



REVISED CITY COUNCIL ADDITIONAL AGENDA

Monday, December 02, 2013 – Council Chambers, City Hall

Call to Order:	2:30 PM
Recess:	5:00 PM to 6:00 PM
Public Hearing(s):	6:00 PM

I. REPORTS

- I.1. Snow and Ice Control Policy Update

- I.2. Development Approval for Safe Harbour

SNOW AND ICE CONTROL POLICY & PERFORMANCE UPDATE



December 2, 2013



OUTLINE

- Snow and Ice 101
- Recap 2011/12 Policy Review
- Current Situation
- Moving Forward



SNOW AND ICE 101

S&IC Policy is a priority based policy, with finite *triggers* and performance *targets* for each asset type.

Philosophy: For each asset type, the goal is to address high risk and high volume areas first, then proceed to lower risk and volume areas.

Addressing high hazard and high volume areas first produces the greatest benefit to the most users in the community.



SNOW AND ICE 101 - TERMINOLOGY

Trigger:
An indicator which dictates when a snow and ice activity is to begin
(cm accumulation, cm height, cm snow pack)

Target:
The desired timeline following at trigger, in which said activity is to be completed
(hours, calendar days)



SNOW AND ICE 101 - TERMINOLOGY

Time:
Calendar days to complete (Duration)

Crew day:
Measure of one crew working for one day

eg. 2 crews working for 1 day = 2 crew days
(duration = 1 day)



SNOW AND ICE 101 - TERMINOLOGY

Accumulation:
The total amount of snow which has fallen and remained undisturbed in place, measured from the surface
(cm accumulation)

Snow Pack:
The total amount of snow which has fallen and has been compacted in place, measured from the surface
(cm snow pack)



SNOW AND ICE 101 - TERMINOLOGY

Snow Plowing:

Grading, pushing or blading the majority of snow from the surface of the road, sidewalk or trail to the centre or sides. This does not imply that the snow will be removed to the bare surface or removed from the road.

Snow Removal:

Hauling of snow which was taken from the road, sidewalk or trail to an approved snow storage facility.



SNOW AND ICE 101 - TERMINOLOGY

Arterial Roadway:

Major Roadways with the highest volume.

E.g., Gaetz Avenue, Taylor Drive, 67th Street, Ross Street

Collector Roadway:

Moderate volume roadways which provide direct access from local residential streets to arterial roadways.

Commonly referred to 'transit routes'. (Typically 4 lanes.)

E.g., Cornett Drive, 43 street, Lancaster Drive, Barrett Drive, Overdown Drive, Kingston Drive



SNOW AND ICE 101 - TERMINOLOGY

Local (Residential) Roadway:

Low volume roadways that provide direct access to residential properties. (Two lanes)

Lane:

Minimal volume roadways that provide rear access to properties (there are some exceptions).



SNOW AND ICE 101 - TERMINOLOGY

Priority:

A rank assigned to a group of roadways, sidewalks or trails (asset types) that determines the order of S&IC service.

- Priorities are assigned based on potential for hazards and safety concerns, emergency response, user volumes and other criteria.



SNOW AND ICE 101 - TERMINOLOGY

Parallel Priorities:

Operations that are to occur on different asset types at the same time after being triggered.

(eg., clearing of roads, sidewalks, trails and transit stops commence independently once triggered.)

Series Priorities:

Operations that occur in a stepwise progressive fashion.

(eg., roads... Priority 1, 2, 3, 4, 5, 6)



SNOW AND ICE 101

The City provides snow and ice control services for (assets):

- 760 km of roadways
- 95 km sidewalks
- 326 transit stops
- 20 km trails



SNOW AND ICE 101 – ROADWAY PRIORITY

Priority 1: Hills, Bridges, Overpasses and High Hazard Locations, Hospital Access

Priority 2: Arterials, High Collision Intersections

Priority 3: Downtown



SNOW AND ICE 101 – ROADWAY PRIORITY

Priority 4: Collectors, Transit Routes, and Residential Streets adjacent to Schools

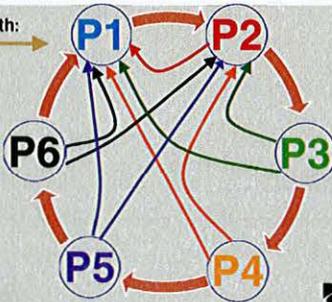
Priority 5: Industrial and Commercial

Priority 6: Residential 'Local roadways'



PRIORITY BASED OPERATIONS

Start with:



SCENARIOS



SCENARIOS

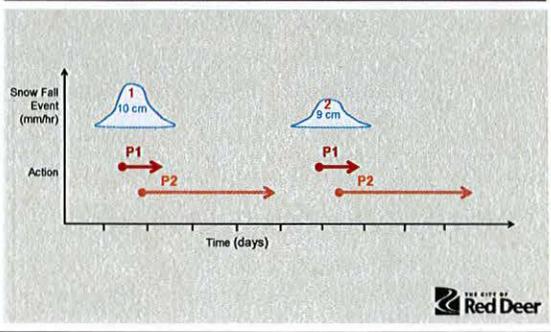
- Typical Event Progression – Long Intervals between snow events
(trigger in series)
- Non Typical Events – Short Intervals between snow events
(multiple triggers)



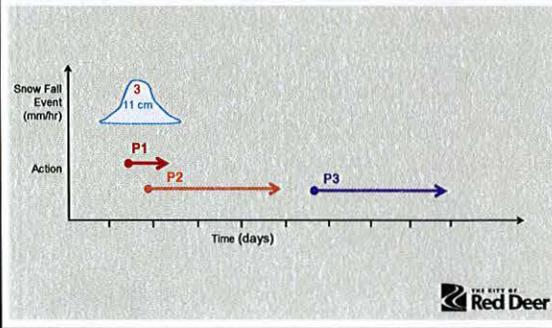
S1 – LONG INTERVALS BETWEEN SNOW EVENTS



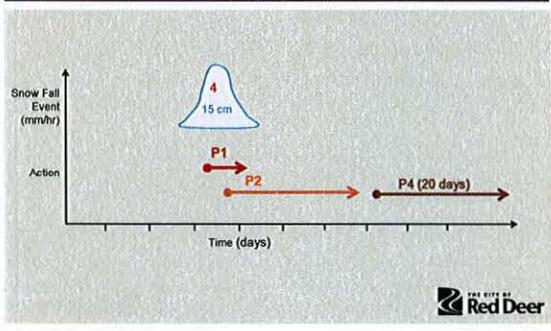
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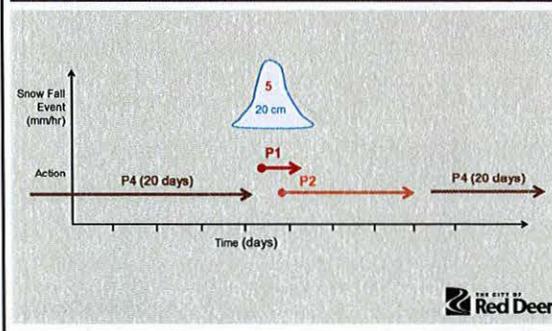
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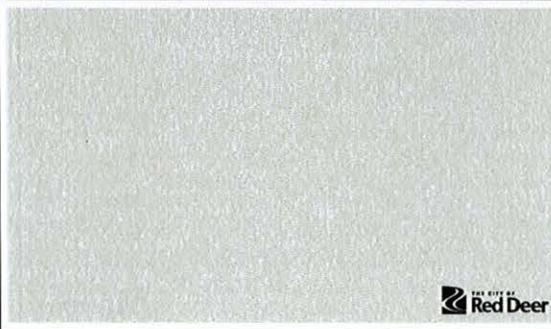
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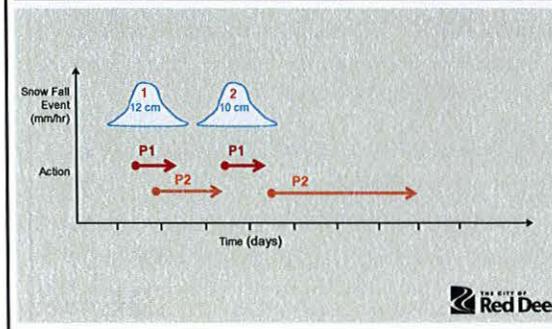
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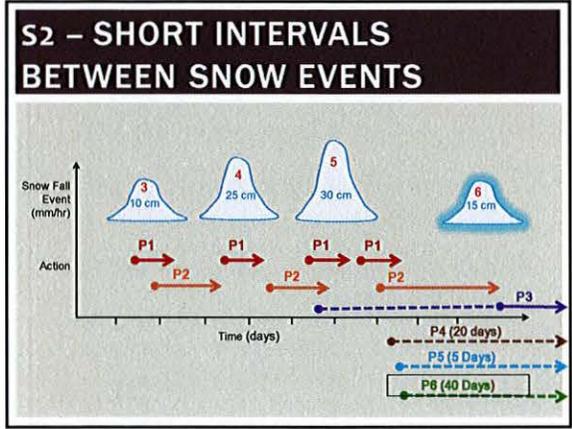


S2 – SHORT INTERVALS BETWEEN SNOW EVENTS



S2 – SHORT INTERVALS BETWEEN SNOW EVENTS



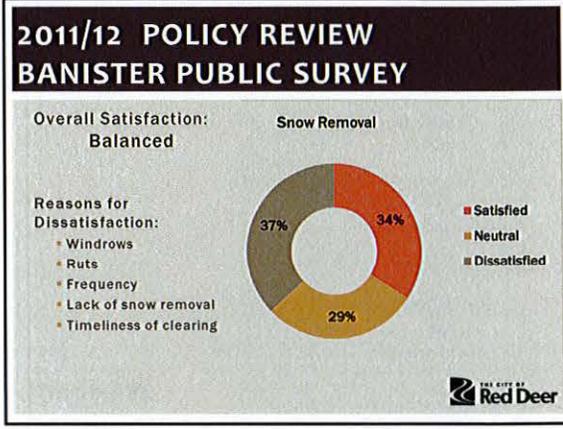


SNOW AND ICE 101

Parallel Priority Impact:
 The more parallel Priorities there are, the higher the annual cost will be.

The *Snow and Ice Control Policy* provides priority, order and direction to plowing and sanding operations.

- ### 2011/12 POLICY REVIEW
- S&IC Policy review was initiated as a 2011 Council directive
- Included Environmental Scan:
- Other municipalities
 - Internal department review
 - Feedback 'Let's Talk', City website, social media
 - Banister survey
 - Council guidance
-



- ### 2011/12 POLICY REVIEW DESIGN SEASON – FOR POLICY
- 140cm Snow per season (70 – 230 cm)
 - 20 Snow Events (13 – 29 events)
 - Duration - 150 days
- Design Year Activity*:**
- 9 → Arterial Clearings
 - 1 → Downtown Removal
 - 1 → Collector Removal
 - 1 → Residential Plowing
 - 9 → Sidewalk Plowing
 - 20 → Sanding Campaigns
- * Isolated Events
-
-

2011/12 POLICY REVIEW OPTION DEVELOPMENT/COSTING

Main Service Levels	Side Service Levels
Option "1": Hold the Budget \$2,360,000 \$26.20 Per Cap	A) 48 Hour Sidewalks: \$8.26 Per Cap \$ 743,000
Option "2": 40 Day Residentials \$2,930,000 \$32.60 Per Cap	B) 72 Hour Sidewalks: \$5.17 Per Cap \$ 465,000
Option "3": Meet Policy \$4,500,000 \$50.00 Per Cap	C) Residential Removals: \$42.44 Per Cap \$3,820,000
	D) Cul-de-Sac Removals: \$4.89 Per Cap \$ 440,000

*Based on a Design year

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	D) Cul-de-Sac Removals: \$4.89 Per Cap \$ 440,000

**Based on a Design year*

2011/12 Policy Review Changes / Improvements

Roads - P3 - Created a Downtown Priority zone

- Night time activity - treated like a local, but done all at once
- Operating efficiency - working at night allowed for more efficient snow clearing and removal - avoid towing of vehicles



2011/12 Policy Review Changes / Improvements

Roads - P6 - Residential(locals) one plowing in base operating budget

- \$570,000 Operating increase
- Day time schedules
- Managed with hired equipment

Capital Equipment

- \$980,000 Capital
- 2 Snowplow / Sander Trucks
- 1 Sand / Salt meter conveyor



2011/12 Policy Review Changes / Improvements

Sidewalks - Established Priorities & Targets

From **'As soon as possible'**

To

- P1** (Hills, Bridges, High Hazard Locations, Hospital Access & Downtown) - **4 days**
- P2** (All Remaining) - **10 days**



2011/12 Policy Review Changes / Improvements

Trails - Select Waskasoo Park Trail Clearing

- 5 cm trigger
- 4 day target

Transit Bus Stops - Performance Measures

- 10 day target
- Typically runs back-to-back until completion



2012-2013	ACTIVITIES	POLICY	PERFORMANCE	PASS/FAIL
Roads P1 (Hills & Bridges)	8	8 hrs	7 hrs	✓
Roads P2 (Arterials)	7	72 hrs	80% 35 hrs/ 100% 72 hrs	✓
Roads P3 (Downtown removal)	1	4 days	2 days (5 crew days)	✓
Roads P4 (Collectors removal)	1	20 days	8 days (13 crew days)	✓
Roads P5 (Industrial plow/remove)	1	5 days	14 days (5 crew days)	✓
Roads P6 (Residential)	1	40 days	26 days (43 crew days)	✓
Lanes	As required			✓
Sidewalks	18	4/10 days	4/10 days	✓
Bus Stops	9	10 days	10 days	✓
Trails	18	4 days	70% 2 days/ 100% 4 days	✓

CURRENT SITUATION CITY OWNED EQUIPMENT

Dedicated for S&I:

- 4 Graders
- 2 Blowers
- 15 Plow Trucks/Sanders
- 2 Skid Steers
- 1 Loader



CURRENT SITUATION HIRED/CONTRACTED

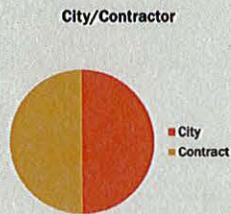
Up to:

- 16 Tri-Axle End Dumps
- 10-12 Graders
- 2 Dozers
- 6 Skid Steers
- 2 Tow Trucks
- 2 Loaders

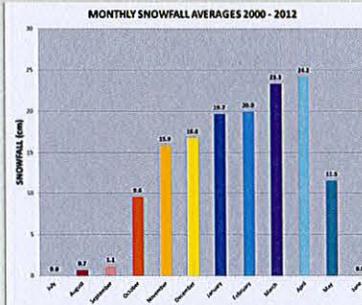


CURRENT SITUATION CITY/CONTRACTOR EQUIPMENT SPLIT

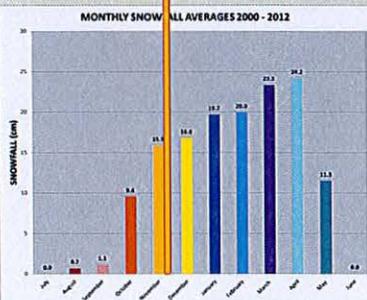
During plowing/removal operations there is a combination of City and Contractor Equipment utilized



CURRENT SITUATION



CURRENT SITUATION



2013-2014	ACTIVITIES	POLICY	PERFORMANCE	PASS/FAIL
Roads P1 (Hills & Bridges)	3	8 hrs	7 hrs	✓
Roads P2 (Arterials)	2	72 hrs	72 hrs with P1 trigger	✓
Roads P3 (Downtown removal)	1	4 days	2 days (5 crew days)	✓
Roads P4 (Collectors removal)	1	20 days	Target: 12 days (22 crew days)	✓
Roads P5 (Industrial plow/remove)	0	5 days		
Roads P6 (Residential)	0	40 days		
Lanes	As required			✓
Sidewalks	2	4/10 days	4-6/12+ days	X
Bus Stops	2	10 days	13-14 days (equipment)	X
Trails	2	4 days	70% 2 days/100% 4 days	✓

MOVING FORWARD - NEXT STEPS

- Accelerated P1 & P2 tonight/tomorrow
 - Additional hired equipment
- Complete P4s mid next week



MOVING FORWARD - OPTIONS

To address poor conditions of local roads (P5 & P6):

1. Follow the policy
 - Series response – P5, P6 (up to 45 days)
2. Fast track blitz – 5 -7 days (P5,P6)
 - **Single/dual windrows (~16 inches)**
 - Not down to bare pavement
 - No signage – information campaign



CURRENT SITUATION YTD EXPENSES

Amount spent to date:

Budget	\$3,435,030
Spent TD	\$3,196,849
Variance	\$238,181 (7% remaining)

DATE: December 5, 2013
TO: Greg Sikora, Public Works Manager
FROM: Frieda McDougall, Legislative Services Manager
SUBJECT: Snow and Ice Control Policy Update

Reference:**Resolution:**

The following resolution was passed at the Monday, December 2, 2013 Regular Red Deer City Council meeting:

Resolved that Council of The City of Red Deer, having considered the Snow & Ice Control report as presented by Development Services/Public Works department, hereby directs administration to respond to the above average level of snowfall by triggering a plowing of snow from P6 & P5 routes, which will create windrows. Signage will not be posted; however The City will give as much notice as possible using our website and news releases.

Resolved that Council of The City of Red Deer, having considered the Snow & Ice Control report as presented by Development Services/Public Works, hereby requests that administration review the Snow & Ice Control Policy to:

1. provide measurable triggers for Priority 5 and 6 areas, removing or defining the discretionary triggers;
2. diminish gaps between City sidewalk clearing and that expected by residents;
3. articulate and / or develop a snow and ice control response that responds to above average snow events;
4. undertake a short to medium term strategy to review existing targets with special consideration for transit; and whether they are being met and considering operational efficiencies and innovation opportunities; and with such a report to be brought for Council's consideration in conjunction with the Operating Budget.

Resolved that Council of The City of Red Deer, having considered the Snow & Ice Control report as presented by Development Services/Public Works, hereby requests that administration review the Snow & Ice Control Policy to examine the feasibility of re-establishing a snow removal reserve to enable administration to respond to above average snow events as required.

Report back to Council: Yes

Comments/Further Action:

Administration to prepare a report to be brought for Council's consideration in conjunction with the Operating Budget.



Frieda McDougall
Manager

c: Director of Development Services
Corporate Meeting Coordinator