



Report to: General Committee

Meeting Date: May 10, 2021

SUBJECT:	Operations Winter Maintenance Updates
PREPARED BY:	David Plant – Sr. Manager, Parks, Horticulture and Forestry Barry Budhu – Sr. Manager, Roads, Survey and Utility

RECOMMENDATIONS:

1. That the report titled “Operations Winter Maintenance Updates” be received; and,
2. That the existing practice for not clearing snow on non-asphalt pathways be continued; and,
3. That the staff recommendations for the 2021 – 2022 winter season for park pathway clearing be adopted; and,
4. That the estimated cost of \$121,711.29 for clearing pathways City-wide be funded from the existing 2021-2022 winter maintenance operating budget; and,
5. That the staff recommendations for the development of 3-4 potential key skating surfaces throughout the City at an estimated one-time cost of \$27,624.00 to be funded from the existing 2021-2022 Parks Facility Maintenance operating budget be adopted; and
6. That staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

At the General Committee of November 18, 2019 staff were directed to implement a citywide pilot project for pathway winter maintenance. The pilot program would identify one pathway in each ward to receive winter maintenance with a similar service level as sidewalks for the 2020/2021 winter season. A subsequent evaluation was to be carried out to assess the merits of the pilot which would include resident feedback, path usage, environmental impacts, winter operations, spring repair/maintenance, and cost implications.

At the Council Committee meeting of February 23, 2021 staff were directed to investigate developing 3-4 potential key skating surfaces located throughout the City, in addition to artificial public rinks, and report back on potential sites and costs.

PATHWAY WINTER MAINTENANCE BACKGROUND:***Markham Pathway Winter Maintenance Practices***

Pathways are considerably different than sidewalks in terms of use and method of construction. Sidewalks are primarily constructed of concrete and are located within the road right of way throughout the City to provide safe pedestrian transportation to transit, schools, community center etc. Sidewalks located on all roads within the City inclusive of sidewalks located on the Region of York right of ways are maintained by the City. Additionally, current practice is to plow hard surface pathways that connect street to street; except where the grade is too severe or not properly illuminated at both ends to provide safe pedestrian passage.

Service levels for sidewalks are mandated by the Province, Ontario reg. 239/02, which requires sidewalks be cleared within 24 hours after the end of a storm and that the City meets this standard. The City aligns service levels on Multi-use Pathways (MUP) to that of sidewalks. Early renditions of MUP's were constructed of asphalt but have since been standardized to be constructed of concrete.

There is currently no provincially legislated service level for maintaining pathways which are covered under the Occupiers Liability Act. While the City currently provides safe transportation routes on sidewalks, pathways are often interconnected with other pathways such as those located on school properties which aren't maintained during winter months. City pathways located in parks, valley lands, and those that connect the road network to unmaintained surfaces or private property are currently posted NO WINTER MAINTENANCE PROVIDED. Maintenance has not been provided for the following reasons:

- Pathways can be constructed of asphalt, gravel or simply be a well-worn path;
- Limestone pathways provide durable, accessible and environmentally sustainable recreational surfaces. Granular surfaces cannot be plowed without extensive surface drainage;
- Pathway widths vary considerably;
- Pathway bedding construction is different than sidewalks as increased bedding is required to support the machines required to provide maintenance;
- Pathways are not marked by visual indicators, and are difficult to determine alignment when snow-covered;
- Damage to pathway surfacing is probable during winter operations producing trip hazards;
- Positive drainage during freeze/thaw cycles in pathways is inconsistent resulting in puddles that freeze, exposing the City's risk exposure for claims due to slips and falls;
- Pathways are not typically illuminated ensuring safe footing for pedestrian use;
- Damage to pathway turf edges will be extensive necessitating spring repairs currently not undertaken. Additional staffing will be required to undertake these repairs. Additional cost for soil, seed and equipment will also be required;

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- Environmental impact of using salt adjacent to water courses contradicts the intent of the City's salt management best practices and sustainable stewardship of parks;
 - Pathways often have different surface types from hard surface asphalt to granular materials. This poses risks to the Operator.

2020-2021 PATHWAY WINTER MAINTENANCE PILOT PROJECT:

Following the direction of General Committee at the November 18, 2019 meeting, a pilot project was initiated in the winter of 2020-2021 to clear one (1) park pathway per City ward employing a public survey tool to gauge resident interest in this service. Pathways selected for the pilot project met the following criteria:

1. Being composed of asphalt and being relatively level
2. Providing a significant shortcut for pedestrians and deemed as a seasonally high use.

Prior to a recommendation being made the total length of the proposed pathways was calculated and applied to the 2019-2020 cost per lane kilometer of contracted sidewalk winter maintenance.

With the assistance of Corporate Communications, Operations conducted a "Your Voice Markham" survey with 385 individual respondents who provided the City with the following key findings:

1. 62% percent of respondents who completed the survey used the Pilot pathways
2. 80% of users reported their use for recreation purposes.
3. The support to maintain the pathways to the same level of service as municipal sidewalks was somewhat split with 39% in Agreement and 46% in Disagreement while 15% were undecided.
4. 50% of respondents did not support paying any additional cost while 36% said that they would pay from \$1-\$15 more.

RECOMMENDATIONS FOR PATHWAY WINTER MAINTENANCE:

Based on the results from the winter of 2020/2021 and the resident feedback from the "Your Voice Markham" survey Operations recommends the following actions.

1. Undertake winter maintenance of parks asphalt pathways citywide totaling 29,501m with service delivery within 48 - 72 hours of the end of the winter event to prevent a negative budget impact.
2. Track maintenance expenses in 2021/2022 for offset of costs against favorable variances in the Operations winter maintenance budgets.
3. Service the parks pathways utilizing in-house staff with the appropriate allocation of additional resources required.
4. Sign all pathways being maintained with clear expectations for service and liability as approved by the Manager of Risk and Liability.

5. Continue the practice of not maintaining pathways which have granular surfacing and continue to sign them for no maintenance to warn users of the hazard.

FINANCIAL CONSIDERATIONS AND TEMPLATE:

The 2020/2021 estimated and actual cost to maintain 8 pathways Citywide totaling 3,935 meters (does not include pathway in Milne Dam Park) is as follows.

Activity	Estimated Cost	Actual Cost	Variance	Notes
Snow Clearing	\$13,711.43	\$8,515.84	\$5,195.59	Based on sidewalk winter Estimated maintenance cost per km of \$3,484.48/km and actual \$2,164.13/km due to mild winter
Repair costs/Asphalt	\$3,567.50	\$0.00	\$3,567.50	Based on 2.5% of the annual pathway resurfacing program
Repair costs turf	\$7,860.16	\$500.00	\$7,360.16	Based on in-house turf maintenance cost of \$7.99 per meter.
Resources required City/Hired	Hired and City			
Total costs	\$25,139.09	\$9,015.84	\$16,123.25	Favorability due to mild winter

The 2020/2021 projected costs were based on average winter activity and past years actual costs. The winter was mild and the frequency of service was reduced resulting in more favorable costs. Mild winters are factored into cost averaging and do not suggest a trend for reduced costs long term.

After careful consideration within Operations the 2021 park pathway maintenance will be undertaken by City crews and prioritized for service within 48 hours of the end of the snow event.

The 2021/2022 estimated costs to maintain 95 pathways Citywide totaling 29,501 meters is as follows.

Activity	Estimated Cost	Notes
Snow Clearing	\$102,795.64	Estimated maintenance cost of \$3,484.48/km
Repair cost/Asphalt	\$7,130.00	5% of annual pathway resurfacing program
Repair costs turf	\$11,785.65	5% of total length at \$7.99 per meter in house cost
Resources required	City	City sidewalk units/115 day seasonal staff
Total costs	\$121,711.29	Total estimated costs

2021 Winter Maintenance				
Total Budget	Q1 Budget	Q1 Actual	Variance	Remaining Budget
\$10,709,840	\$7,881,097	\$4,318,592	\$3,562,505	\$6,391,248

PROPOSED CITY OPERATED SKATING SURFACE SITES:

As per Council resolution of item 8.2.2 at the February 23, 2021 meeting staff were directed to look into developing 3-4 potential key skating surfaces in addition to artificial public rinks, and to report back on potential sites and costs.

For the development of 3-4 potential key skating surfaces throughout the City the following criteria was applied.

1. The site has or can be fitted with a winterized water supply
2. The site has a dedicated parking area not simply on-street parking
3. The site preferably has access to public transit
4. The site has an area of level ground where the construction of a skating facility would not negatively impact existing site amenities
5. The geographic location corresponds to the other selections to provide Citywide access
6. The site does not conflict with existing community volunteer ice rink locations

Following this process of evaluation the following locations were selected for consideration in the 2021/2022 season as outlined in Appendix B.

1. Markham Museum
2. Milne Dam Park
3. Victoria Square Park
4. Huntington Park

Cost to Implement in 2021:

Year 1 – approximately \$27,624.00 required for infrastructure and materials (winterizing/upgrade of water connections, liners, lumber and hoses).

Year 2-5 – approximately \$5,500.00 required for yearly materials (cost of liners & lumber for set-up).

HUMAN RESOURCES CONSIDERATIONS:

Not applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Transportation and Transit, Municipal Services, Parks, Public Safety and Accessibility

BUSINESS UNITS CONSULTED AND AFFECTED:

Financial Service, Communications and Community Engagement, Legislative Services (Contact Centre) have been consulted in preparation of this report.

RECOMMENDED BY:

Morgan Jones
Director of Operations

Andy Taylor
Acting Commissioner, Community
and Fire Services

ATTACHMENTS:

Appendix A – Pathway Locations 2021 – 2022
Appendix B – Skating Rink Locations 2021 – 2022