Sidewalk Snow Clearing Cost Comparison

RE: 217 km of sidewalks historically cleared by City crews
Draft analysis for discussion purposes
6-Sep-22

The July 2022 Admin Report - *Reporting on Snow Clearing and Ice Control Policy* identified the intention to transfer 506 km of priority 1 and 2 sidewalks to contractors where the contractors already clear the adjacent streets. Of the 506 km noted, 217 km were identified that could be included in the 2022/23 winter seasons one-year contract extensions.

On July 21, 2022, Council concurred in the recommendation of the Standing Policy Committee on Infrastructure Renewal and Public Works, as amended, and adopted the following:

9. That the Winnipeg Public Service be directed to report back to Council in September 2022, after meeting with CUPE representatives, comparing the snow clearing of sidewalks by contractors and the services being delivered by City workers with options to deliver the level of service identified in this report in time for the 2022 snow clearing season.

10. That the Winnipeg Public Service be further directed to report back to Council in September 2022 with options for public sector delivery of approximately 200 km of sidewalk snow clearing for the 2022 snow clearing season, and that the report explore options including but not limited to the single source purchase of equipment and the hiring of necessary staff in order to deliver the 200 km of sidewalk clearing which has traditionally been provided by the Public Service.

It is estimated that in order to clear snow on 217 km of sidewalks to achieve the directed service levels (36 hours for P1 and P2 sidewalks), City crews will require 7 units (5 in service at a time) and 10 Operator positions (4.5 FTEs) to operate the equipment in alternating shifts. This preliminary analysis is for comparative purposes only, as was identified in the July report the total lead time for additional sidewalk units is approximately 9 -11 months.

The purchase of 7 additional units would require a Capital Budget increase in the estimated amount of $1,548,932 and an increase in the external borrowing authority for the Winnipeg Fleet Management Agency in the same amount. Delivery using contractor services requires no increase to Capital Budget or borrowing.

	low	mid	high
City Forces	**8 EVENTS (Budgeted as per tender)**	**11 EVENTS (2018-2021 Ave.)**	**14 EVENTS (2021-2022)**
Equipment (7 Machines) [note 1, 11]	**7 Machines**	**7 Machines**	**7 Machines**
Capital lease [note 2]	$ 230,638.0	$ 230,638.0	$ 230,638.0
Operating lease	$ 109,536.0	$ 109,536.0	$ 109,536.0
Estimated Repairs & Maintenance [note 3]	$ 42,699.0	$ 52,992.0	$ 63,285.0
Estimated Fleet Fuel [note 4, 5]	$ 22,456.0	$ 27,869.0	$ 33,282.0
Auto vehicle location	$ 1,764.0	$ 1,764.0	$ 1,764.0
Estimated Total Equipment	**$ 407,093.0**	**$ 422,799.0**	**$ 438,505.0**

Labour [note 6]	**10 Operators (4.5 FTEs)**	**10 Operators (4.5 FTEs)**	**10 Operators (4.5 FTEs)**
Estimated Labour cost during plowing events at Operator 3 (upgrades, overtime, Night Shift Premium, regular pay)	$ 76,019.00	$ 95,527.00	$ 115,035.00
Estimated Labour Cost - Annual Hourly Maintenance Hours [note 7]	$ 24,944	$ 24,944	$ 24,944
Estimated Regular Labour Cost - Remainder of Winter Season	$ 227,979	$ 217,180	$ 206,381
Estimated Total Labour	**$ 303,998**	**$ 312,707**	**$ 321,416**

Estimated Grand Total - City Forces [note 10]	**$ 711,091**	**$ 735,506**	**$ 759,921**

	low	mid	high
Contractors	**8 EVENTS**	**11 EVENTS**	**14 EVENTS**
Estimated Cost for Clearing During Snow Events	$ 383,656	$ 527,527	$ 671,398
Estimated Cost - Annual Hourly Maintenance Work [note 7, 8, 9]	$ 88,000	$ 88,000	$ 88,000
Estimated Total Contractors	**$ 471,656**	**$ 615,527**	**$ 759,398**

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note 1 - Estimate is based on 7 machines which is expected to allow for approximately 5 in service units at any point in time based on estimated downtime for repairs and maintenance at 32%. This estimated downtime is consistent with the July 2022 report.
note 2 - Assumes a 6 year capital lease
note 3 - This analysis assumes a portion of the Repair & Maintenance and Fuel costs are variable based on the number of events incurred, while a portion is fixed based on a flat estimate for the Annual Hourly Maintenance Work.
note 4 - Fuel usage estimated using total annual historical average fuel usage for a sidewalk clearing machine pro rated to include only snow clearing activity and exclude sanding work. This is done for comparative purposes as the contractors do not currently provide sanding services. Allocation was estimated based on historical task information in the work managed system.
note 5 - Fuel cost per liter utilized for this comparison is based on the adopted 2022 budget rate of $1.25 per liter.
note 6 - Hourly labor rate estimates are based on current rates of pay in the 2016 -2021 collective agreement. No assumption on annual negotiated increases applied to this analysis.
note 7 - Annual hourly maintenance work estimated at 800 hours based on the average hourly snow clearing maintenance for the 217 km of City cleared sidewalks for the 2019-20 and 2020-21 winter seasons based on work management system data. For the purposes of this analysis it was assumed the target clearing timelines were met and sidewalk clearing outside of the event window was considered maintenance.
note 8- Annual hourly maintenance work required would not scale directly with the number of snow events and would be impacted by other factors, the most notable being wind. For the purposes of this analysis the assumed hours remain static between scenarios.
note 9 - Hourly rates for plow vs blower operations vary significantly due to the time required. Actuals can vary significantly based on the type of treatment required.
note 10 - Estimates assume no incremental support cots required to facilitate the scheduling / tracking ect of the incremental units and staffing.
note 11 - Estimated equipment costs do not include sanding attachments

Proposed Recommendations

1. That the Winnipeg Public Service be directed to negotiate and approve one-year contract extensions for sidewalk snow clearing for services beginning October 2022 through April 2023, including the additional 217 km of sidewalks.

2. That in order to fund the additional operating costs associated with external snow clearing contracts, the 2022 and the 2023 operating budgets of the Public Works Department be increased by $176,871 and $294,785 respectively.

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.