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Performance Audit of  
Waste Collection Services

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November 28, 2022

Final Report

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## OBJECTIVE

To assess the extent of regard for economy, efficiency and effectiveness within the waste collection services provided by the Environmental Services Division.

## BACKGROUND

The Environmental Services Division oversees the planning (legislated requirements, asset management and master plans), design, approvals, monitoring and operation of solid waste programs and facilities. The services can be divided into 4 components:

- 1) Solid waste and litter collection services;
- 2) Processing and handling of waste;
- 3) Garbage disposal; and
- 4) Customer and educational support services.

The division employs one director, three managers and 22 full time staff and has over 15,000 part-time staff hours to deliver these services with the assistance of contractors.

A Solid Waste Management Master Plan with a holistic approach is presently used to guide the division's planning initiatives with the objective of achieving environmental sustainability goals. This approach lends itself well to achieving high standards of environmental sustainability that promote waste diversion and advance the goals outlined in the City's Community Energy and Emission Plan (CEEP) while sustaining current landfill assets for continued future use. The division is currently preparing an update to the Master Plan to guide future decision making.

**Table 1 – Waste Collection - Revenues and Expenses (\$ Millions)**

EXPENSES:	2018		2019		2020		2021		2022 6 Months	
	<i>Bud.</i>	<i>Act.</i>	<i>Bud.</i>	<i>Act.</i>	<i>Bud.</i>	<i>Act.</i>	<i>Bud.</i>	<i>Act.</i>	<i>Bud.</i>	<i>Act.</i>
Purchased Services	9.8	10.0	10.4	10.3	10.7	10.4	9.3	8.8	3.9	3.0
Salaries & Benefits	1.4	1.3	1.4	1.5	1.5	1.5	1.7	1.7	0.9	0.8
Internal Recoveries	0.9	0.9	1.0	1.0	1.1	1.1	1.1	1.0	0.5	0.6
Other Costs	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.2	0.2
Total Expenses	12.3	12.5	13.1	13.1	13.6	13.3	12.6	11.8	5.5	4.6
<b>REVENUES:</b>										
User Fees	(1.0)	(1.1)	(1.3)	(1.2)	(1.2)	(1.2)	(1.3)	(1.4)	(1.3)	(1.2)
Other Revenues	(1.2)	(1.2)	(1.2)	(1.3)	(1.3)	(1.3)	(1.3)	(1.3)	(0.3)	0
Total Revenues	(2.2)	(2.3)	(2.5)	(2.5)	(2.5)	(2.5)	(2.6)	(2.7)	(1.6)	(1.2)
<b>NET COSTS</b>	10.1	10.2	10.6	10.6	11.1	10.8	10.0	9.1	3.9	3.4

## METHODOLOGY & SCOPE

This audit focused on the collection of garbage, leaf and yard trimmings, blue box recyclables, green cart organics, large furniture, appliances and electronics and well as household hazardous waste for diversion or disposal and included staff interviews, site visits, analysis of processes and reports and tests of controls for the period January 1, 2018 to June 30, 2022.

## **EXECUTIVE SUMMARY**

This audit identified opportunities to improve the process used to rationalize the mix of contract and in-house staff used for garbage collection services, to improve the efficiency of certain collection programs and to improve the effectiveness of the performance reporting processes. A number of significant accomplishments were also identified during this audit and are included in the last section of this report.

## **AUDIT STANDARDS**

We conducted our audit in accordance with Generally Accepted Government Auditing Standards which require that we adequately plan audits; properly supervise staff; obtain sufficient, appropriate evidence to provide a reasonable basis for audit findings and conclusions; and document audits. For further information regarding this report, please contact Ron Foster at the City of Greater Sudbury at 705-674-4455 extension 4402 or via email at [ron.foster@greatersudbury.ca](mailto:ron.foster@greatersudbury.ca)

## **OBSERVATIONS AND ACTION PLANS**

### **A. Co-Collection Model**

The City has a co-collection model where City crews collect garbage and leaf yard trimmings and a contractor collects recyclables, organics and large furniture, appliances & electronics from the Northwest and Central areas. This contractor collects all streams of waste from the Northeast and South except hazardous waste.

The co-collection model allows the division to re-assign households to in-house crews from contractor crews if capacity permits, provides flexibility for the continuity of services in the case of labour disruptions and retains the expertise and equipment for ensuring competition.

**Table 2 – Households per Collection Area**

Month	South	Northeast	Northwest	Central
	<i>Contractor Only</i>		<i>Co-collected</i>	
Feb 2021	7,735	3,635	18,219	30,473
Dec 2021	7,740	3,641	18,323	30,534

In February 2021, the number of households served by City crews expanded by 48 percent. Management provided a high-level comparison of waste collection crews in a closed report to Council in 2018 to support this change. This decision was sound and this audit indicated that internal collection costs per household are currently lower than contract costs.

### **Recommendation**

Prior to awarding the next contract for garbage collection services, prepare a detailed business case to rationalize the mix of contract versus in-house staff. This business case should compare costs per household for garbage collection by in-house crews to the bid costs per household for the contractor with the lowest bid.

### ***Management Response and Action Plan***

*Agreed. An analysis of comparative costs for garbage and leaf & yard trimmings collection will be conducted. An analysis of costs for in-house versus contracted collection was conducted in 2018; however, the collection areas for urban in-house crew collection were not comparable to contract crew collection in rural areas at the time.*

### **B. Comparative Waste Data - Single Tier Municipalities**

As seen below in Table 3, households in Sudbury generate about half the average quantity of waste compared to the four single-tier municipalities in Ontario that participated in the annual MBNCan performance reporting process.

**Table 3 – Tonnes of Waste Generated per Household & Collection Costs/Tonne**

Year	Hamilton		London		Sudbury		Windsor		Thunder Bay	
	Tonnes	Cost*	Tonnes	Cost*	Tonnes	Cost*	Tonnes	Cost*	Tonnes	Cost*
2018	0.94	\$149	0.79	\$103	0.54	\$167	0.90	\$92	0.92	\$173
2019	0.94	\$144	0.80	\$103	0.54	\$182	0.99	\$100	0.90	\$195
2020	1.00	\$143	0.82	\$111	0.54	\$174	0.95	\$122	0.95	\$175
2021	0.98	\$166	0.81	\$119	0.48	\$174	0.97	\$115	N. A	N. A
Inc./ (Dec.)	4.0%	11.4%	2.5%	15.5%	(11.1%)	4.2%	7.8%	25.0%	3.3%	1.2%
Dwellings per Km2	209		528		24		682		114	

Greater Sudbury’s annual collection costs for waste were higher than most of its peers primarily because:

1. Costs for leaf and yard waste collection are included in waste costs in Greater Sudbury whereas our peers in Hamilton, London and Windsor include these costs in diversion costs;
2. Collection costs in Hamilton, London and Windsor were lower than those in Greater Sudbury due to the higher population density in these municipalities; and
3. Service levels were lower in Hamilton, London and Windsor than in Greater Sudbury.

For example, London and Windsor do not provide a green cart organics collection program. London and Windsor also limit the amount of large furniture and appliances that can be placed at the roadside. Hamilton collects a limited number of furniture items but does not collect appliances. Only Greater Sudbury offers a toxic taxi service for the collection of hazardous waste. London, Windsor and Hamilton have limited collection times for leaf & yard trimmings whereby residents are required to deliver these items to the designated site outside the scheduled collection allocation.

Greater Sudbury provides unlimited collection of leaf & yard trimmings, furniture, appliances and electronics. This approach not only contributes to waste diversion, but also decreases the number of visits to the landfill and waste diversion sites and reduces illegal dumping.

### **Recommendation**

As part of the update of the solid waste management master plan, review service levels to determine if efficiencies can be found within the collection programs for large furniture, appliances and electronics and household hazardous waste. If savings can be achieved without compromising waste management and environmental sustainability goals including those outlined within the CEEP, prepare options for service level change for Council’s consideration.

### **Management Response and Action Plan**

*Agreed. We will review programs to identify any potential efficiencies for Council’s consideration. It is understood that the City of Greater Sudbury offers some services, particularly related to residential curb side collection, that exceed the levels of service offered in other comparative communities. These service levels were selected through previous Master Plans and were intended to increase diversion rates and*

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\* For all property classes incl. residential, industrial, commercial and institutional

offer long term environmental benefits. During the development of the next Master Plan, any opportunities for efficiency will be weighed against the impact to service levels throughout Environmental Services, including Diversion Targets and CEEP goals, to ensure that Council can make informed choices about service levels.

### C. Performance Reporting

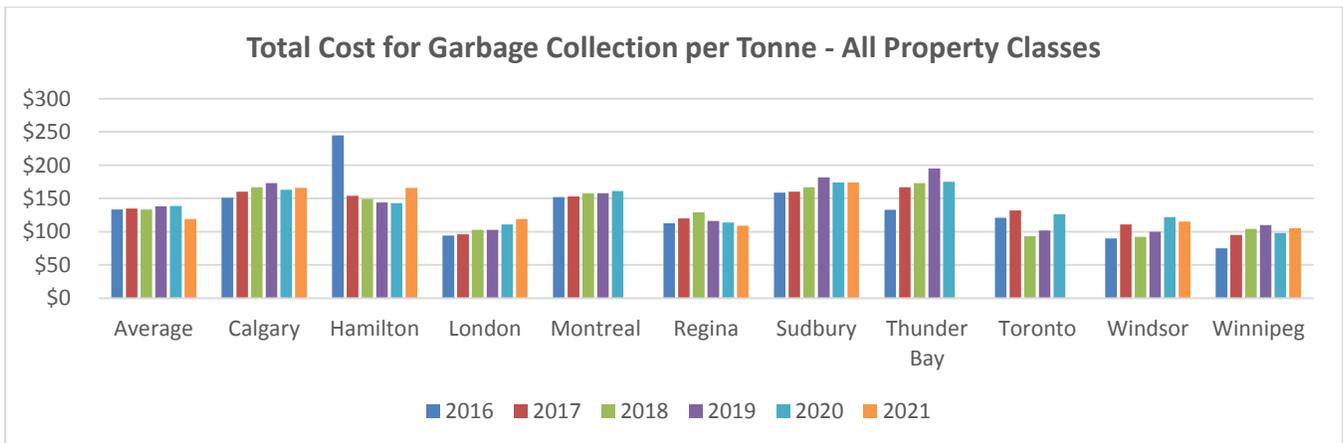
Management presently only reports on the percentage of residential waste diversion and total cost for solid waste diversion per tonne (all property classes) in Greater Sudbury relative to the medians of other municipalities that participate in the annual MBNCan performance reports.

#### Recommendation

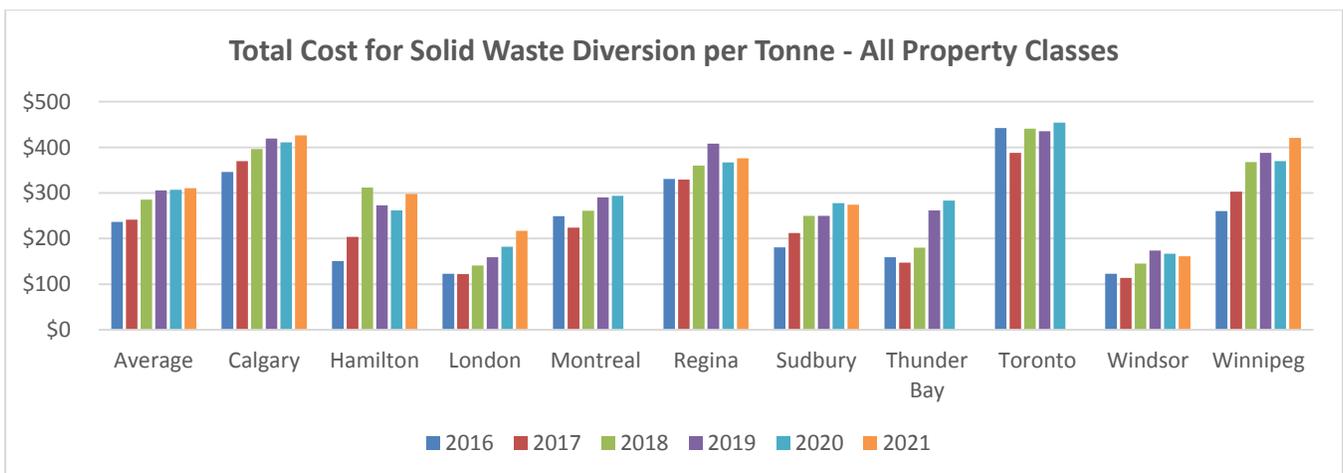
Management should expand performance reports to Council to include total cost for garbage collection per tonne and quantity of material collected per household.

#### Management Response and Action Plan

Agreed. Co-collection of waste streams does not lend itself readily to accurate reporting of costs for individual waste streams. Management will develop a method to better represent the individual cost for collection of garbage and collection of leaf & yard to improve comparison to peer municipalities.

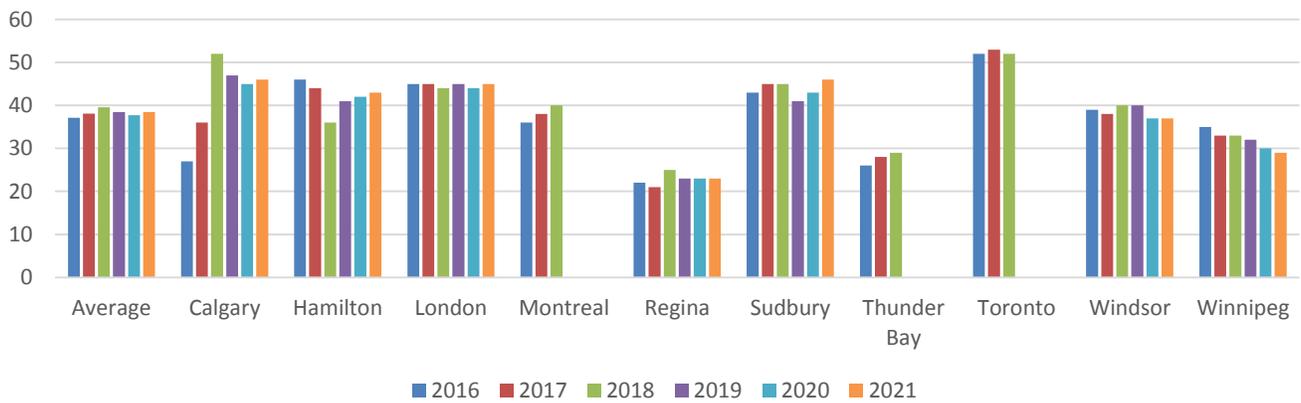


Note – Total Cost for Sudbury includes collection costs for leaf and yard waste.

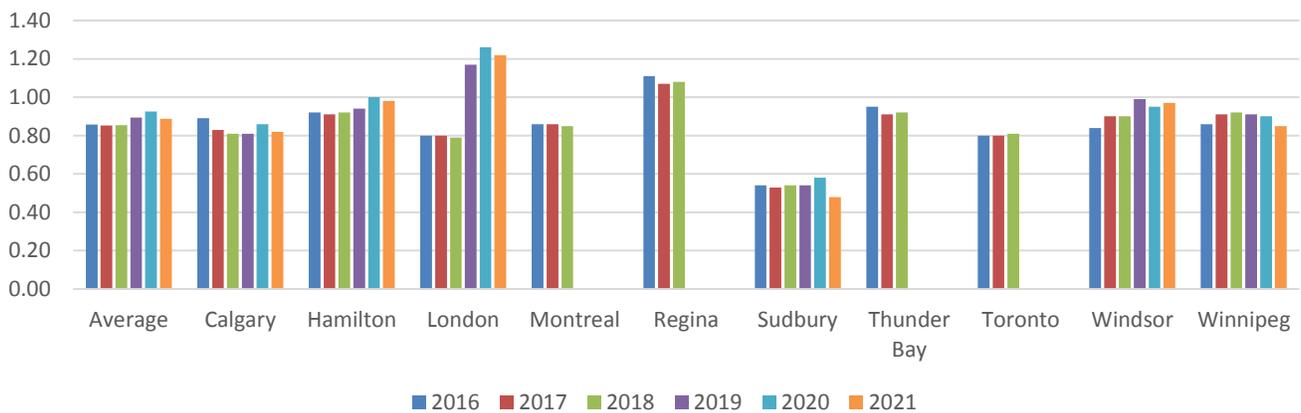


Note – Total Cost for Sudbury excludes collection costs for leaf and yard waste.

**Percent of Residential Solid Waste Diverted – Single & Multi-Residential**



**Tonnes of All Residential Material Collected per Household**



#### D. Significant Accomplishments

1. Effectively planned the transition from weekly to bi-weekly collection of garbage to support diversion objectives;
2. Planned the procurement process effectively to obtain an economical waste collection service provider while adhering to the Purchasing Bylaw;
3. Successfully negotiated with CUPE to expand staff's collection area for garbage and leaf and yard trimmings commencing in February 2021;
4. Provided effective communications to residents to support improved diversion in 2021;
5. Reduced total collection expenses in 2021 by over 11% from 2020;
6. Provided effective responses to service request calls from the City's 311 function; and
7. Achieved zero lost time injuries for collection staff for January 1 to October 31 in 2022.

**Table 4 – Summary of Significant Risks**

Risk	Total No. of Risks	Risks (Before Controls)			Residual Risks (After Controls)		
		High (15 to 25)	Med (9 to 14.99)	Low (1 to 8.99)	High (15 to 25)	Med (9 to 14.99)	Low (1 to 8.99)
Reputation (R)	1	1	0	0	0	0	1
Operational (O)	7	7	0	0	0	3	4
Financial (F)	7	7	0	0	0	3	4
Legal (L)	1	1	0	0	0	0	1
<b>TOTAL</b>	<b>16</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>10</b>

**Table 5 – Significant Risks**

Type of Risk	Description of Risk	Risk Before Controls	Residual Risk*
F1/O1	Collection services may not align with the goals of Corporate Strategic Plan.	20	10
F2/O2	Collection services may not align with Enterprise Risk Management or Asset Management policies.	18	8
F3/O3	Collection services may not be delivered with regard for economy.	22.5	10
F4/O4	Collection services may not be delivered with due regard for efficiency.	18	10
F5/O5	Collection services may not be delivered with regard for effectiveness.	22.5	8
F6/O6	Staff performance may not be managed effectively.	20	8
F7/O7	The performance of contractors may not be managed effectively.	22.5	7.5
L1/R1	Legal and regulatory obligations may not be managed effectively.	16	6

*\*Note that it is not cost-effective to eliminate all residual risks*

### Appendix 1 – Risk Assessment Criteria

Impact	Services	Technology	People	Strategic	Legal/Reputational	Financial
<b>Very Minor</b> <b>(1)</b>	<ul style="list-style-type: none"> <li>• Less than 90% of service objectives achieved.</li> </ul>	<ul style="list-style-type: none"> <li>• Minor disruptions of secondary systems or data loss or corruption.</li> </ul>	<ul style="list-style-type: none"> <li>• Minor reportable employee injury.</li> <li>• Increase in number of union grievances.</li> </ul>	<ul style="list-style-type: none"> <li>• Minor instances of actions that are at odds with strategic priorities.</li> </ul>	<ul style="list-style-type: none"> <li>• Very minor non-compliance with regulations/legislation</li> <li>• Small amount of negative media coverage or complaints to City.</li> <li>• Non-lasting damage or no reputational damage</li> <li>• Theft or Fraud under \$1,000.</li> </ul>	<ul style="list-style-type: none"> <li>• Uninsured loss, cost overruns or fines &lt; \$10K</li> <li>• Insured loss &lt; \$100K</li> <li>• Loss of replaceable asset.</li> </ul>
<b>Minor</b> <b>(2)</b>	<ul style="list-style-type: none"> <li>• Less than 75% of service objectives achieved.</li> <li>• Unable to perform non-essential service.</li> </ul>	<ul style="list-style-type: none"> <li>• Disruptions of systems or data loss or corruption</li> <li>• Disclosure of non-confidential but embarrassing information.</li> </ul>	<ul style="list-style-type: none"> <li>• Reportable employee injury.</li> <li>• Loss of key staff but able to recruit competent replacements</li> <li>• Significant increase (&gt;10%) in number of union grievances.</li> </ul>	<ul style="list-style-type: none"> <li>• Instances of actions at odds with strategic priorities.</li> </ul>	<ul style="list-style-type: none"> <li>• Minor non-compliance with regulations/legislation</li> <li>• Complaints elevated to the Director level.</li> <li>• Short-term repairable damage to City's reputation</li> <li>• Public outcry for discipline of employee.</li> <li>• Moderate amount of negative media coverage</li> <li>• Theft or Fraud of \$1,000 to \$10,000.</li> </ul>	<ul style="list-style-type: none"> <li>• Uninsured loss, cost overruns or fines of \$10K to \$100K</li> <li>• Insured loss &lt; \$100K - \$1M</li> <li>• Inefficient processes</li> <li>• City's actions result in reduced economic development.</li> </ul>
<b>Moderate</b> <b>(3)</b>	<ul style="list-style-type: none"> <li>• Less than 60% of service objectives achieved.</li> <li>• Unable to perform essential service but alternatives exist.</li> </ul>	<ul style="list-style-type: none"> <li>• Disruptions of significant systems or data loss or corruption</li> <li>• Recoverable loss from important system.</li> </ul>	<ul style="list-style-type: none"> <li>• Multiple employee injuries or long-term disability from one incident.</li> <li>• Inability to retain or attract competent staff.</li> <li>• Increase in stress leave, sick leave or WCB claims.</li> <li>• Work-to-rule union disagreement or short-term strike.</li> </ul>	<ul style="list-style-type: none"> <li>• Numerous actions are at odds with strategic priorities.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-compliance with regulations/legislation with moderate penalties</li> <li>• Public/media outcry for removal of management</li> <li>• Long-term damage to City's reputation</li> <li>• Citizen satisfaction survey indicates unacceptable performance.</li> <li>• Complaints elevated to Council level.</li> <li>• Results inconsistent with commitments made to citizens</li> <li>• Theft or Fraud under \$100,000.</li> </ul>	<ul style="list-style-type: none"> <li>• Uninsured loss, cost overruns or fines of &gt;\$100K to \$1M</li> <li>• Insured loss &gt;\$1M to \$10M</li> <li>• Having to delay payments to contractors/suppliers.</li> <li>• City's actions results in lost revenue for significant number of City businesses.</li> </ul>

Impact	Services	Technology	People	Strategic	Legal/Reputational	Financial
<b>Major (4)</b>	<ul style="list-style-type: none"> <li>• Less than 45% of service objectives achieved.</li> <li>• Unable to perform an essential service where no alternative exists.</li> </ul>	<ul style="list-style-type: none"> <li>• Unrecoverable loss or corruption of data from important system</li> <li>• External exposure of important information</li> <li>• Unavailability of significant systems</li> </ul>	<ul style="list-style-type: none"> <li>• Serious injury of one or more employees</li> <li>• Legal judgment against the City in workplace matter.</li> <li>• Turnover of key employees</li> <li>• Sustained strike of staff.</li> </ul>	<ul style="list-style-type: none"> <li>• Numerous actions are significantly at odds with the strategic priorities.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-compliance with regulations/legislation with major penalties</li> <li>• Public/media outcry for change in CAO or Council</li> <li>• Public or senior officials charged or convicted</li> <li>• Legal judgment against the City in a workplace matter</li> <li>• Integrity breach resulting in decreased trust in City Council or Administration.</li> <li>• Theft or Fraud &gt;\$100,000</li> </ul>	<ul style="list-style-type: none"> <li>• Uninsured loss, cost overruns or fines of &gt;\$1M - \$10M</li> <li>• Insured loss of &gt;\$10M - \$100M</li> <li>• Unable to pay employees and contractors on time.</li> <li>• City's actions impair local economic conditions.</li> </ul>
<b>Extreme (5)</b>	<ul style="list-style-type: none"> <li>• Less than 30% of service objectives achieved.</li> <li>• Unable to perform several essential services where no alternatives exist.</li> </ul>	<ul style="list-style-type: none"> <li>• Unrecoverable loss or corruption of data from critical system</li> <li>• External exposure of confidential information</li> <li>• Unavailability of critical systems</li> </ul>	<ul style="list-style-type: none"> <li>• Death of an employee</li> <li>• Major legal judgment against the City in workplace matter.</li> <li>• Significant turnover of key employees with ELT</li> <li>• Sustained strike of staff supporting key services</li> </ul>	<ul style="list-style-type: none"> <li>• Many actions are significantly at odds with the strategic priorities.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-compliance with regulations/legislation with very significant penalties</li> <li>• Public/media outcry for change in CAO or Council</li> <li>• Senior officials criminally charged or convicted</li> <li>• Severe legal judgment against the City in a workplace matter</li> <li>• Major integrity breach resulting in complete loss of trust in City Council or Administration.</li> <li>• Theft/Fraud &gt;\$1,000,000</li> </ul>	<ul style="list-style-type: none"> <li>• Uninsured loss, cost overruns or fines &gt;\$10M</li> <li>• Insured loss &gt; \$100M</li> <li>• File for bankruptcy</li> <li>• Failure to maintain financial capacity to support current demands.</li> <li>• City's actions significantly impair local economic conditions.</li> </ul>

Likelihood	Unlikely (1)	Possible (2)	Probable (3)	Likely (4)	Very Likely (5)
	Less than 20%	>20% but < 40%	>40% but < 60%	>60% but < 80%	80% or more
	Less frequent than every 10 years	May occur in the next 2 years	Will occur this year or next year at least once	May occur regularly this year	Will occur within months may reoccur often