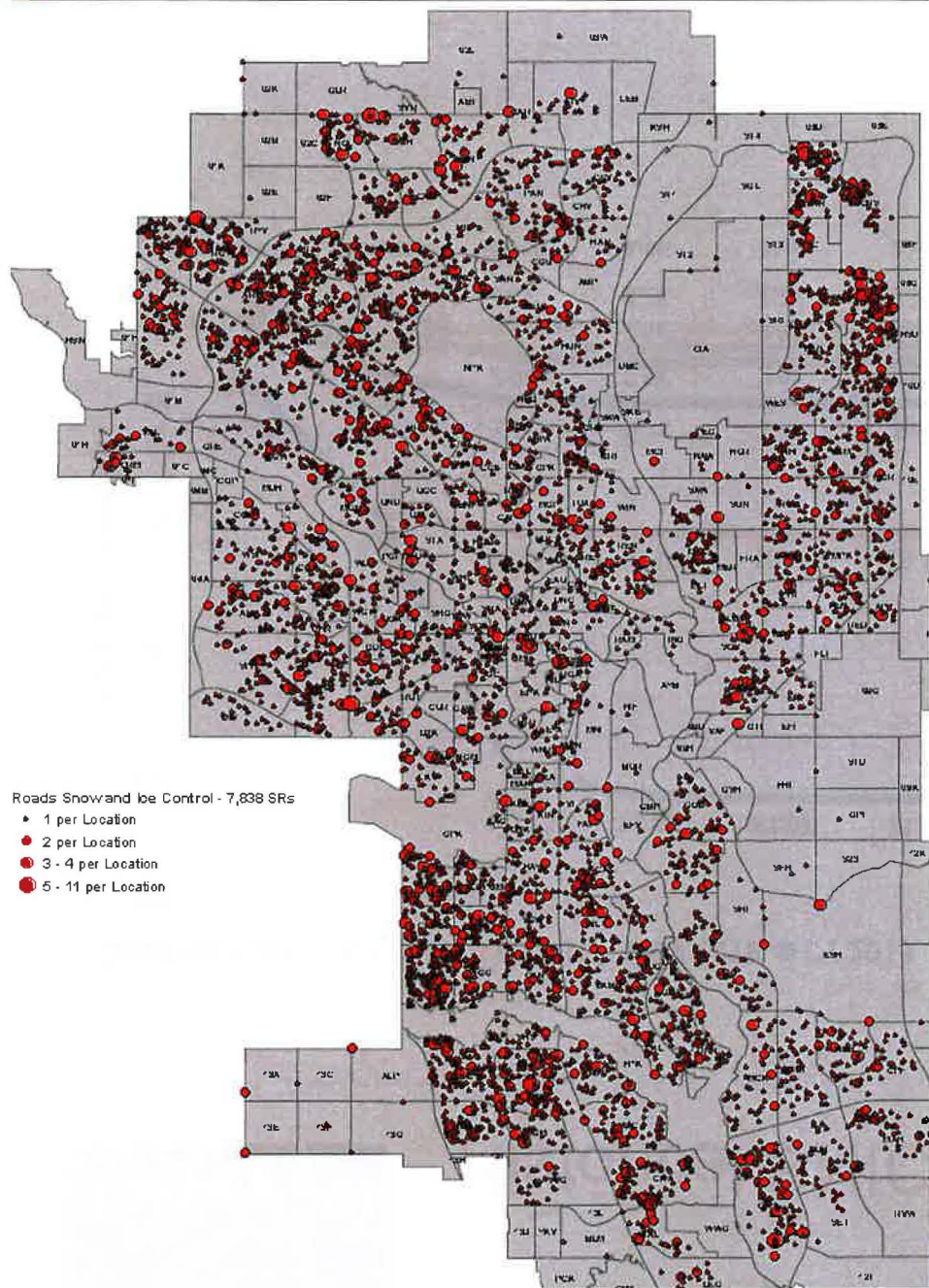
# Historical SNIC Service Requests

Calendar Year ● CY 2016 ● CY 2017 ● CY 2018 ● CY 2019 ● CY 2020 ● CY 2021

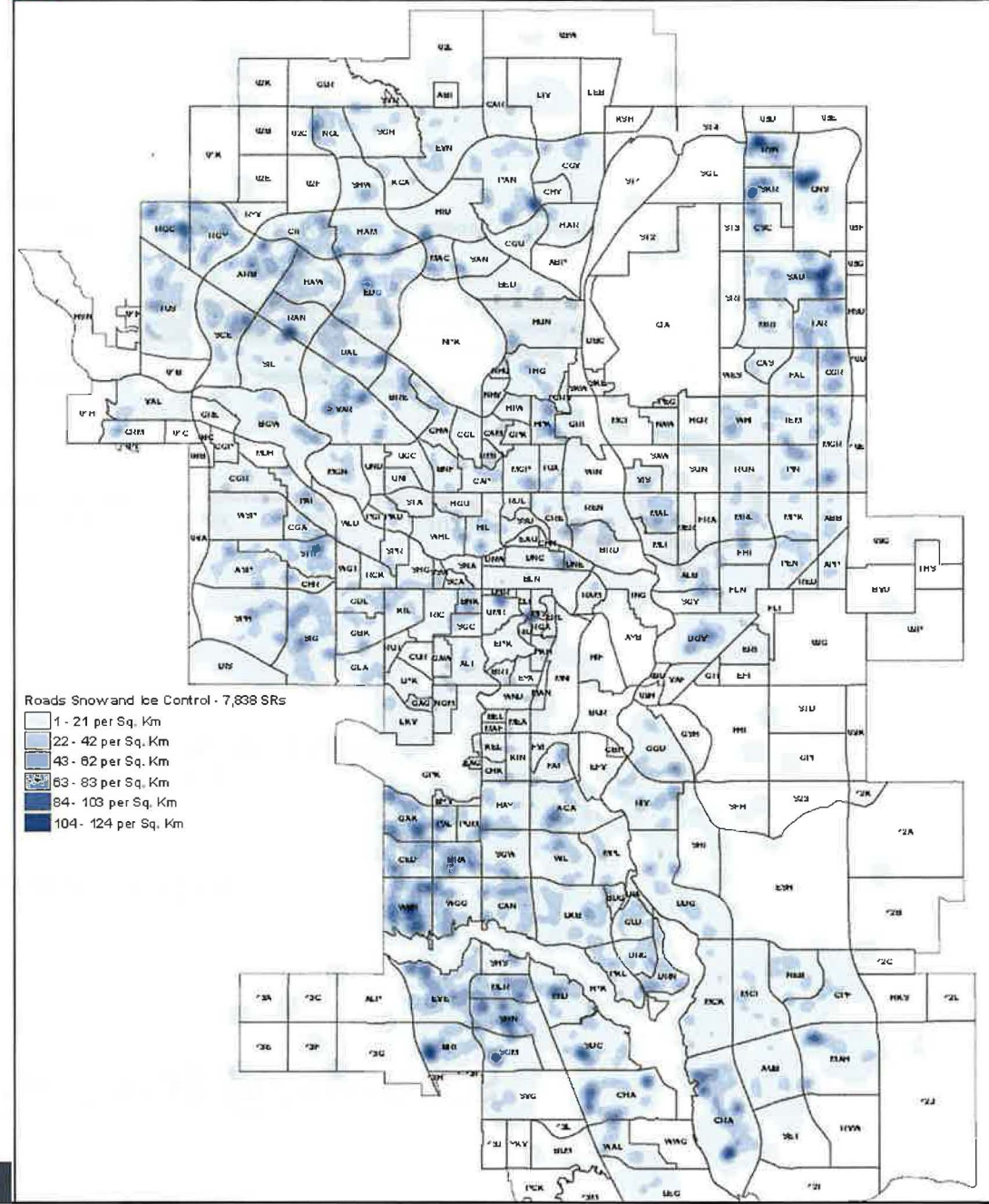




311 Roads Snow and Ice Control  
December 20, 2020 - January 7, 2021 data



311 Roads Snow and Ice Control  
December 20, 2020 - January 7, 2021 data



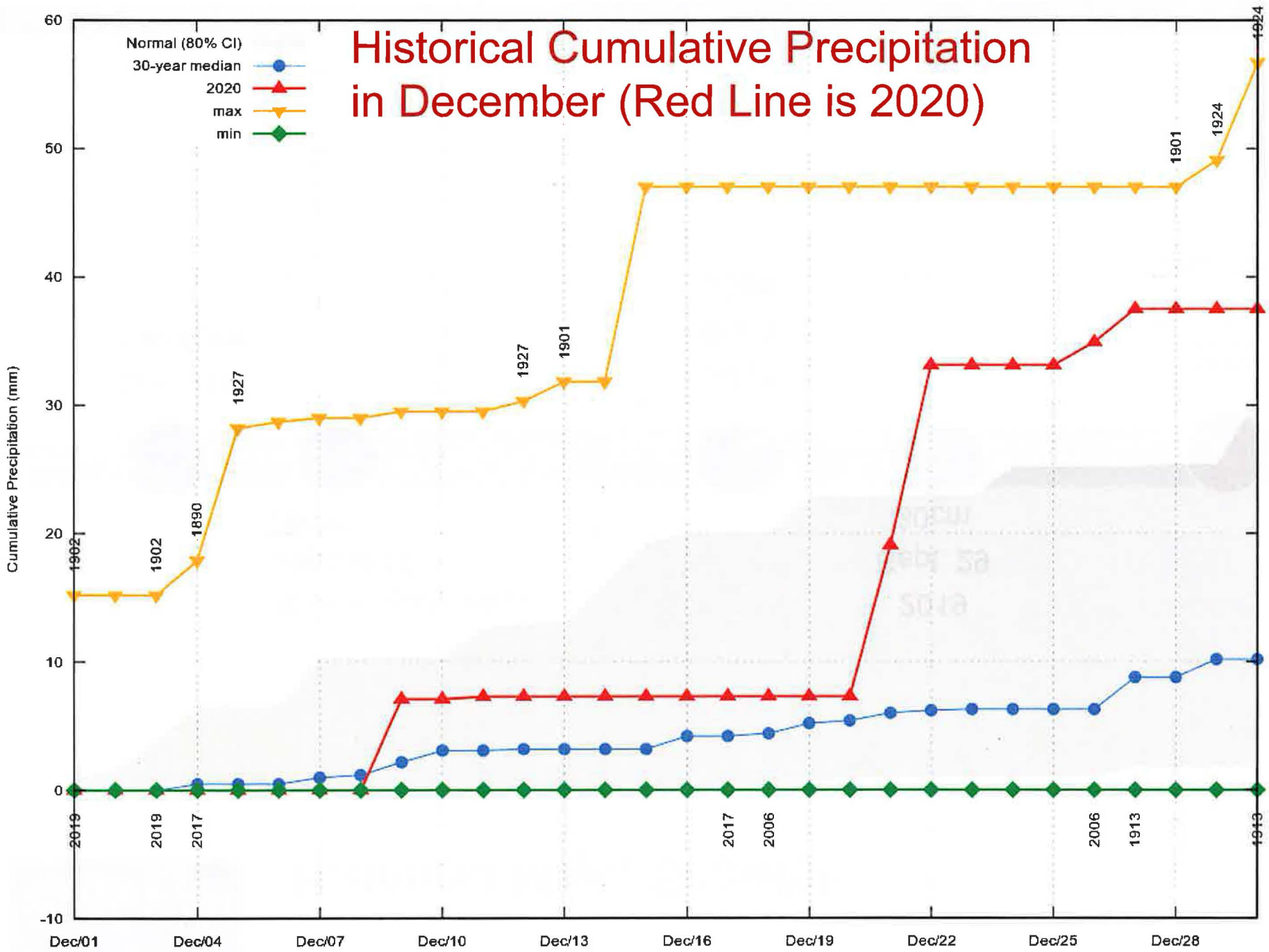




# Historical Major Snowfall



# Historical Cumulative Precipitation in December (Red Line is 2020)







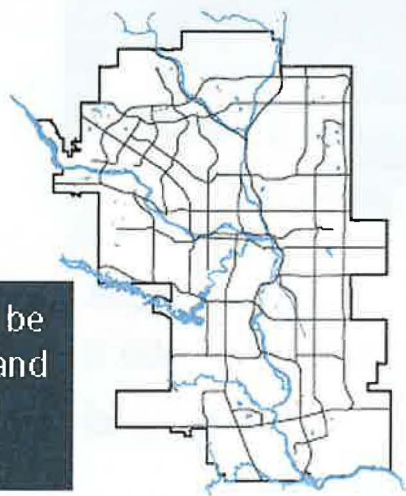
## When it snows, we have a plan

Once a snowfall ends, the Council-approved seven-day snow plan comes into effect city-wide.

The plan sets out which roads, sidewalks, bikeways and pathways our crews will clear, to what extent, and on which day. While it's still snowing, and before the plan is activated, crews are out on major roads plowing snow to prevent build-up and applying anti-icing material.

**Over 16,000 lane kilometres**

**Did you know?** This would be equivalent to driving back and forth between Calgary and Edmonton 54 times.



## Day 1



OF SEVEN-DAY PLAN

**Completed within 24 hrs.**

**4,030 lane km** of roads  
(25% of all roads)  
**477 km** of pathways  
**617 km** of sidewalks

## Day 2



OF SEVEN-DAY PLAN

**Completed within 48 hrs.**

**3,144 lane km** of roads:  
(20% of roads)

## Day 3-7



OF SEVEN-DAY PLAN

**Priority 3 & 4 routes:**

**9,083 lane km**  
(55% of roads)



# Seven Day Plan

## Priority 1 Routes

Traffic exceeding 20,000 vehicles/day



- Focus during and immediately after snowfall to keep the most Calgarians moving safely through City.
- Lanes are plowed and sanded within 24 hours of snowfall end.
- Examples include: Crowchild, Glenmore, Downtown Core

## Priority 2

5,000 to 19,999 vehicles/day



- Lanes plowed and sanded within 48 hours after the snowfall end.
- Includes trouble spots, such as hills and bridge decks.
- Examples include: Kensington Road, Acadia Drive
- These are the routes of **Snow Route Parking Bans**.

## Priority 3 & 4

Residential connector routes



- Roads flat-bladed or graded depending on conditions/forecast.
- Will be completed 4 days after Priority 2 routes have been completed.



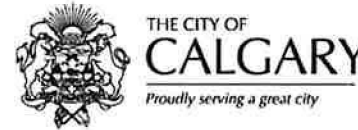


## SNIC Policy

- Interim Policy approved 2009 and last update 2011

## Purpose

- Maintain reasonable conditions on roadways sidewalks to minimize hazards / economic loss
- Ensure safe access for emergency vehicles
- Provides guidelines for management and operating personnel handling winter maintenance operation
- Outline citizens' responsibilities regarding sidewalk snow and ice control on private property.



**Policy Title:** Snow and Ice Control Policy

**Policy Number:** TP004

**Report Number:** TTP2003-39, C2007-44, LPT2011-57

**Approved by:** City Council

**Effective Date:** Interim policy approved 2009 December 14 and amended 2011 June 20

**Business Unit:** Roads

### BACKGROUND

The City of Calgary Roads business unit is responsible for The City's snow and ice control program and is committed to helping make The City of Calgary safe for pedestrian and vehicle passage along the developed rights-of-ways according to the City-Council approved policy and priority system.

The Snow and Ice Control Policy is necessary to make a clear statement of the intent of the City of Calgary winter maintenance operations and establish the priorities, standards and service levels of the snow and ice control program. An effective and efficient snow and ice control program is necessary to allow the municipality to function under normal winter weather conditions to reduce snow and ice hazards and to provide reasonable winter mobility on City infrastructure including roadways, sidewalks and pathways.

The City of Calgary will manage snow and ice control operations on City infrastructure within City of Calgary Right of Ways in accordance with Council approved policy and priority system, relevant City Bylaws and the Municipal Government Act (MGA).

The intent of the snow and ice control program is to minimize the economic loss to the community, reduce the inconvenience and hazards of winter conditions for motorists, cyclists and pedestrians, and facilitate the operation of Transit and Emergency Services vehicles.

The aim of the Snow and Ice Control Policy is to provide reasonable winter driving conditions for vehicles/cycles that are:

- properly equipped for winter driving; and
- are operated in a manner consistent with good winter driving habits.

It is expected that there will be Extreme Winter Conditions where the immediate demand for snow and ice control services will exceed the available resources. Public Service Announcements will be issued at these times to provide information and to encourage safe driving practices in these poor driving/cycling conditions. In the event of Extreme Winter Conditions additional funding may be accessed with City Council approval.



## Calgary

Residential roads plowed following each snowfall with accumulations of 5 cm or greater. Not plowed to bare pavement.

Removal of windrows is responsibility of the abutting property owner.

## Edmonton

Clearing begins once a 5cm snowpack has formed. Roads plowed to a smooth snow pack (not bare pavement) within 5 days from the end of snowfall

Windrows less than 30 cm that block driveways are the responsibility of the adjacent property owner.





## SNIC Reserve

During 2012-2014 Business Plan Council approved establishment of SNIC Reserve with funding from FSR.

### SNIC Reserve (\$000s):

	<u>2020*</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>
Opening balance	-	5,426	12,482	15,000	8,940	-	4,141	3,220	-
Closing balance	<b>2,224</b>	-	<b>5,426</b>	<b>12,482</b>	<b>15,000</b>	<b>8,940</b>	<b>0</b>	<b>4,141</b>	<b>3,220</b>

2020 contribution not finalized. Anticipated Year End contribution from Roads Winter Operations will be made to the Reserve (up to \$5M).

SNIC Season					
Month	2015/16	2016/17	2017/18	2018/19	2019/20
	(cm)	(cm)	(cm)	(cm)	(cm)
September	0	0	0	1.8	34.4
October	3	4.4	1.4	48.4	15.8
November	11.6	2.9	27.4	27.9	43.4
December	24.1	26.1	32.2	14.9	20.5
January	15.3	14.5	11	10.2	3.9
February	1.8	35.8	43.3	33.8	21.5
March	2.4	16.7	41.9	8.2	28.8
April	0	7.2	24.6	16.9	22.4
May	0.2	0	0	7.7	0
<b>Totals</b>	<b>58.4</b>	<b>107.6</b>	<b>181.8</b>	<b>169.8</b>	<b>190.7</b>



## Current Status

- Roads crews are prioritizing responses to service requests and snow clearing and removal at school locations to improve accessibility.
- Crews are addressing outstanding service requests.