

Parks and Road Services

Snow and Ice Control
Options to Enhance Service Standards

April 25, 2022
Community and Public Services Committee
Presented by (Name)

Roadways 2021-22 Winter Season Performance Results

Type of Roadway Inventory	Priority Level and Service Standard	Average % Inventory Cleared to Standard
Freeways, arterials, business districts, bus routes, alleys back lanes in BIA's	(P1) 36 hours from end of snowfall	76.1%
Collector roads, bus routes, transit park and ride access.	(P2) 48 hours from end of snowfall	36.5%
Industrial and rural roads	(P3) 5 days from end of snowfall	89.1%
Residential roads, alleys	(P4) 7-9 days once a blading cycle is initiated	59.8%

Active Pathways 2021-22 Winter Season Performance Results

Type of Active Pathway Inventory	Priority Level and Standard	Average % Inventory Cleared to Standard
City Facilities (City Hall, Recreation Centres), Seniors Centres	(P1) 24 hrs	98.7%
Prioritized Bike Route Network	(P1) 24 hrs	91.4%
City Sidewalks, Wheelchair Ramps, Parking Lots	(P2) 48 hrs	67.3%
Bus Stops Adjacent to City Property	(P2) 48 hrs	67.3%
Separated Bike Lanes	(P2) 48 hrs	86.5%
Hard Surface Trails (River Valley)	(P2) 48 hrs	82.5%
Manually Cleared Areas (Bus Stops, Paths, Public Amenities)	(P3) 120 hrs	41.9%
Sandboxes	(P3) 120 hrs	57.8%

Snow and Ice Control Program Analysis



**Roadway Lane
Kilometers**
2017: 9,984 km
2022: 12,051 km



Budget
2017: \$64M
2022: \$57M



**Bike Lane
Kilometers**
2018: 38 km
2022: 49 km



Employees
2017: 629
2022: 544



**Community
Sandboxes**
2017: 150
2022: 769

Snow and Ice Control Audit Update

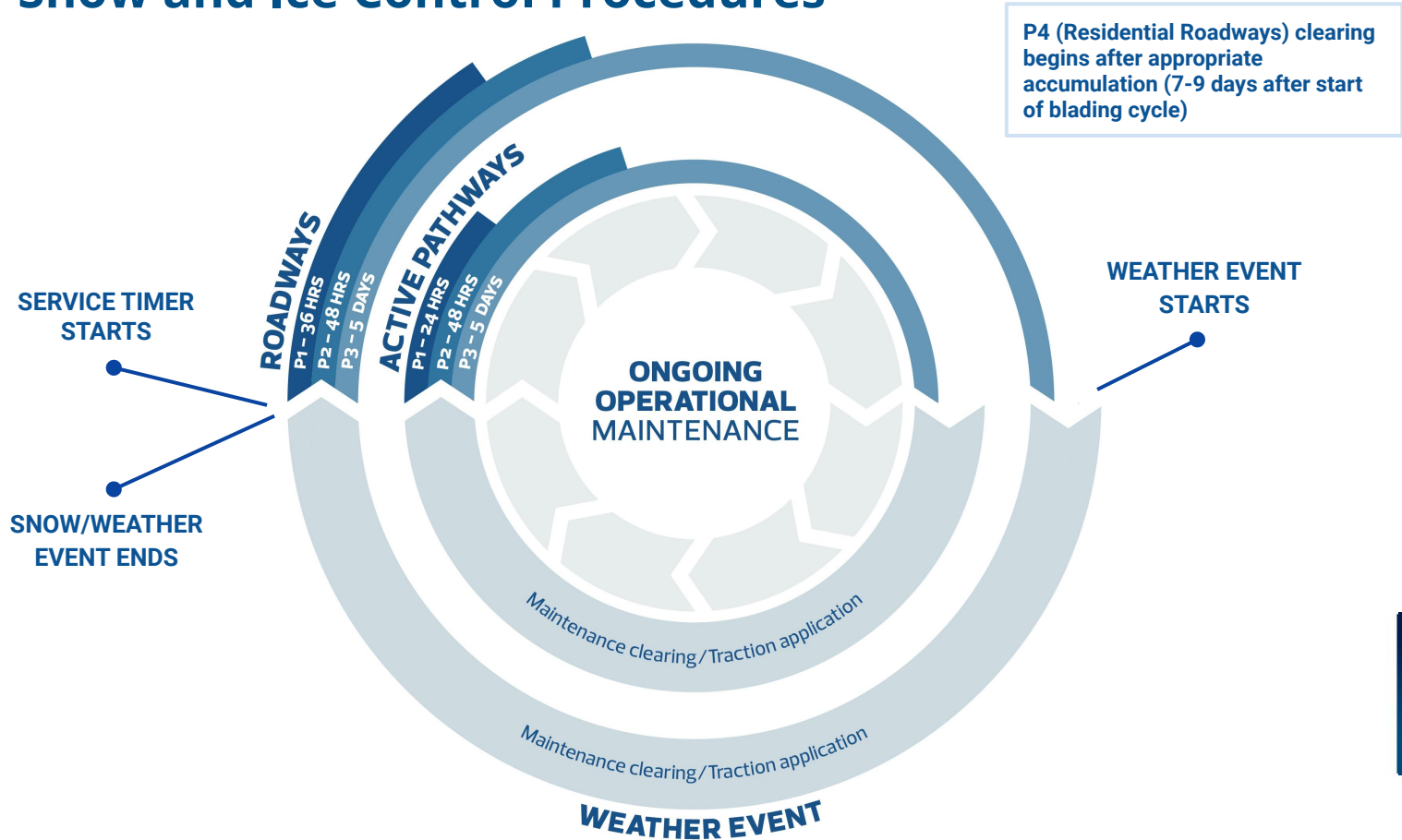
Recommendation	Due Date	Status
Improve Public Communication	Oct 2021	Complete
Review and Update Policy and Guiding Documents	Dec 2021	Complete
Performance Management Framework	Dec 2021	Complete
Improve Benchmarking Process	Dec 2021	Complete
Expand SOPs to Include All Key SNIC Activities	Dec 2021	Complete
Strengthen Complaint Handling Processes	Dec 2021	Complete
Improve Decision-Making Processes	Feb 2022	Complete
In-house versus Contracted Services Cost Analysis	Feb 2022	Complete
Service Level Commitments and Operational Arrangements	Jun 2022	In progress
Improve Staff Oversight	Sep 2022	In progress
Improve Change Management Processes	Sep 2022	In progress
Cost-Reduction and Revenue Generation Opportunities	Dec 2022	In progress

Jurisdictional Scan - Highlights



- SNIC programs are unique to each city
- Service standards and tactics vary among cities
- Edmonton is comparable to Ottawa in terms of snow and budget
- Edmonton has a mid-range budget compared to other cities

Snow and Ice Control Procedures



Options to Enhance Current Service Delivery

ROADS

P1 Arterial roads

P2 Collector roads

P3 Industrial roads

P4 Residential roads

Expectations	
Priority	Hours
P1	36
P2	48
P3	120
P4	215

Current State	
Hours	Days
127	5.3
112	4.6
135	5.6
250	10.4

Option R1		
Hours	Days	Increase
69	2.9	45.7%
72	3.0	35.7%
74	3.1	45.2%
136	5.7	45.6%

Option R2		
Hours	Days	Increase
36	1.5	71.1%
48	2.0	57.1%
38	1.6	71.6%
71	3.0	71.6%

Base Budget \$38.6M

Estimated Cost \$65.7M
(current state +\$27.1M)

Estimated Cost \$110.3M
(current state +\$71.7M)

ACTIVE PATHWAYS

P1 Inventory adjacent to City facilities, prioritized bike route network

P2 City sidewalks, ramps, shared pathways, parking lots, staircases, access to bus stops adjacent to City property, pedestrian bridges

P3 Manually cleared active pathways, breezeways, benches, pedestrian only streets, community sandboxes

*Crews work 20 hours per day, so the number of days to complete a service is divided by 20 hours instead of 24 hours.

Expectations	
Priority	Hours
P1	24
P2	48
P3	120

Current State	
Hours	Days*
22	1.1
158	7.9
405	20.3

Option AP1		
Hours	Days*	Increase
6	0.3	72.2%
40	2.0	74.7%
216	10.8	46.7%

Option AP2		
Hours	Days*	Increase
6	0.3	72.2%
40	2.0	74.7%
100	5.0	75.3%

Base Budget \$18.5M

Estimated Cost \$33.6M
(current state +\$15.1M)

Estimated Cost \$52.9M
(current state +\$34.4M)

Options for New Service Enhancements

ROADS

Operating cost estimates are based on an average snow event.

BUY 6 DOUBLE-WIDE TRAILER SNOW PLOWS **\$1.0M**

**initial capital expense of \$4.3M*

BLADE RESIDENTIAL ROADS TO BARE PAVEMENT **\$143.3M**
after every snow/ice event

CLEAR RESIDENTIAL WINDROWS BLOCKING DRIVEWAYS & CURB CUTS **\$3.0M**
in conjunction with residential blading

WINDROW PICK UP ON RESIDENTIAL STREETS **\$47.6M**
per pick up
up to 4 times per winter

INCREASE CUL-DE-SAC BLADING **\$262.0M**
to align with residential street blading

ENFORCEMENT

INCREASE PARKING BAN AND SIDEWALK ENFORCEMENT **\$800K**
6 officers

INTRODUCE A COURTESY TOW DURING PARKING BANS **\$250K**

ACTIVE PATHWAYS

Operating cost estimates based on an average freezing rain event.

CLEAR ALL RESIDENTIAL SIDEWALKS **\$212.5M**
within 48 hours of end of snow/ice event

CLEAR PUBLIC SQUARES & INTERNAL PAVED PATHWAYS IN PARKS & PLAYGROUNDS **\$4.3M**
within 48 hrs of snow/ice event

CLEAR AREAS AROUND INTERSECTIONS & ALLEY CROSSINGS **\$56.6M**
up to 3 times per season

CLEAR CURRENTLY UNSERVICED BUS STOPS IN FRONT OF PRIVATE PROPERTY **\$7.8M**
within 5 days of snow/ice event within 5 days of end of snow/ice event

CLEAR SIDEWALKS ADJACENT TO BUS ROUTES IN FRONT OF PRIVATE PROPERTY **\$45.3M**
within 48 hours of snow/ice event

INCREASE CURRENTLY MAINTAINED BUS STOP SERVICE **\$62.2M**
from 5 days to 24 hours

CLEAR SIDEWALKS FOR ALL SENIORS FACILITIES **\$2.1K**
within 24 hrs of snow event *per facility*

INCREASE SERVICE FOR ALL BIKE PAINTED & SHARED USE PATH BIKE LANES **\$2.0M**
within 24 hrs of snow event

INCREASE CURRENT SIDEWALK INVENTORY SERVICE **\$30.6M**
from 48 hours to 24 hours

INCREASE PARKING LOT SANDING/PLOWING **\$1.6M**
from 48 hours to 24 hours

Next Steps

1. Clearly defined service standards and outcomes for 2022-23 season (June 2022)
2. Funding requests for 2023-2026 budget deliberations (November 2022)
3. Report outlining results of 2022-23 winter season (May 2023)