

To: Corporate Services Committee

From: Tracy Adams, Commissioner,  
Corporate Services Department

Report Number: CORP-19-91

Date of Report: November 13, 2019

Date of Meeting: November 18, 2019

Subject: Information and Records Management Strategic Plan

File: A-2120

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## **1.0 Purpose**

The purpose of this report is to present the Information and Records Management (I&RM) Strategic Plan prepared by Ergo Information Management Consulting in accordance with Report FIN-19-37 approved by Council, May 21, 2019; and, to receive feedback from the public prior to November 27, 2019 in order to report back to the Corporate Services Committee on December 9, 2019.

Attachment 1 to this report is the Information and Records Management Strategic Plan.

Attachment 2 to this report is the Information and Records Management Assessment Report.

## **2.0 Recommendation**

That the Corporate Services Committee recommend to City Council:

That in accordance with Report CORP-19-91, dated November 13, 2019 concerning Information and Records Management Strategic Plan (Attachment 1), staff be directed to report back to the next Corporate Services Committee with comments and feedback received from the public.

## **3.0 Executive Summary**

Not Applicable.

## **4.0 Input From Other Sources**

The Ergo Group Inc. o/a Ergo Information Management Consulting ('Ergo').

## **5.0 Analysis**

### **5.1 Background**

On May 21, 2019 Council approved a contract with The Ergo Group Inc. o/a Ergo Information Management Consulting ('Ergo') for the provision of the development of an Information and Records Management Strategic Plan (I&RM Strategic Plan) (Attachment 1) which outlines phased, multi-year recommendations for the City's consideration. The I&M Project has three phases: 1) Assessment and Findings; 2) Strategic Plan; 3) Implementation.

### **5.2 Assessment and Findings**

Ergo completed an I&RM Assessment Report (Attachment 2) which is based on industry best practices; their extensive experience in completing similar engagements for many municipalities including Durham Region; analysis of the review of City-supplied data/documentation; interviews and focus groups with City employees across the organization; and, an internal survey.

The review and assessment revealed that progress has been made in developing and implementing a corporate Information and Records Management Program. However, a lot remains to be done to improve the lifecycle management of the City's paper records, unstructured electronic records, and e-mails. The review and assessment also revealed that much work remains to be done to improve the management of the City's structured data. Managing data across a broad range of systems is proving to be challenging for the City, especially in the absence of clearly defined standards, roles, and processes.

Ergo used the Information Governance Maturity Model ("IG Maturity Model"), an industry best practice developed by ARMA International<sup>1</sup> to rate the maturity of the Records and Information Management Program and the City's I&RM practices. Based on the Generally Accepted Recordkeeping Principles® plus the established body of standards, best practices, and legal/regulatory requirements for managing recorded information, the Maturity Model defines the characteristics of information governance programs at differing levels of maturity, completeness, and effectiveness. The City's average score of 1.1% on a five-point scale across the eight Principles reinforces the need for I&RM improvements. Level 3 is the minimum target level for each Principle in any organization.

### **5.3 Strategic Plan**

The I&RM Strategic Plan is based on the validated findings in the I&RM Assessment Report. The I&RM Strategic Plan is designed to enable the City to achieve Level 3 (Essential) for each Principle in the IG Maturity Model within 5 years and to significantly improve its Data Management Maturity ("DMM").

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<sup>1</sup> ARMA International, Implementing the Generally Accepted Recordkeeping Principles® (ARMA International TR-2017).

The I&RM Strategic Plan outlines phased, multi-year recommendations for the City's consideration. The I&RM Strategic Plan describes a recommended future RIM and Data Management ("DM") state and identifies the governance, compliance, technology, and people considerations for effective RIM and DM at the City as well as the resources (e.g. funding, technology, space, staff, etc.) required to address the gaps and risks identified in the I&RM Assessment Report.

Many objectives in the I&RM Strategic Plan require something to be established, developed, revised, or replaced. The objectives in the I&RM Strategic Plan are listed by priority: high, medium, low, as well as 'quick wins'. A high-level timeline for the prioritized and phased implementation of the Plan is listed in Section 8 of the I&RM Strategic Plan.

The proposed timeline also assumes the I&RM Strategic Plan Implementation Project Manager Role (Records Management Coordinator position as outlined in Report FIN-19-88 Strategic Workforce Planning and 2020 Staff Position Requests) is established to implement the I&RM Strategic Plan as current City Clerks Services staff have a substantial workload and do not have the capacity to take on additional workload.

#### **5.4 Implementation**

Timely approval of new/revised policies, processes, business cases, and other documents, as well as the active participation of all City employees to support the implementation of the I&RM Strategic Plan is required in order to implement the Plan.

The following will be advanced as a priority based on having the required staff:

- revising the Records Retention By-law and Records Retention Schedule;
- developing transitory records identification;
- developing a Records and Information Management Policy;
- providing structured Data Retention scheduling recommendations;
- updating the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA) policy and manual; and,
- providing best practice recommendations for records of former staff and members of Council.

#### **5.5 Next Steps**

As set out in Report FIN-19-37 input from Members of Council and the public will be obtained through the Corporate Services Committee. The Report is posted on the City's website as part of agenda for the Corporate Services Committee meeting on November 18, 2019 and a public service announcement and social media messages have been issued with a link to this Report to request feedback from the public by 4:30 p.m. on November 27, 2019.

Staff will report back to the Corporate Services Committee on December 9, 2019 with feedback received from the public.

## **6.0 Financial Implications**

The I&RM Strategic Plan recommends hiring a Project Manager to ensure the plan is implemented and maintained. On November 4, 2019, Council referred Report FIN-19-88 (Strategic Workforce Planning and 2020 Staff Position Requests) to the 2020 Budget Deliberations. The report is requesting Council consider the addition of a Records Management Coordinator, as the Project Manager, for City Clerk Services. The financial impact associated with the addition of this new position will be approximately \$100,000 annually.

## **7.0 Relationship to the Oshawa Strategic Plan**



Mary Medeiros, Interim City Clerk,  
City Clerk Services



Tracy Adams, Commissioner,  
Corporate Services Department

Attachments

**DELIVERABLE**

**City of Oshawa**

**Information and Records Management (I&RM) Strategic Plan**

**November 12, 2019**

**Ergo Information Management Consulting**  
*(a Division of The Ergo Group Inc.)*

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**Note to Reader:**

- a) This report contains text excerpted from Ontario legislation. Consult the Government of Ontario's e-Laws website at <https://www.ontario.ca/laws> for the full-text of the cited legislation.
- b) This report also contains text excerpted from City of Oshawa policies and other documents, some of which are not available on the City's website. Page numbers provided after the excerpted text refer to pages in the referenced policy or other document and not to a page in this report.
- c) All URLs in the report were current as of November 12, 2019.
- d) If this report is required in an accessible format, please contact Sheila Taylor at (905) 702 8756 or [staylor@eimc.ca](mailto:staylor@eimc.ca)

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## 1. Introduction

Ergo Information Management Consulting (Ergo) was retained to document and assess the City's current practices for managing information and records and prepare an Information and Records Management Strategic Plan (I&RM Strategic Plan) which outlines phased, multi-year recommendations for the City's consideration.

The following types of information and records were in scope for this engagement:

- a) Paper documents / files / records
  - At desks or in offices at City Hall and other City facilities.
  - Inactive paper records stored on-site in 'Records Retention' at City Hall.
  - Inactive paper records stored off-site at a local, third party warehouse.
- b) Unstructured electronic documents / files / records (e.g. word-processed documents, spreadsheets, PDFs, etc.) stored in the following locations:
  - Personal network drives.
  - Shared network drives.
  - Portable electronic storage such as USBs, CDs, etc. (where used).
  - Stored on and/or accessed using mobile devices (e.g. smartphones).
- c) E-mail messages and attachments in Microsoft Outlook and .pst files (where used).
- d) Data in the City's structured systems (e.g. PeopleSoft) and Microsoft Access databases.
- e) Content on the City's public websites (<https://www.oshawa.ca/index.asp> and <https://connectoshawa.ca/>).
- f) Content on the City's intranet (iConnect).
- g) Content on the City's social media channels (Facebook, Instagram, LinkedIn, Twitter, and YouTube).

The I&RM Assessment Report (October 22, 2019) provides Ergo's assessment based on industry best practices, our experience in completing similar engagements for many municipal and other clients, and our analysis of the findings from a data collection consisting of:

- The review of data / documentation, both City-supplied and relevant City documents / information and information about the City that we found through Internet searching.
- Interviews with 14 City employees who are subject matter experts in records and information management (RIM) or who are subject matter experts in areas

related to or having a connection to RIM (e.g. the administration of social media content).

- Interviews with 20 City employees who are subject matter experts regarding the City's structured systems.
- 12 focus groups attended by 42 employees from across the organization (focus groups were held with CLT, representative Directors, RIM Program employees, and all City departments).
- 286 responses to the I&RM Survey (approximately 31% response rate).
- 14 responses to the Microsoft Access Database Survey (approximately 39% response rate).

The I&RM Assessment Report also provides an analysis of the strengths, weaknesses, opportunities, and threats (SWOT analysis) of the City's RIM Program and current I&RM practices and the results of benchmarking the RIM Program and the I&RM practices against the Generally Accepted Recordkeeping Principles® (the Principles) using the Information Governance Maturity Model (IG Maturity Model). The City's average score of 1.1 on a five-point scale across the eight Principles reinforces the need for I&RM improvements. Although we did not formally assess the City's data maturity using the Capability Maturity Model Integration (CMMI) Data Maturity Model (DMM) framework, it is clear that the City's data management maturity level would be assessed as very low (i.e. between 0 and 1 on the CMMI data management maturity scale).

The I&RM Strategic Plan is based on the validated findings in the I&RM Assessment Report. The Strategic Plan describes a recommended future RIM and DM state and identifies the governance, compliance, technology, and people considerations for effective RIM and DM at the City as well as the resources (e.g. funding, technology, space, staff, etc.) required to address the gaps and risks identified in the I&RM Assessment Report. The I&RM Strategic Plan is also aligned with the IT Strategy which was being developed at the same time as we completed this engagement.

The I&RM Strategic Plan is designed to enable the City to achieve Level 3 (Essential) for each Principle in the Information Governance Maturity Model (IG Maturity Model) within 5 years<sup>1</sup> and to significantly improve its DM maturity.

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<sup>1</sup> See Sections 10.1 and 10.2 in the I&RM Assessment Report (October 22, 2019) for information about the Generally Accepted Recordkeeping Principles® and see Appendix 5 of the Assessment Report for a description of the characteristics of each of Levels 1-5. See Section 10.3 in the I&RM Assessment Report for information about the IG Maturity Model and Appendix 6 of that report for Ergo's detailed benchmarking of the City against the IG Maturity Model.

A Project Committee of employees from various departments / branches reviewed and validated the draft I&RM Assessment Report and also reviewed the draft I&RM Strategic Plan. We also presented the Assessment Report and Strategic Plan to the City's Corporate Leadership Team.

City staff will present the I&RM Assessment Report and the I&RM Strategic Plan to the Corporate Services Committee and to Council.

## **2. I&RM Strategic Plan Overview**

The I&RM Strategic Plan consists of strategic priorities, goals, and objectives as described below.

A strategic priority is an overarching area of activity. There are five I&RM strategic priorities:

- RIM and Data Management Governance.
- RIM and Data Management Staffing.
- RIM Program Services.
- Lifecycle Management of Paper Records and Unstructured Electronic Records.
- Data Management.

A goal is a general description of a function / topic toward which the City's resources will be directed. A strategic priority typically has more than one goal. There are 28 goals in the I&RM Strategic Plan.

An objective is a description of the action(s) required to achieve a goal. More than one objective is typically required to achieve a goal. There are 124 objectives in the I&RM Strategic Plan.

All objectives are important and their collective accomplishment will ensure successful I&RM Strategic Plan implementation; however, it is helpful to assign a priority to each objective for planning purposes. To a significant extent, the prioritized order reflects the nature of the relationships between the goals (and their objectives) and an ordered approach to I&RM Strategic Plan implementation. Each objective has been assigned to one of four priority levels as described and colour-coded in Figure 1 below.

**Figure 1 – Prioritization of I&RM Strategic Plan Objectives**

<b>Colour Code</b>	<b>Priority</b>	<b>Number and Percentage of Objectives</b>	<b>Definition</b>
<b>Yellow</b>	<b>Low</b>	<b>2 (2%)</b>	An objective whose implementation can be deferred until later in the 5-year I&RM Strategic Plan implementation timeline with no negative effect
<b>Blue</b>	<b>Medium</b>	<b>44 (35%)</b>	An objective which is not otherwise categorized
<b>Red</b>	<b>High</b>	<b>45 (36%)</b>	An objective which should be completed first because it establishes (or assists in establishing) the foundation for successful I&RM Strategic Plan implementation
<b>Green</b>	<b>Quick Win</b>	<b>34 (27%)</b>	An objective with low implementation effort and low cost and whose implementation will provide an immediate benefit

Figure 2 lists the strategic priorities, goals, and objectives.

**Figure 2 – I&RM Strategic Priorities, Goals, and Objectives**

<b>RIM and Data Management Governance</b>	<b>3.1</b>	Integrated RIM and DM Governance Model	<b>3.1.1</b>		Reconstitute ISSC and Expand its Mandate to Include RIM and DM
			<b>3.1.2</b>		Establish Information Management and Data Steering Committee (IMDSC)
			<b>3.1.3</b>		Establish Additional Steering Committees
			<b>3.1.4</b>		Establish Working Groups
			<b>3.1.5</b>		Establish Project Teams
			<b>3.1.6</b>		Establish Communities of Practice (COP)
			<b>3.1.7</b>		Develop Strategic City Clerk Services and ITS Partnership
			<b>3.1.8</b>		Distribute RIM and DM Roles Across the City
			<b>3.1.9</b>		Revise Position Descriptions to Include RIM and/or DM Responsibilities
	<b>3.2</b>	RIM and DM Policies and Policies Related to RIM and DM	<b>3.2.1</b>		Develop RIM Policy
			<b>3.2.2</b>		Revise 1997 MFIPPA Policy
			<b>3.2.3</b>		Develop Information / Records Preservation Order Policy
			<b>3.2.4</b>		Develop Corporate Archives Policy
			<b>3.2.5</b>		Develop Data Policy
			<b>3.2.6</b>		Develop Open Data Policy
			<b>3.2.7</b>		Revise Computer and Internet User Corporate Policy



City of Oshawa  
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Strategic Priority	Goal #	Goal	Objective #	Priority	Objective
<b>RIM and Data Management Staffing</b>			<b>3.2.8</b>	<b>High</b>	Revise Use of Personal Devices for Work Purposes Policy
			<b>3.2.9</b>	<b>High</b>	Review RIM and DM-related Aspects of Code of Conduct
	<b>4.1</b>	Optimize RIM Program Staffing	<b>4.1.1</b>	<b>High</b>	Establish I&RM Strategic Plan Implementation Project Manager Role
			<b>4.1.2</b>	<b>Medium</b>	Establish One Temporary Records and Information Analyst Position
			<b>4.1.3</b>	<b>Medium</b>	Participate in RIM Internship, Co-op, and Practicum Programs
			<b>4.1.4</b>	<b>Quick Win</b>	Revise Selected City Clerk Services Position Descriptions
			<b>4.1.5</b>	<b>High</b>	Reassign Backup Responsibility for Administrative Assistant Position
	<b>4.2</b>	Optimize DM Staffing	<b>4.2.1</b>	<b>Medium</b>	Expand GIS Program
			<b>4.2.2</b>	<b>High</b>	Allocate Active Leadership to Open Data Program
			<b>4.2.3</b>	<b>High</b>	Establish Data Program Manager Role
			<b>4.2.4</b>	<b>Medium</b>	Reconstitute Open Data Program
			<b>4.2.5</b>	<b>Medium</b>	Expand Open Data Program
<b>RIM Program Services</b>	<b>5.1</b>	RIM Guidance and Consultation	<b>5.1.1</b>	<b>High</b>	Prioritize Delivery of RIM Guidance and Consulting Services
			<b>5.2.1</b>	<b>High</b>	Prioritize Delivery of RIM Training
	<b>5.2</b>	RIM Training	<b>5.2.2</b>	<b>High</b>	Develop RIM Training Plans

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Strategic Priority	Goal #	Goal	Objective #	Priority	Objective
	5.3	RIM Performance Measurement and RIM Compliance Reviews	5.2.3	High	Deliver RIM Training
			5.3.1	High	Prioritize Delivery of RIM Performance Measurement and RIM Compliance Reviews
			5.3.2	Medium	Develop RIM Performance Measures
			5.2.3	Medium	Conduct RIM Compliance Reviews
	5.4	RIM Services for Local Boards	5.4.1	Medium	Identify Local Boards
			5.4.2	Medium	Determine RIM Service Delivery Model for Local Boards
			5.4.3	Medium	Deliver RIM Services to Local Boards
Lifecycle Management of Paper Records and Unstructured Electronic Records	6.1	Creation, Capture, and Declaration	6.1.1	Quick Win	Revise Mobile Communication Device Criteria to Address Information Ownership
			6.1.2	Medium	Review Records Creation, Capture, and Declaration Provisions in Business Processes
			6.1.3	Quick Win	Specify Records Creation, Capture, and Declaration Responsibilities in Charters and Terms of Reference
			6.1.4	High	Develop Guidelines for Creating Appropriate Record Content
			6.1.5	High	Define 'Official' and 'Transitory' Records
			6.1.6	Medium	Develop Standards-compliant Records Digitization Program
			6.1.7	Quick Win	Rename and Rescope Online Forms Committee
			6.1.8	Quick Win	Develop Forms Committee Mandate / Charter
			6.1.9	Quick Win	Revise Forms Procedure and Forms Standards

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Strategic Priority	Goal #	Goal	Objective #	Priority	Objective
	6.2	Classification, Search, and Retrieval	6.1.10	Quick Win	Continue Forms Database
			6.2.1	High	Develop Function-based Records Classification Scheme
			6.2.2	High	Develop File Naming Conventions for Unstructured Electronic Records
			6.2.3	Medium	Complete Records Classification Clean-up Projects
			6.2.4	Quick Win	Improve Access to Records Needed for Decision-making
			6.2.5	Quick Win	Transfer Annual File Folder Label Generation to Departments / Branches
	6.3	Collaboration and Sharing	6.3.1	Quick Win	Promote Approved Document Sharing and Collaboration Methods
			6.3.2	Quick Win	Keep Large Attachments in E-mail System
	6.4	Storage	6.4.1	Quick Win	Develop Records Storage Location Lists
			6.4.2	Quick Win	Switch to Random Spot Checks of Inactive Paper Records
			6.4.3	High	Store Inactive Paper Records at Commercial Record Centre
			6.4.4	Quick Win	Promote Intended Uses of Network Drives
			6.4.5	Medium	Implement Data Archiving Solution
	6.5	Security	6.5.1	High	Review Network Drive Security Rights / Privileges
			6.5.2	Quick Win	Review and Approve Staff Departure Procedure (Records)
			6.5.3	High	Establish Data and Information Security Classification Scheme

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Strategic Priority	Goal #	Goal	Objective #	Priority	Objective
			6.5.4	High	Prohibit Identifying Information on Boxed Inactive Paper Records
	6.6	Freedom of Information and Privacy	6.6.1	Quick Win	Implement Routine Access (Disclosure) Program
			6.6.2	High	Require Written Certification of Formal FOI Search Request Searches
			6.6.3	Quick Win	Ensure (Sufficient) Notices for Personal Information Collection
			6.6.4	Medium	Develop Personal Information Bank Index
			6.6.5	High	Require Completion of Privacy Impact Assessments
			6.6.6	Medium	Implement Privacy Audits
	6.7	Business Continuity	6.7.1	Medium	Identify and Protect Vital Records
			6.7.2	Low	Develop Disaster Recovery Plan for Paper Records
	6.8	Retention and Disposition	6.8.1	Medium	Revise Records Retention By-law
			6.8.2	Medium	Use Same Records Structure as in Records Classification Scheme
			6.8.3	Medium	Revise Records Retention Schedule Format
			6.8.4	Medium	Research, Document, and Maintain Records Retention Requirements Citations
			6.8.5	Medium	Revise Records Retention Schedule
			6.8.6	Medium	Complete Records Retention Clean-up Projects
			6.8.7	Medium	Conduct Annual Records Retention Schedule Review

City of Oshawa  
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Strategic Priority	Goal #	Goal	Objective #	Priority	Objective
			6.8.8	Quick Win	Promote Records Retention Schedule Use for Active Paper Records
			6.8.9	Quick Win	Apply Retention Periods to Unstructured Electronic Records
			6.8.10	Medium	Apply Retention Periods to Intranet Content
			6.8.11	Medium	Apply Retention Periods to Public Website Content
			6.8.12	Medium	Apply Retention Periods to Social Media Content
			6.8.13	Quick Win	Implement Suitable Retention Period for Full Monthly Backups
			6.8.14	Medium	Schedule Retention Periods for Structured Data
			6.8.15	Quick Win	Ensure New Structured Systems can Implement Retention Periods
			6.8.16	Quick Win	Promote Correct Use of Shredding Bins and Recycling Bins
	6.9	Archival Information and Artifacts	6.9.1	High	Add 'Archival Records' to Records Retention Schedule Disposition Options
			6.9.2	High	Develop Appraisal Guidelines for Physical and Electronic Formats
			6.9.3	High	Identify Archival Records in Records Retention Schedule
			6.9.4	Quick Win	Review Records Designated as Archival Review at Annual Records Disposition
			6.9.5	Low	Develop Digital Preservation Plan
			6.9.6	Medium	Investigate Deposit of Archival Records with Archives of Ontario

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Strategic Priority	Goal #	Goal	Objective #	Priority	Objective
			6.9.7	Medium	Investigate Feasibility of Establishing Regional Archives
	6.10	Intranet Content	6.10.1	Quick Win	Specify Intranet Content
			6.10.2	Quick Win	Require Semi-Annual Intranet Content Review
	6.11	Public Website Content	6.11.1	Quick Win	Require Continuous Review of Public Website Content
			6.11.2	Medium	Capture and Manage Public Website Content as Records
	6.12	Social Media Content	6.12.1	Medium	Capture and Manage Social Media Content as Records
	6.13	Enterprise Content Management (ECM)	6.13.1	Medium	Research ECM Systems
			6.13.2	Medium	Document ECM Requirements
			6.13.3	Medium	Assess ECM Implementation Readiness
			6.13.4	Medium	Prepare ECM Business Case
			6.13.5	Medium	Prepare ECM Strategy and Implementation Plan
Data Management	7.1	Data Work Plan and Priorities	7.1.1	High	Formalize Rolling 2-Year Data Work Plan and Priorities
			7.1.2	High	Set Corporate Data Priorities and Classification
	7.2	Data and Integration Architecture	7.2.1	Quick Win	Further Explore Power BI
	7.3	Data Format Standards	7.3.1	High	Develop Data Format Standards
			7.3.2	High	Complete Data Review of Recent and Current Implementations
	7.4		7.4.1	High	Develop Corporate Data Model

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Strategic Priority	Goal #	Goal	Objective #	Priority	Objective
		Corporate Data Model	7.4.2	High	Build Business Glossary
	7.5	Data Sharing / Data Providers	7.5.1	Quick Win	Conduct Legislative Review of Data Sharing
			7.5.2	Quick Win	Establish New Customer Consent Model
	7.6	Corporate Data Catalogue	7.6.1	Medium	Build Corporate Data Catalogue
			7.6.2	Medium	Enhance Focus of Open Data Portal for Internal Use
	7.7	Data Quality Standards and Measures	7.7.1	High	Set Data Quality Guidelines
			7.7.2	Quick Win	Document Current Data Quality Practices
			7.7.3	Quick Win	Document, Publish, and Socialize Data Quality Tools /Techniques
			7.7.4	Medium	Develop Data Quality Scorecards
			7.7.5	Medium	Complete One-off Data Cleansing Projects
	7.8	Data Literacy Education / Training Program	7.8.1	Quick Win	Develop Data Literacy Education / Training Program
			7.8.2	Quick Win	Build Data Community of Practice

### **3. RIM and Data Management Governance**

The Principle of Accountability in the Generally Accepted Recordkeeping Principles® (the Principles) states “A senior executive (or a person of comparable authority) shall oversee the information governance program and delegate responsibility for information management to appropriate individuals.”<sup>2</sup> The Principle of Accountability also states “A governance structure is established for program development and implementation so it is clear where responsibilities reside and how the chain of command works to build, implement, and upgrade the information governance program . . . The senior executive in charge of information governance establishes a method to design and implement a structure to support the information governance program.”<sup>3</sup>

Similarly, the Capability Maturity Model Integration (CMMI) Data Maturity Model (DMM) framework notes the importance of governance in the overall effectiveness of DM within an organization. There are grassroots within the City that could help support DM practices, but they need to be assembled and empowered through a corporate body that, in part, establishes an overall framework within which to manage data. In general, the City needs to take an active role through both leadership and governance in order to make real progress.

Both RIM and DM best practices recommend the establishment of clear roles and responsibilities. This is a baseline activity upon which all else will build. There is a benefit to aligning RIM and DM activities, particularly around integrating governance, policy, and standards that guide the respective programs, aligning work plans, and sharing learning.

#### **3.1 Integrated RIM and DM Governance Model**

A proposed governance model is provided below (Figure 3) and discussed in detail in the following objectives.

The effective management of any organization’s data and records depends on a holistic, integrated, and collaborative approach as well as demonstrated stakeholder commitment.

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<sup>2</sup> ARMA International, Implementing the Generally Accepted Recordkeeping Principles (ARMA International TR 30-2017), page 19.

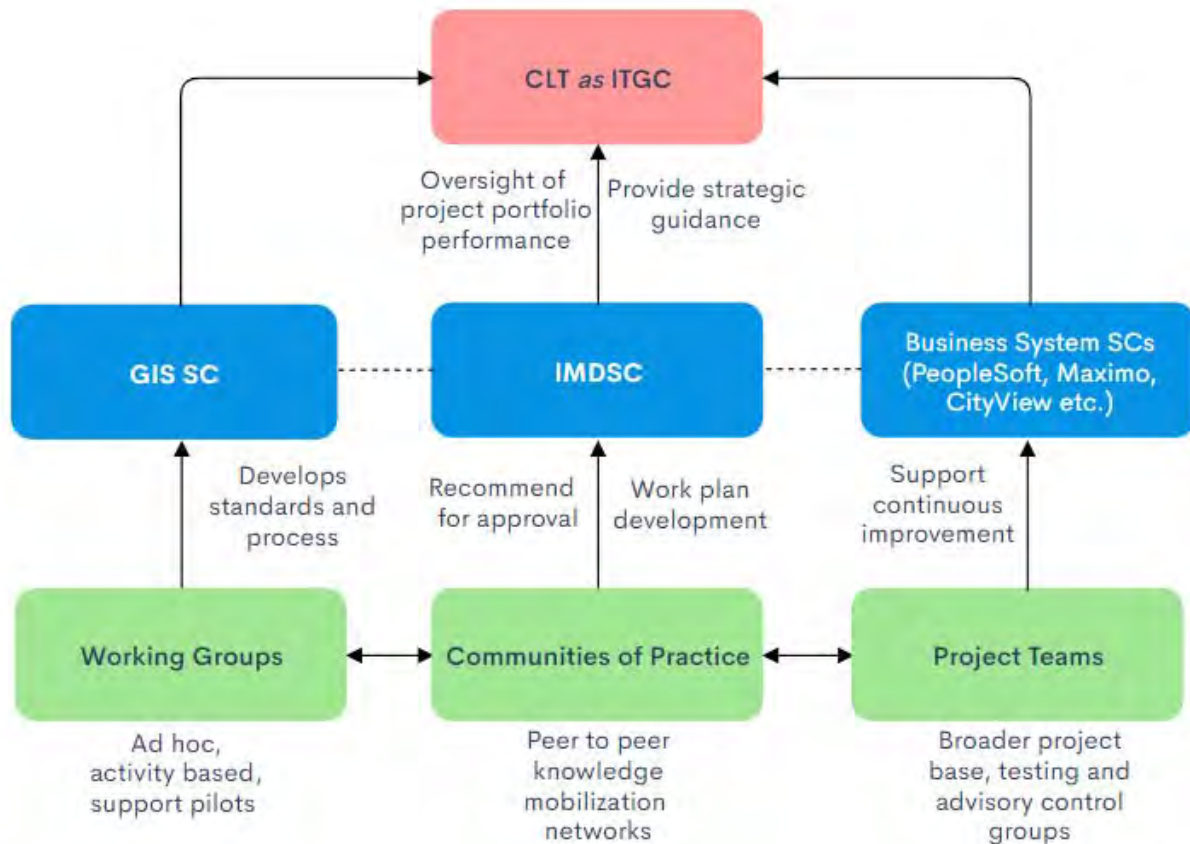
<sup>3</sup> Ibid.



The proposed governance model is not completely hierarchical. As a result, the City will need to become comfortable operating in a matrix style of governance. What we mean by this is that there will be large business technology projects (e.g. ERP, Work and Asset Management) and a GIS Steering Committee (SC) that will operate on the same level or as a peer of the Information Management and Data Steering Committee (IMDSC). Further, this means that these SCs will need to seek input and share information between each other in order build standards for the expanded RIM Program and for the DM Program. This relies on effective co-operation and collaboration to be successful. Our interpretation of the situation currently is that management and staff throughout the City are open to co-operation and collaboration and are looking for guidance that is currently lacking.

The following model has been somewhat simplified for illustrative purposes. The relationships between entities will need to be defined further through development of the framework and completion of a RACI (responsible, accountable, consulted, and informed) style matrix to clearly articulate the authority of each group and where specific decisions need to be made. Objectives # 3.1.1 to # 3.1.9 below recommends that City expand the governance framework beyond the current ISSC to align with this basic model.

**Figure 3 - Integrated RIM and DM Governance Bodies**



The governance model is predicated on the notion of working openly and transparently. Everyone can benefit from more eyes on ideas and plans - diversity of viewpoints and opinions typically contribute to a better end product.

Recommendations for establishing and sustaining a clear, integrated RIM and DM governance model are provided below.

### ***3.1.1 Reconstitute ISSC and Expand its Mandate to Include RIM and DM***

The Information Systems Steering Committee (ISSC) has been operating at the City for several years. Functioning at the Director / Manager level, ISSC provides oversight of technology related projects, including their evaluation, prioritization, and approval. Although ISSC does not have a formal relationship with CLT, it reviews and makes recommendations to CLT on priorities, IT budgets, and other key IT decisions. While DM factors into these decisions, they exist primarily at the project, system, and/or operational level. High level, strategic conversations regarding DM as a corporate discipline do not occur at ISSC; thus, no exchanges regarding the same are managed with CLT. ISSC's current mandate does not include RIM and RIM topics such as data retention and archiving are rarely (if ever) considered at ISSC meetings.

It is recommended that the mandate of the ISSC be expanded to include DM and RIM as areas of responsibility. This expanded decision-making body should also be renamed the Information and Technology Governance Committee (ITGC, or something similar) to represent the much broader implications and focus for this group. This shift is required to better support strategic conversations around technology as well as in relation to RIM and DM priorities. It is essential that City executives are involved in priority setting.

It is also important to consider alignment between the City's (existing and/or future) corporate strategic plans to help with both promotion and compliance of DM and RIM activities. Further alignment with corporate work plans and project schedules is also necessary to help manage resourcing (from ITS and RIM as well as other departments / branches) to avoid overcommitment.

Some municipalities dedicate time at their executive management meetings (i.e. CLT) to address strategy and priority setting along with some form of representation from IT, Clerks, and/or other departments / branches / functions that are instrumental in supporting technology, DM and RIM. As depicted in Figure 4 below, there is a need for varying perspectives at ITGC to ensure the correct corporate lenses are applied. In Oshawa's case, CLT serving as the ITGC would fully engage the executive level in the corporate decisions that need to be made surrounding technology, DM, and RIM adoption. This model will also help to align these decisions with the City's other strategic priorities.

Committing executive level representation to the ITGC would help focus technology conversations at a strategic level and provide better exposure to ongoing projects, policies, and programs. It would also afford the opportunity for this group to approve an overarching technology (and RIM / DM) strategy and monitor the performance of related projects against it. Exposure for non-executive participants is also important as it will allow them to better understand why certain priorities exist over others (i.e. ties to corporate strategy) and why certain funding allocations are in place. This would help improve some of the communication barriers we identified between hierarchical groups as well as between branches at the City.

To support the overall expansion of technology governance, and RIM and DM governance more specifically, the City must understand and determine what CLT will need to approve versus what other groups within the governance framework will have authority to sanction. This should extend to each group that helps support the overall governance structure. A RACI matrix would likely be a good method to help document these important primary conversations. Aside from determining membership, a

mandate and terms of reference (TOR) need to be developed for ITGC that reflects its overall authority, speaks to roles and responsibilities, and provides details on meeting times and how information from the meetings will be shared more broadly. A mandate and TOR should be vetted with management bodies to ensure sufficient buy-in for the approach.

*Note: The proposed governance framework for ITGC below corresponds with the governance framework that will also be recommended in the current work to develop a new IT Strategy for the City.*

### **3.1.2 Establish Information Management and Data Steering Committee (IMDSC)**

The Information Management and Data Steering Committee (IMDSC) should be a Steering Committee (SC) which has delegated authority from ITGC to coordinate the RIM and DM Programs and exist as the City forum for the review, debate, editing / finalization, and approval of RIM and DM strategies, policies, standards, and guidelines for corporate use.

The IMDSC will also monitor and evaluate the implementation of such documents and provide regular reporting on the effectiveness of those documents to ITGC. As with ITGC, work would need to be undertaken to determine an IMDSC mandate which reflects the overall focus, appropriate membership, and TOR. With executive membership at ITGC, the IMDSC membership should likely include representatives from middle management throughout the organization but the City may also wish to consider adding a CLT member during the first year (or so) to ensure the IMDSC's mandate is fully understood and supported. Examples of potential IMDSC responsibilities include:

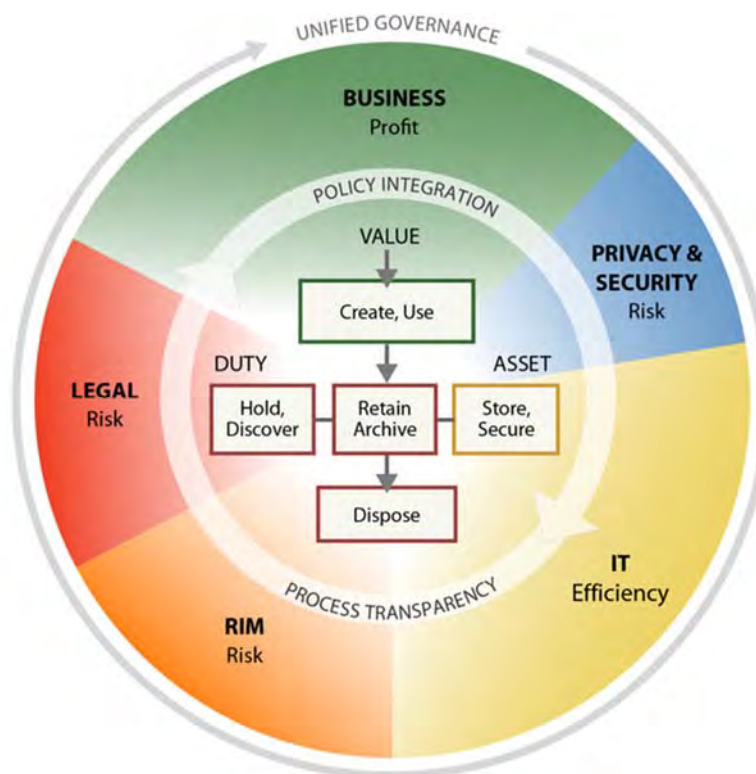
- Provide corporate leadership for RIM and DM.
- Advocate compliance with the City's RIM / RIM-related and DM / DM-related policies and procedures and with RIM and DM industry standards and best practices.
- Identify opportunities to develop new RIM / RIM-related and DM / DM-related policies, procedures, guides, forms, standards, and practices.
- Review proposed new or revised City policies that will impact or affect the City's RIM or DM policies, procedures, or practices.
- Guide the management of corporate information assets across the organization.
- Provide clarity of RIM and DM roles and responsibilities.
- Advocate for an effective balance between information transparency while managing corporate risk and privacy protection.

According to EDRM<sup>4</sup>, the following standpoints must be considered when providing for decision-making on information assets:

- **Value** - Utility or business purpose of the information / data.
- **Duty** - Legal obligation for specific information / data.
- **Asset** - a specific “container” of information / data.

It is recommended that IMDSC membership be comprised of a core group of leaders across the City who adequately represent the functions or entities of the Business, IT, Legal, Privacy and Security, and RIM as illustrated in the Information Governance Reference Model below (Figure 4). This cross-section group of equally weighted stakeholders will be key to supporting a holistic and integrated RIM and DM governance framework, serve to apply the Value, Duty, and Asset lens to RIM and DM, and reinforce well rounded decision-making regarding the City’s information assets.

**Figure 4 – Information Governance Reference Model<sup>5</sup>**



<sup>4</sup> Information about EDRM is available at <https://www.edrm.net/>

<sup>5</sup> Information about the Information Governance Reference Model (IGRM) is available at <https://www.edrm.net/resources/frameworks-and-standards/information-governance-reference-model/>

IMDSC should be focused strictly on RIM and DM decision-making and on communicating those decisions to the rest of the corporation. Members should become evangelists for RIM and DM by leveraging their relationships with peers in order to help cascade information across departments / branches. There should also be time for storytelling to occur in relation to ongoing work that meets best practices established by the group as well as active sponsorship of RIM and DM related events and activities. IMDSC will be a critical component to successfully launch an expanded, full lifecycle RIM Program including data for the City.

Given that some information and data activities are already coordinated through the current ISSC, GIS and Open Data Working Groups, the Online Forms Committee, and various project teams, it would be advisable to consolidate these efforts through one body that operates using a corporate RIM and DM lens. This would not only foster the standardization of organization-wide RIM and DM Program rudiments but could also be managed through an annual RIM and DM work plan.

### ***3.1.3 Establish Additional Steering Committees***

In addition to IMDSC, the City should consider creating other Steering Committees (SCs) for RIM or DM.

With respect to RIM, the existing Online Forms Committee (which we recommend revert to its original name, Forms Committee) would be constituted as a SC with corporate oversight responsibility for the City's forms in paper and electronic formats. When transitioning this existing group to a SC, the City should prepare a TOR and review the committee's membership to ensure a suitable membership complement.

With respect to DM, the City should consider creating Steering Committees related to the City's key programs and technology platforms. For example, some municipalities have created ERP and/or Work and Asset Management committees with membership that supports project / program implementation as well as continuous improvement on the related system(s). The City already has an existing form of this with the GIS and IT project teams (Maximo, CityView). Although more work can be done to formalize these groups to ensure for better frequency of meetings and documentation of decisions, they can be used as good models to learn from and expand upon.

The existing GIS Working Group should be considered a SC because GIS is a continuous program which has no foreseeable end point. When transitioning this existing group to a SC, the City should review current participation levels in order to determine a suitable membership complement that is manageable and which represents the interests of the City most effectively. Based on data we have collected,

the existing iteration seems to function more like an ad hoc working group where membership, frequency, and efforts seem to revolve around work happening 'in the moment'. Given that GIS (and by relationship the Open Data Program) seems to be an isolated example in the City where DM principles are conventionally built and applied, it is important to develop formality around this existing structure. Converting the GIS Working Group to a SC will elevate its overall mandate, empower those who have been doing work 'in the data trenches' for some time as well as tie it more concretely to formal decision-making which is a component of the new ITGC model.

Project groups supporting Maximo and CityView can be examined to determine whether there is merit in establishing SCs around system-specific groups. The City has commonly assembled project teams that support enterprise system implementations, but following launch, there is no formal place for the business and ITS to have conversations around the ongoing management of a system beyond project implementation (e.g. maintenance, upgrades, integration, functionality, etc.). Further examination of system-specific SCs will be considered by way of the IT Strategy recommendations.

### **3.1.4 Establish Working Groups**

Working Groups are typically where RIM and DM work will be done. These groups would operate to co-develop and test best practices, bringing forward recommendations for discussion and approval at IMDSC and at GIS or other SCs. Working groups would consist of membership from across the organization and could be designed as fluid - scaling up or down in relation to a certain project or program. They should also revolve around a topic area or set of actions which need to be completed to support a substantive decision by ITGC. As a result, Working Groups may be formed and disbanded at the pleasure of ITGC.

Examples of potential Working Groups for RIM:

- Working Group to assist in identifying the City's vital records in paper format and appropriate methods for their protection.
- Working Group to draft a list of the privacy criteria to be assessed when the City is contemplating the purchase of new software, whether on-premise or cloud-based.
- Working Group to assist in the identification of RIM performance measures.

Examples of potential Working Groups for DM:

- Data Working Groups that are struck to develop data rudiments such as:

- A Base Data Standards Team - a small team that comes together to draft the base data standards (e.g. postal code, gender lookup lists, etc.), socialize with the data community, and review with IMDSC.
- A Data Quality Standards Team - a small team that comes together to draft the standards to be used for defining and assessing data quality (e.g. accuracy, completeness, etc.), socialize with the data community, and review with IMDSC.
- Data Working Groups struck to support projects focused on key topics and data subjects such as:
  - Assets.
  - Customer.
  - Finance.
  - Identifiable Individuals.
  - Properties.
- Data Working Groups that support specific projects or programs of work such as:
  - Evolution of a base team (above) that supports all ongoing project work to ensure standardized compliance (audit function).
  - Training and education (e.g. GIS education day, Privacy / Security, etc.).
  - Outside data sharing partnerships.
  - To help drive communities of interest (e.g. BI, open data, etc.).

### **3.1.5 Establish Project Teams**

The City has experience in establishing Project Teams for technology projects. Commonly these consist of a sponsor from the business area, a Project Manager, ITS lead, business lead, ITS business and/or system analysts, and operations staff from the business area. Some instances also include representation from Finance, Corporate Communications, and/or Legal Services. In general, these groups work well, but could be improved through enhancing documentation, developing stronger ties to governance (for accountability), and by flexing the project management style to best fit the project (e.g. Agile vs. Waterfall). Further examination of this will be considered by way of the IT Strategy recommendations.

DM / technology Project Teams need to be driven and managed through a project charter and a defined schedule approved through the governance model. ITS has begun to develop more rigor in this regard; however, there is still much more to do. We have learned that many in the organization, regardless of corporate hierarchy, do not have a good account of what projects are ongoing and where they are in terms of their overall delivery to the City. There are sizeable projects currently underway with Maximo and CityView - coordinating the resources which are interconnected in supporting both projects is essential. Project documentation supported by regular review by the ITGC



will greatly improve more strategic communications to project stakeholders as well as the rest of the organization.

All technology projects should be required to comply with RIM and DM standards and policies. Compliance monitoring could be directed and managed through the appropriate SC. For instance, IMDSC may request an in-person meeting with a lead for the Maximo project to discuss DM project decisions made with the SC. In fact, major project leads should, in the early stages of a project, consider IMDSC a key project stakeholder to allow for a review of plans to ensure alignment with corporate RIM and DM standards and to identify where the project may be able to contribute to those standards as they evolve corporately.

Further, all technology projects and corporate initiatives involving or affecting the City's records (e.g. the Intranet Redevelopment Project) should be required to include a RIM Program employee as either a member of the project team or as an advisor / liaison to ensure that RIM policies, standards, and best practices are addressed in the project charter / TOR and throughout the project.

RIM would form Project Teams to support I&RM Strategic Plan implementation, e.g. a Project Team to support the development and validation of a function-based Records Classification Scheme and a Project Team to support the annual review and update of the Records Retention Schedule.

### **3.1.6 *Establish Communities of Practice (COP)***

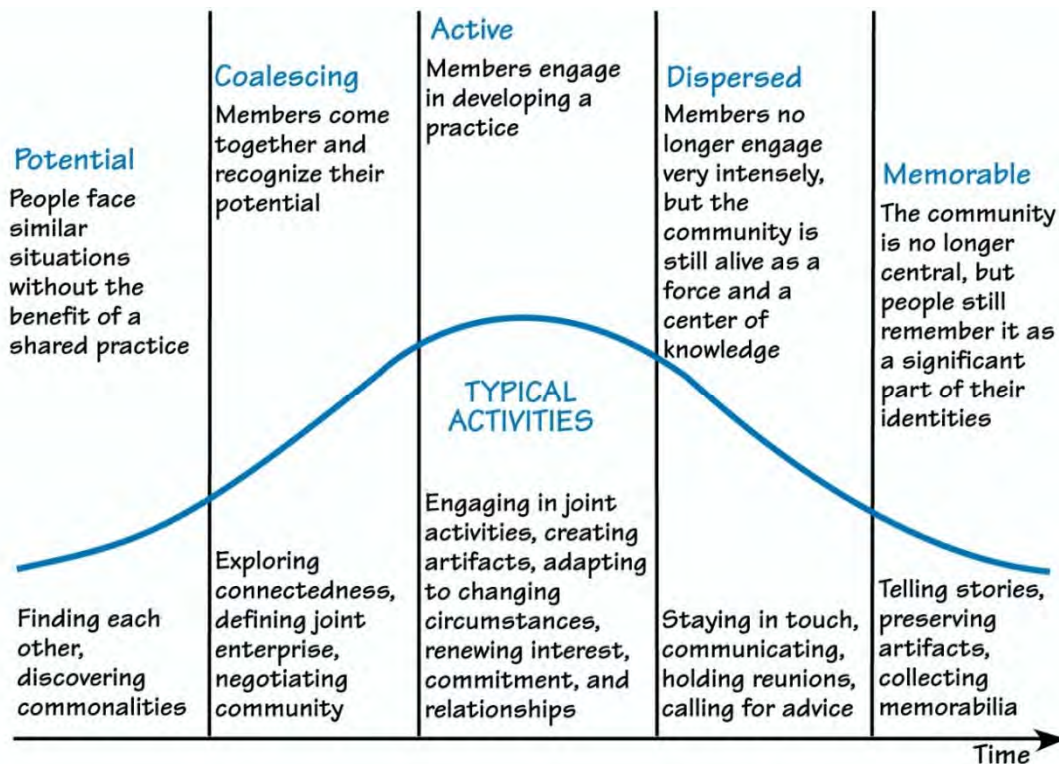
Communities of Practice (COP) are informal and/or loosely defined groups that can be critical in support of emergent corporate disciplines such as RIM and DM. Many exist without a formal terms of reference and instead focus on directly managing knowledge to a key area. This knowledge is created, organized, revised, and shared between COPs. This knowledge is extremely valuable to help inform a governance body because it is generated and revised by people who are well attuned to 'how things are currently done'.

A COP empowers the front line by identifying improvements that would directly make their jobs easier and improve the overall service or process they are managing on behalf of the City. Employing these communities directly also helps to legitimize a corporate process or discipline (like RIM and DM) because they provide an opportunity for those involved to discuss how their participation contributes to real change.

COPs exist through a continuum or activity that supports somewhat distinct stages of development (Figure 5 below). Although this evolution can be directed / promoted

through a body like IMDSC, the activities and levels of interaction will only be sustained through a critical mass necessary to support the related activities. The City should be mindful of this continuum when curating COPs as many will take time to progress from one stage to another (or may stall if the appropriate supports are not in place).

**Figure 5 – Community of Practice Development Stages<sup>6</sup>**



The City has individuals within the existing rank and file who are already focused on managing DM or RIM from their vantage point and including them in the work to establish a DM Program and an expanded RIM Program would help to legitimize their activities to date and provide them with an opportunity to use their skills to improve conditions organization-wide. COPs can begin to function organically with leadership from within the grassroots or through a central catalyzing agent. A COP related to RIM and DM could be driven through a partnership of ITS and City Clerk Services. Through our investigation, and in relation to many of the survey responses we received, we feel that there are many employees who would be interested in rallying around RIM and DM as a COP for the City. This working model could help to draw out the latent skills and

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<sup>6</sup> Etienne Wenger, "Communities of Practice: Learning as a Social System"  
<https://thesystemsthinker.com/communities-of-practice-learning-as-a-social-system/>

talent that many staff already possess to help build a more data- and information-savvy City.

Note: See Objective # 7.8.2 for developing a data community of practice as part of the proposed Data Literacy Education / Training Program.

### **3.1.7 Develop Strategic City Clerk Services and ITS Partnership**

“IT Governance is intended to ensure that the right people are making the right decisions, at the right time, with the right information.” Two of these *right people* are the Director of IT Services and the City Clerk. RIM and DM are inextricably tied to technology, and based on our investigation, there appears to be few formal linkages between ITS and City Clerk Services who currently manage these key areas. Although there is some evidence of City Clerk Services staff being included in work such as system implementations (e.g. Intelligenz), these opportunities do not occur soon enough within a project to help make course corrections or the necessary procurement decisions. Based on the data collected, ITS has provided good service to City Clerk Services, but more as a service / support provider rather than a trusted partner to help understand and address their specific requirements for RIM at the City.

Some employees within the organization are aware that City Clerk Services is responsible for privacy and offers services related thereto such as notices on City forms regarding the collection of personal information; however, far fewer are aware that ITS manages some ‘data work’ that *could* help to guide them in their day-to-day activities (e.g. through things like applied GIS naming conventions). The Director of IT Services and the City Clerk need to become collaborators in the development and implementation of an expanded RIM Program and work to understand what support they can provide to the organization through the partnership. In short, because RIM and DM are not mutually exclusive concepts, the relationship between those who manage these respective areas should also be deliberately interconnected. Opportunities to improve this relationship are as follows:

- City Clerk Services membership on ISSC (to be renamed ITGC).
- City Clerk Services membership on DM / technology / system-related Working Groups and Project Teams.
- Regular face-to-face meetings between individuals and respective staff groups.
- Extending invites to relevant staff (in either area) early on in project discussions.
- Empower City Clerk Services and ITS employees to work together.
- Jointly sponsor privacy / data security education sessions for staff.
- Co-author presentations and reports to CLT and Council.

- Co-sign Intranet communications and corporate memos that relate to RIM / DM.
- Actively evangelize within the organization using the same language / key messages.
- Co-develop benchmarks and monitor corporate performance related to RIM and DM.

This partnership is a key attribute that can be used to help reform data and technology governance at the City and support the development and sustainability of an expanded RIM Program.

### ***3.1.8 Distribute RIM and DM Roles Across the City***

The example below (based on the University of Saskatchewan<sup>7</sup> and adding 'information' to each role and function description) highlights a sample definition of roles and functions for RIM and DM:

1. Trustees – Highest-ranking individuals accountable for what happens with and to information and data.
2. Stewards – Individuals in departments / branches who are responsible for promoting appropriate information and data use through planning, policy, and protocols.
3. Custodians – Individuals in departments / branches responsible for ensuring that policies are followed within a specific area and that local processes are consistent with policies and procedures.
4. Guardians – Individuals in RIM who have operational level responsibility for RIM activities related to managing the records lifecycle and individuals in ITS who have operational level responsibility for DM activities related to the creation, storage, maintenance, cataloguing, use, dissemination, and disposal of data.
5. Users – City employees who access and use information and data.

Although it is not explicitly recommended that the City adopt these specific function descriptions as-is, using common industry terminology to describe functions is recommended.

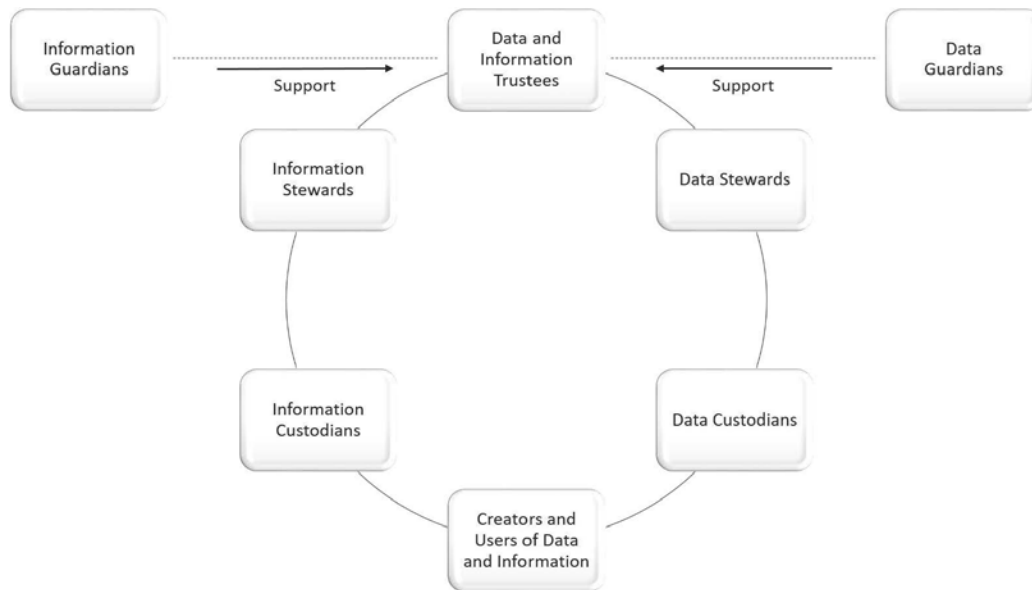
Because integrated RIM and DM governance bodies are recommended, there is benefit in adopting the same terminology to define the RIM and DM roles. Using the University of Saskatchewan terminology above, Figure 6 illustrates how the City could establish

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<sup>7</sup> Data Governance Framework, University of Saskatchewan  
<https://www.usask.ca/avpict/documents/Data%20Governance%20Framework-September%202017.pdf>

parallel, complimentary roles for the management of information and data. Figure 6 allows a department / branch to split 'Steward' and 'Custodian' appointments between information and data depending on their respective duties / responsibilities. Conversely, if the 'Trustees' are the Directors, it would be logical for each Director to be the Trustee for both information and data in his/her respective department / branch.

**Figure 6 - Integrated RIM and DM Roles**



From both the RIM and DM perspectives, the City should formally define its operating model: which roles and functions are to be distributed into department / branch level operations and which roles should be centralized into a corporate unit, i.e. ITS for data and RIM for records / information.

Data creation, editing, and maintenance are undeniably the responsibility of users in the departments / branches just as they are responsible for the creation, capture, and management of paper records and unstructured electronic records. Drivers for the use of data (leadership and management), expert users, data (data scientists, data analysts), analytics, and dashboards (management and staff) will typically reside in the departments / branches that have requirements for the service, i.e. outside of ITS and typically in a department / branch or in a corporate unit that provides corporate performance or analytics services to other branches. The RIM Policy (to be developed) would reflect the RIM roles and responsibilities and the Data Policy (also recommended to be developed) would reflect the DM roles and responsibilities.

### **3.1.9 *Revise Position Descriptions to Include RIM and/or DM Responsibilities***

Every employee creates / receives and manages City records and many employees create or use structured data.

It is recommended that position descriptions be reviewed and responsibilities for RIM and/or DM be added where appropriate. This will help reinforce the importance of managing information and data as City assets.

### **3.2 RIM and DM Policies and Policies Related to RIM and DM**

Policies are an important element of effective governance. This goal recommends the development of several RIM and DM policies and the review (and revision if/as applicable) of several existing City policies to ensure continuity in the management of data / information / records.

Note: The Records Retention By-law and the Records Retention Schedule (appended to the By-law) are the City's policy regarding records retention and disposition. Goal # 6.8 (Retention and Disposition) contains several objectives regarding those two documents.

#### **3.2.1 *Develop RIM Policy***

It is recommended that the City establish a RIM Policy to govern the management of its records.

A RIM Policy typically describes the objectives, purpose, and scope of a RIM Program, prescribes corporate (i.e. RIM Program) versus department / branch accountabilities for the lifecycle management of records, and assigns RIM responsibilities to different levels of staff (e.g. Commissioners, middle management, employees, RIM Liaisons or Departmental Representatives, etc.). A RIM Policy also typically defines key terms such as 'record' and 'transitory record'.

It is also recommended that the RIM Policy include a statement which clearly articulates the City's ownership of the data / documents / information / records that employees create / receive and maintain in their jobs.

In the absence of a RIM Policy, understanding of these matters will be non-existent or unclear and open to interpretation. Further, the City will lack the necessary management-approved framework to communicate and enforce clear roles and specific responsibilities for managing records.

### **3.2.2 *Revise 1997 MFIPPA Policy***

It is recommended that the City revise the 1997 MFIPPA Policy to, among other things, address frivolous requests, indicate the newer technologies in which City records may reside such as instant messages and social media content, and expand the coverage of privacy. Regarding privacy, the City may instead elect to establish a standalone Privacy Policy to address the privacy elements which the 1997 MFIPPA Policy does not cover<sup>8</sup>. It is further recommended that the revised MFIPPA Policy be strictly a policy, with procedural elements (such as the fourteen step access procedure) being spun off into a separate procedure document.

Note: Prior to the writing of this Strategic Plan, City staff anticipated submitting a revised MFIPPA Policy to Council in 2020.

### **3.2.3 *Develop Information / Records Preservation Order Policy***

It is recommended that the City establish an Information / Records Preservation Order Policy which would be used to identify, gather, and preserve data, information, or records in the event of litigation, governmental investigation, quasi-judicial hearings (e.g. a human rights complaint), audits, and FOI requests (particularly wide-ranging FOI requests).

It is also recommended that the City ensure that the Preservation Notice Template addresses both 'known' litigation (i.e. a statement of claim has been filed by or against the City) and anticipated, foreseeable, or threatened litigation. Alternatively, the City could create two Preservation Notice Templates, one for 'known' litigation (as well as 'known' governmental investigation, quasi-judicial hearings, audits, or FOI requests) and a second Template for anticipated, foreseeable, or threatened litigation (as well as anticipated, foreseeable, or threatened governmental investigation, quasi-judicial hearings, or audits).

Note: City staff have prepared a draft Litigation Hold Policy (including a Preservation Notice Template) to be used to identify, gather, and preserve the data, information, or records (the policy uses the term 'discoverable material relevant to a claim or defense') to be put on hold (i.e. approved retention and destruction of the discoverable material is to be suspended) due to foreseeable or pending litigation. The Preservation Notice

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<sup>8</sup> As stated in the I&RM Assessment Report, the 1997 MFIPPA Policy does not address privacy in terms of the collection of personal information, use and disclosure of personal information, retention of personal information, right of access to and correction of personal information, personal information banks, privacy audits, privacy impact assessments (PIAs), or privacy breach management.

Template address the placing of a hold following receipt of a statement of claim (i.e. the filing of a lawsuit).

### **3.2.4 *Develop Corporate Archives Policy***

It is recommended that the City establish a Corporate Archives Policy after it decides how its archival records and artefacts will be managed.

Note: City staff have prepared a draft Corporate Archives Policy.

### **3.2.5 *Develop Data Policy***

It is recommended that the City establish a Data Policy that encapsulates key aspects of the City's data thinking (e.g. "data is a City-owned Asset") into a corporate-level policy, alongside agreed positions on data governance, access, usage, integrity, and integration.

A Data Policy should be written for employees who are unaware of DM and should provide a set of common principles, definitions, and responsibilities. The policy should be a high-level document that is approved by the City's governance structure for DM. Components of the policy should include a purpose or objective, principles, definitions, roles and responsibilities, and a data classification schema<sup>9</sup>. It should also reference other policies and procedures (to be) developed in accordance to the recommendations in this Strategic Plan. The policy itself should be a living document with an annual review cycle by way of IMDSC to ensure it remains in alignment with an evolving DM Program.

A Data Policy is an excellent first artifact to help guide the development of a DM Program, but it requires work to prepare (language, roles and responsibilities, etc.), socialize broadly, and have the document approved by a form of internal governance that can help City leaders promulgate (champion, evangelize, and actively communicate) the overall purpose and expectations.

### **3.2.6 *Develop Open Data Policy***

It is recommended that the City develop an Open Data Policy that will guide the continued expansion of the Open Data Program.

### **3.2.7 *Revise Computer and Internet User Corporate Policy***

It is recommended that the Computer and Internet User Corporate Policy (Policy AG 10.99) be reviewed and revised if/as applicable to ensure consistency with the RIM Policy, revised MFIPPA Policy (and potential new standalone Privacy Policy), the

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<sup>9</sup> Queen's University Classification Hierarchy (a very good reference model)  
<https://www.queensu.ca/its/security/policies-procedures/standards/data-classification>



Information / Records Preservation Order Policy, the Corporate Archives Policy, the Data Policy, and the Open Data Policy.

It is also recommended that the Computer and Internet User Corporate Policy be revised to specify the circumstances in which cloud-based file storage or cloud-based file transfer / sharing applications may be used for work-related purposes and to name the application(s) that employees are permitted to use for those purposes. This revision is required because, although the policy currently forbids “Use of non-City services via “cloud” or non-corporate systems to store or transfer City data is forbidden”, employees need to use (and are using) cloud-based file storage or file transfer / sharing applications such as Dropbox, Google Drive, and 2big4email for work-related purposes such as distributing a file that is too large to be sent via the City’s e-mail system.

### ***3.2.8 Revise Use of Personal Devices for Work Purposes Policy***

It is recommended that the City revise the Use of Personal Devices for Work Purposes Policy (Policy AG 10.100) to address ownership of information because, unlike similar policies we have reviewed at other organizations (including municipalities), this Policy does not currently assert the City’s ownership of the records created / received and managed by City employees on the personal devices they use for work purposes.

It is also recommended that the City revise the Use of Personal Devices for Work Purposes Policy to require the removal of corporate data from a personal device upon any change of the device used, termination of employment or withdrawal from the user agreement allowing the employee to use his / her personal device for work purposes, or when the employee plans to sell or otherwise transfer ownership of the device.

### ***3.2.9 Review RIM and DM-related Aspects of Code of Conduct***

It is recommended that the City review the RIM and DM-related aspects of the Code of Conduct (Policy AG 10.80) such as ownership of information and preserving the confidentiality of information and revise the Code of Conduct if/as applicable to ensure consistency with the RIM Policy and other policies discussed above.

## **4. RIM and Data Management Staffing**

This strategic priority addresses RIM and DM staffing.

Note: See also the following staffing-related objectives:

- Objective # 3.1.8 for distributing RIM and DM roles across the City.
- Objective # 3.1.9 for revising position descriptions to Include RIM and/or DM responsibilities.

### **4.1 Optimize RIM Program Staffing**

This goal includes several objectives for optimizing RIM Program staffing.

#### ***4.1.1 Establish I&RM Strategic Plan Implementation Project Manager Role***

It is recommended that the City establish a full-time Project Manager role to lead implementation of the I&RM Strategic Plan, co-ordinating the work of the Records and Information Analysts, the Information, Access and Privacy Officer, external consultants / vendors who may be engaged to support the Strategic Plan's implementation, and any RIM co-op students, interns, or practicum program students. In addition to project managing the Strategic Plan's implementation, the Project Manager would also participate in completing some of the objectives in the Strategic Plan.

Ideally, the incumbent will have the following qualifications:

- a) Post-secondary education in RIM / information management.
- b) RIM industry certification (Certified Records Manager (CRM) and/or Information Governance Professional (IGP)).
- c) Project management certification (Project Manager Professional).
- d) 3-5 years RIM experience, preferably in a municipal setting and preferably including the development or expansion of a RIM Program.
- e) 2-3 years supervisory experience.
- f) Demonstrated experience in managing complex projects including internal and external resources.
- g) Detailed knowledge and understanding of regulatory requirements, best practices, and industry standards for managing records.

#### ***4.1.2 Establish One Temporary Records and Information Analyst Position***

The RIM Program will be responsible for a considerable body of work during I&RM Strategic Plan implementation and, particularly, during the initial years of the 5 year implementation timeline (2020-2025).

It is recommended that the City establish a temporary, full-time Records and Information Analyst position beginning in 2021 for a 2-year term with the possibility of renewal or potential conversion to permanent status (the duration of any additional temporary term(s) or the potential for conversion to permanent status would be determined as I&RM Strategic Plan implementation advanced). A 2-year term would help to maintain progress in implementing the I&RM Strategic Plan in 2022 when the existing Records and Information Analysts would, based on past practice in City Clerk Services, have less time to spend on RIM duties due to their participation in municipal election planning.

#### ***4.1.3 Participate in RIM Internship, Co-op, and Practicum Programs***

As noted in the I&RM Assessment Report, the City has augmented its RIM Program staff complement in the past by engaging interns or co-op students (from Durham College and Sir Sanford Fleming College) who were completing programs of study in related disciplines; however, the City has not participated in any paid internships or co-op programs or in any RIM practicum programs such as the one offered by the University of Toronto's iSchool.

It is recommended that the City consider participating in RIM internship, co-op, and practicum programs in the future to provide additional, project-specific resources at strategic points in the 5 year timeline for I&RM Strategic Plan implementation. Note: There may be opportunities to secure appropriately qualified college level students through TeachingCity.

#### ***4.1.4 Revise Selected City Clerk Services Position Descriptions***

The I&RM Assessment Report observed that the position descriptions for the City Clerk, Deputy City Clerk, Records and Information Analyst, and Information, Access and Privacy Officer positions were approved at different times. The Assessment Report also observed that some RIM responsibilities in the position descriptions are aspirational (i.e. reflecting work the City hopes will be undertaken rather than work that occurs today), some responsibilities overlap between the positions, and there are inconsistencies in the position descriptions (e.g. the Information, Access and Privacy Officer position description states that the Officer, not the Records and Information Analyst position, leads "best-practice policies, procedures and initiatives related to corporate records management").

It is recommended that the RIM aspects of the City Clerk and Deputy City Clerk positions be reviewed and updated and that the full position descriptions for the Records and Information Analyst and Information, Access and Privacy Officer positions be reviewed and updated.

It is also recommended that the revised position descriptions be submitted for job evaluation rating. Given that the Records and Information Analyst candidate pool in Southern Ontario, particularly candidates with municipal RIM experience, is relatively small and the City's current salary range for the Analyst position is lower than the salary range for many comparable positions at other Ontario municipalities, including municipalities with more Analyst positions than the City (e.g. Region of Durham, Region of York, and City of Toronto), it is hoped that the salary for the Records and Information Analyst position will increase as a result of the re-evaluation. Should the salary not increase, the City may experience challenges in attracting and retaining qualified individuals.

#### **4.1.5 Reassign Backup Responsibility for Administrative Assistant Position**

The I&RM Assessment Report observed that filling in for the Administrative Assistant in City Clerk Services when that employee is on lunch or absent (vacation or any other absence)<sup>10</sup> occupies a considerable amount of Analyst time. RIM Program staff estimate that providing this backup and, since May 2019, assisting the Information, Access and Privacy Officer to process FOI requests occupies 1/3 of the work year for one Records and Information Analyst.

It is recommended that the provision of backup for the Administrative Assistant position be reassigned to another City Clerk Services position (an existing position or a new position such as a part-time Administrative Assistant position). Assuming that the assistance the Analysts provide to the Information, Access and Privacy Officer is more administrative than analytical in nature (e.g. following up on outstanding FOI Branch Search Requests, printing and collating responses to formal FOI requests, etc.), there would be merit in finding a way to reassign those duties to another City Clerk Services position (again, an existing or new position) to free up more Analyst time for the delivery of higher value RIM Program services.

Note: The Records and Information Analysts backup each other during vacations and other absences and also backup the Information, Access and Privacy Officer during vacations and other absences. Further, a significant amount of Analyst time is redirected to election duties during a municipal election year.

## **4.2 Optimize DM Staffing**

This goal includes several objectives for optimizing DM staffing.

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<sup>10</sup> This responsibility is not listed in the Records and Information Analyst position description.

#### **4.2.1 Expand GIS Program**

The DM Program requires leadership and resourcing to be effectively delivered. To date, GIS has been led by two resources within ITS with another supporting resource assisting both Planning and Engineering Services. GIS has been one of the few areas where data standards and common practices have been applied to work. This is largely due to the use of ESRI tools which provide the necessary functionality (metadata management, data quality / normalization, etc.) as well as the significant knowledge and experience possessed by existing staff. ESRI tools also provide access to a broader community of civic practitioners who collaborate and share knowledge across municipal boundaries. Sharing knowledge and learning from one City to another is a powerful way to grow a program while also delivering quick wins which were developed by the community at large. The GIS team has engaged in some of these collaborations; however, the team is comprised of ‘doers’ leaving little resource availability to connect and work alongside ESRI partners and/or the broader community.

GIS at the City requires a strategy, a work plan, and more clearly defined leadership to realize its full potential. Documentation of standards and practices that have been loosely formulated and applied over the years should be the primary focus. The City must also consider whether to elevate the role of its GIS leader to better leverage the few resources it currently has. Data leadership does not currently exist at the City. If a DM Program is chosen as a priority to move forward with, there needs to be some focus placed on how to activate conversations corporately and generate buy-in to support further expansion. The City will need to engage on this matter far more directly and decide how it can elevate leadership for GIS and whether the time can be allotted for all GIS staff within the City to help build a strategy to further evolve the GIS Program. Some of the ‘in the moment’ work may need to put on hold while the strategy is developed. Doing so will allow for better input from the various departments / branches on the strategic goals for GIS.

GIS is an opportune area with which to experiment, run pilots, and learn from ‘real world testing’ with operational areas directly. Infield data collection, real time automatic vehicle location monitoring, dashboarding, and visualization are all potential outputs that can help streamline business areas. This is happening across the municipal sector right now – over the past decade there has been a significant amount of investment in GIS Programs to explore, collaborate, and create solutions that address business needs. The City’s GIS team continues to produce quality work (like the EOC Web Map<sup>11</sup>) but

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<sup>11</sup> ESRI Canada, News and Updates <https://resources.esri.ca/news-and-updates/when-it-comes-to-public-safety-oshawa-leaves-no-stone-untuned>

there simply are not enough resources or empowered, active leadership in place to unlock this value more consistently.

#### **4.2.2 *Allocate Active Leadership to Open Data Program***

Currently, the City's Open Data Program has stalled. With more than 100 active data sets available on the portal (some of which are published by community partners), a solid ESRI public facing platform supporting them, a Council approved Open Government license and a recent community hackathon held in partnership with community agents, it is difficult to see why the Open Data Program is not more active today. During our investigation it appeared that City Clerk Services was defined as the program leader; however, due to organizational turnover as well as other competing priorities, the Open Data Program has not been actively led for some time. Data continues to be updated and published - but this 'caretaker approach' is largely ineffective in delivering value to either the public or the City.

#### **4.2.3 *Establish Data Program Manager Role***

It is recommended that the City establish a Data Program Manager role in ITS. This role would be focused on leading a portfolio of products and services that formalize DM as a program area for the City. The potential is for this leadership role within ITS to lead GIS and open data, and support / inform / influence the development of technology architecture in support of established DM policies and standards. This role would be a direct support to IMDSC and become a DRI (Directly Responsible Individual) for many of the projects put forward as part of a rolling work plan (see Objective # 7.1.1). Ideally, this position would be supported by a number of 'doers' - namely data / system analysts and architects; however, realizing the budgetary constraints associated with developing a new program, these roles can be added over time. Existing resources within ITS such as the current GIS Supervisor and GIS analyst might be well suited to provide some of these capabilities. That said, the City will need to ultimately determine the overall pace of expansion to support the outcomes contemplated by this Strategic Plan. In general, a Data Program Manager would:

- Lead the GIS and Open Data Programs as well as BI and analytics pilot projects.
- Work with Systems and Security Operations and the Application Support Teams in ITS to oversee the collection, storage, management, quality, and protection of City data.
- Work within ITS and in partnership with City Clerk Services to formulate an approach to define the City's data lifecycle process (including data retention).
- Iteratively develop a Data Strategy for the City (i.e. the recommendations in this Strategic Plan).

- Work alongside City Clerk Services staff to curate training and learning opportunities related to DM and RIM priorities (e.g. privacy, data security, FOI, etc.).
- Design, lead, and motivate staff and teams outside of ITS in relation to projects that require DM decision-making and support (i.e. be the City's chief evangelist for data).
- Liaise with department / branch staff, project managers, front line staff, CLT, and Council expressing the importance of managing "data as an asset".
- Show and tell examples of how City staff are already using data to enhance services as well as best practices created by other cities, organizations, and agencies.
- Cultivate and maintain strategic relationships with City managers to help meet their business objectives through data pilots and projects (e.g. operational dashboards).
- Serve as the key DM support for IMDSC, developing agenda materials to support both operational and strategic discussions.
- Develop business cases in support of the DM Program.
- Develop performance measures and a monitoring program to help manage compliance with DM policies and standards.
- Support budget development for DM projects (which would require approval from the Director of IT Services and, ideally, ITGC).
- Manage a rolling work plan associated with DM activities and regularly report on progress to the Director of IT Services and IMDSC.
- Activate knowledge mobilization and leverage collaboration tools to foster corporate conversations around DM.

Currently, no one person or group co-ordinates the above noted activities and many of these activities simply do not occur at the City today. If the City wishes to develop a DM Program and realize the benefits associated with managing "data as an asset" to support operations and improve services, we strongly recommend the creation and funding of a FTE Data Program Manager position.

Alternatively, the City may wish to consider a 2-3 year contract to engage an individual to begin developing a DM Program and determine overall return on investment (ROI). That said, it would be a significant challenge if the position was not extended beyond the contract period as there simply are not enough resources (particularly within ITS) that could be reallocated to lead the work. Furthermore, continuity is valuable as the Data Program Manager will become a central agent who builds and leverages the relationships across the City required to develop and sustain a DM work plan. This role

should be considered the “go to” for all matters related to data. It should also be recognized as a strong partner to City Clerk Services in support of RIM Program compliance more broadly. The Data Program Manager position should have, and commonly employ, a civic business lens with respect to RIM and more technical matters. Specifically, this will help to translate and educate ITS staff on RIM principles, legislation, and best practice. In addition, the role should also convey technology constraints and opportunities back to RIM staff and others in the organization who are supporting this function. This role can really be effective at working as a conduit for knowledge mobilization, specifically between ITS, City Clerk Services, and their delivery partners.

It is important to reiterate that developing a DM Program cannot be accomplished with a single FTE. Further expansion will be required to elevate and scale out the proposed DM Program. That said, we feel that leadership around data at the City is almost entirely absent at present and this role could help activate existing resources as well as the latent potential within the grassroots of the organization to help develop the rudiments of a DM Program.

#### ***4.2.4 Reconstitute Open Data Program***

GIS and open data are both managed using ESRI tools. Conventionally applied DM practices are in place and the organization and Council have already ‘bought in’ to the notion of open data as a transparency measure and potential driver for economic development.

The City needs to determine whether to continue to evolve the Open Data Program, end it, or simply manage the data that currently exists within the catalogue. The latter provides some value if time can be allocated to further the relationships vis-à-vis the Region and CLOCA data sharing agreements; however, the overall usefulness of this approach will need to be better understood (i.e. usage statistics, evidence of data used internally and by partners, etc.) before this decision can be made. Open data catalogues are most frequently used by internal staff as, often, they are the only datasets available that have been well vetted by both the business and ITS, have visualization tools built into the platform (like ESRI), and contain metadata and a maintenance schedule that supports more current, better quality data which can be almost seamlessly used to build web content, reporting, and analytics.

Clearly, a reconstitution of the Open Data Program will require an allocation of resources greater than exists today. Most importantly, there needs to be active leadership of this area. If activated further, the primary goals should be:



- Revisit the mandate with the intent to customize the Open Data Program around resource allocation and highest needs.
- More formally align operational characteristics of open data with GIS, documenting the approach used from discovery through to publication of the data. Note that there will be cross over between these processes and those used to work with spatial data – there is no need to duplicate this documentation, leverage the GIS area to help create artifacts.
- Expand the data offerings, i.e. buildout the index of high-quality data which subscribes to good DM standards.
  - Liberate data that the public wants (i.e. subscribe to the tenants of open government by proactively disclosing information requested either through FOI or other regular channels).
  - Expand data areas that staff will use in their day-to-day work. Aside from the value inherent in applying rigor to new datasets, the process also helps develop on the concept of data custodianship which is currently lacking.
- Use data as a platform to continue to engage and collaborate with community partners.
  - The TeachingCity partnership seems like an ideal opportunity to support research initiatives with civic data as well as engage students in City work.
  - There are active meet-ups, hackathons / challenges and conferences held in relation to open data. Attendance at these events will help grow the Open Data Program by realizing the success of other jurisdictions.
  - The federal and provincial governments have been ‘all-in’ on open data with the creation of a Canadian node of the Open Data Institute<sup>12</sup> and a provincial directive to be “open first”<sup>13</sup>. There is also a myriad of municipalities that are considered leaders in the open data space<sup>14</sup> (Brampton, Calgary, Mississauga, Oakville, Toronto, etc.). This strong base of practitioners who are willing to align and share with others provides ample opportunities for collaboration and support.
- Define performance metrics to measure the success of the Open Data Program. Although usage statistics can be a helpful metric, the City must consider other

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<sup>12</sup> ODI Toronto Node <https://theodi.org/organisation/odi-toronto/>

<sup>13</sup> Ontario’s Open Data Directive <https://www.ontario.ca/page/ontarios-open-data-directive>

<sup>14</sup> Public Sector Digest OCI Index <https://publicsectordigest.com/open-cities-index-results-2017> <https://publicsectordigest.com/open-cities-index-results-2017>

factors (e.g. readiness, implementation, impact, etc.<sup>15</sup>) that can help evaluate the overall success of the program.

#### **4.2.5 Expand Open Data Program**

The City should continue to open up its data to the community, with a focus on making data available that has community value and/or where providing data (as part of a proactive routine disclosure process) could reduce repetitive requests or formal FOI requests to the City.

The City should also define performance metrics to measure the success of the Open Data Program, with the metrics considering downloads, hits, and other various key metrics.

Note: Work on the Open Data Program metrics should be aligned with work in Objective 6.6.1 for implementing a Routine Access (Disclosure) Program and collecting routine access (disclosure) statistics.

#### **4.2.6 Resource Data Project Work**

In the past, data work has simply not received the resources required, i.e. project teams and staff are expected to do data work as part of their “other duties as assigned”. Frequently technology projects defer on data migration work because of insufficient funding. The ongoing discussions regarding CityView and data migration are a case in point. Going forward, the City will need to resource internal and contracted resources to support data project work defined in the City’s capital budget process.

### **5. RIM Program Services**

The I&RM Assessment Report revealed that progress has been made in developing and implementing a corporate RIM Program, e.g. the 2015 establishment of a second Records and Information Analyst position and the 2018 establishment of an Information, Access and Privacy Officer position; the purchase and implementation of Versatile Enterprise for the management of paper records; Council approval of the Records Retention By-law and Records Retention Schedule (although both need to be updated); Council approval of a Municipal Freedom of Information and Protection of Privacy Policy and Procedure in 1997 (also needs to be updated); the writing of draft policies (a Corporate Archives Policy and a Litigation Hold Policy); and initial work on a Privacy Program (e.g. Council approval of a Privacy Breach Protocol). The I&RM Assessment

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<sup>15</sup> European Data Portal e-learning module  
<https://www.europeandataportal.eu/elearning/en/module6/#/id/co-01>

Report also revealed that current RIM Program services are focused almost exclusively on the management of paper records. Therefore, notwithstanding the progress to date, much work remains to be done to improve the lifecycle management of the City's paper records and unstructured electronic records (including e-mails) and to expand RIM to include structured data.

The RIM Program should not (and cannot) operate in a vacuum given its mandate to support the City's efficient and effective lifecycle management of information and its intersection with allied functions such as ITS, legal, privacy, and security.

Consequently, a paradigm shift is required. The individual and collective expertise of information stakeholders must be recognized, departments / branches must take ownership for managing the information they create / receive and maintain, and departments / branches must work together to ensure their RIM (and DM) practices are standardized, consistent, and compliant with City and legislated requirements.

Consequently, successful I&RM Strategic Plan implementation and the sustainability of the expanded RIM Program that will result from the Strategic Plan's implementation must be client-driven, based not so much on one individual or group having direct control of recorded information, but rather on effective communication of requirements, client-focused training, and the provision of expert advisory services. Therefore, the delivery of RIM Program services must prioritize consultation, training, and performance measurement to support departments / branches in their management of the City's data / information / records.

The RIM Program has historically provided services to City departments / branches; however, the City has obligations under the Municipal Act, 2001 for the management of the records of its local boards. Consequently, it is recommended that the RIM Program begin providing services to the City's local boards.

Note: Strategic Priority # 6 (Lifecycle Management of Paper Records and Unstructured Electronic Records) includes several goals, the achievement of which will support RIM Program improvement and expansion. Strategic Priority # 6 also recommends the discontinuation of a few existing RIM Program services to free up the Records and Information Analysts' time to perform the higher value work described in the goals below.

## **5.1 RIM Guidance and Consultation**

This goal addresses RIM guidance and consulting services.

### **5.1.1 Prioritize Delivery of RIM Guidance and Consulting Services**

In September 2015, the existing Records Analyst position was upgraded to the new Records and Information Analyst position and the Records Clerk position was eliminated to create an additional Analyst position (resulting in two Analyst positions with no change to the total FTE complement in Corporate Records / City Clerk Services); however, until the Information, Access and Privacy Officer was hired in May 2019, much of the Records and Information Analysts' time was focused on FOI requests processing and IPC appeals. Consequently, their availability to perform RIM tasks was largely confined to inactive records management (generating annual file folder labels for departments / branches, managing the storage and retrieval of inactive records from on- and off-site Records Retention, and the annual destruction of paper records from Records Retention) and providing Versatile training (one-on-one training) to new Branch Records Representatives and employees who have been granted search only access to Versatile.

This means that the Analysts have rarely had time to provide RIM advice, consulting, and guidance services<sup>16</sup> such as:

- Lead or participate in RIM projects to develop and implement business and technical strategies to improve information management processes and meet legislated and City requirements.
- Gather and review business requirements and assist in integrating business requirements into RIM projects and systems to meet legislated and City requirements.
- Review and analyze existing business and RIM processes and design and recommend improvements to streamline operations and create efficiencies in RIM practices.
- Conduct research on new (or amended) legislation affecting recordkeeping activities associated with City functions, consult with management and other key staff to develop strategies to maintain legislative compliance, and assist in the implementation of best practices.

Further, their availability to develop tools (e.g. records digitization requirements) and collaborate with stakeholders on technology projects and corporate initiatives having a RIM connection (e.g. Intranet Replacement Project, Open Data Program, etc.) has been very limited.

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<sup>16</sup> Records and Information Analyst position description, July 27, 2015.

Priority must be given to the delivery of RIM advice, consulting, and guidance services if the RIM Program is to be recognized and respected internally for its expertise.

## **5.2 RIM Training**

This goal addresses RIM training.

### **5.2.1 Prioritize Delivery of RIM Training**

The Information, Access and Privacy Officer was hired in May 2019; therefore, the incumbent has had limited opportunity to provide training to City staff to date. Due to workloads, the Records and Information Analysts have provided limited training to City staff. The training they have provided over the past few years includes:

- a) Ongoing training:
  - FOI and privacy training for Customer Service Representatives (Service Oshawa). All existing Customer Service Representatives were trained and RIM Program staff continue to train each new Customer Service Representative.
  - One-on-one information sessions for new Branch Records Representatives, particularly to familiarize them with using Versatile.
  - Training for employees who are granted search-only Versatile access.
- b) Occasional training at the request of a department / branch or as a component of the few records improvement projects the Analysts have completed.
- c) Ad hoc MFIPPA training such as a presentation at one semi-annual meeting of Commissioners and Directors, a presentation at a CLT meeting, a presentation to Recreation and Culture staff after a privacy breach, and the inclusion of MFIPPA training in the Council orientation provided by City Clerk Services after each municipal election.

As stated in the I&RM Assessment Report, the RIM Program does not contribute any policies (or other documentation) to the package of information (including several City policies for review and signoff) that HR sends to each new employee prior to his/her first day of employment. The RIM Program also does not contribute any information to the presentations from the City's senior leaders and HR at the semi-annual Welcome Summit for new employees.

Every City employee creates / receives and manages records; therefore, every employee should receive RIM training. As stated in the ISO records management standard, "The training program should be ongoing and include training on requirements, policies, practices, roles and responsibilities for managing records, and should be addressed to all members of management and personnel, as well as any

other individuals responsible for any part of business activity involving the creation, capture and management of records.”<sup>17</sup> The provision of a formal, modular training program (some of which would be mandatory for all employees) would help anchor the desired culture and habit changes necessary for successful I&RM Strategic Plan implementation while also promoting RIM.

The training would address RIM, FOI, and privacy and also include training on RIM-related requirements in other City policies (e.g. Code of Conduct). As per the recommended model for integrated RIM and DM governance, training would be co-ordinated with ITS if/where applicable (e.g. use of network drives).

Note: See Objective # 7.8.1 for developing a Data Literacy Education / Training Program.

### **5.2.2 Develop RIM Training Plans**

It is recommended that a RIM Training Plan be developed for each group of employees such as CLT, Directors, Managers / Supervisors, Existing Employees, and New Employees. It is also recommended that a RIM Training Plan be developed for Councillors and volunteers.

Each training plan would be modular, including basic (or minimum) training and customized modules if/where appropriate (e.g. the existing FOI and privacy training for Customer Service Representatives). The training plan would also identify mandatory training elements (e.g. all new employees would be required to complete the RIM Training for New Employees within a set period such as 1 week after hire).

Each training plan would:

- Include an outline, specifying the learning objectives, duration, content, Trainer activities, and Learner activities and indicating the amount of time to be allocated to each subject / activity (e.g. a training program on how to use the Records Classification Scheme may allocate 10 minutes to an overview of records classification, 5 minutes to the benefits of using the Records Classification Scheme, and 20 minutes to exercises in using the Records Classification Scheme).
- Identify the optimum delivery method for the training (e.g. in-class sessions, lunch and learns, webinars / podcasts, etc.). Ideally, most training will be delivered online via pre-recorded webinars / podcasts to provide an economical

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<sup>17</sup> ISO 15489-1:2016, Section 6.5.

and flexible way for employees to complete the training on their own schedules (particularly part-time employees and employees who do not work at City Hall) and to enable the RIM Program to leverage a core collection of recordings when creating customized training for a department / branch or for many employees in the same position such as training for the Customer Service Representatives who work in Service Oshawa. The continued availability of the webinars / podcasts would also provide a means for employees to refresh or 'brush up' their knowledge if/as required in the future.

- Incorporate best practices in adult education to create engaging training, the content and style of which would be tailored to the City's culture and RIM Program.
- Identify methods for testing an employee's understanding of the content (e.g. a quiz).

The training plans would be developed in stages because RIM policies, procedures, and other tools would be developed / revised / expanded and implemented incrementally during the I&RM Strategic Plan implementation timeline.

### ***5.2.3 Deliver RIM Training***

It is recommended that the RIM training be delivered on a regular basis. While webinars / podcasts could be made continuously available on the Intranet, the RIM Program would prepare and publish an annual schedule of lunch and learns and in-class sessions.

Like the training plans above, the RIM training would be delivered in stages because RIM policies, procedures, and other tools would be developed / revised / expanded and implemented incrementally during the I&RM Strategic Plan implementation timeline.

## **5.3 RIM Performance Measurement and RIM Compliance Reviews**

This goal addresses RIM performance measurement and compliance reviews.

### ***5.3.1 Prioritize Delivery of RIM Performance Measurement and RIM Compliance Reviews***

The Principle of Accountability in the Generally Accepted Recordkeeping Principles® states "The information management program is structured for auditability as a means of demonstrating that the organization is meeting its obligations to internal and external parties. Auditing is the process designed to prove the information governance program

is accomplishing its goals and to identify areas for improvement to further protect the organization and its information assets.”<sup>18</sup>

The ISO 15489-1:2016 records management standard also specifies auditing requirements: “Criteria should be established to monitor and evaluate records policies, systems, procedures and processes. The creation, capture and management of records should be regularly monitored and evaluated with the involvement and support of records professional, information technology professionals, legal professionals, auditors, business manager and senior managers as appropriate. Monitoring and evaluation should be designed to ensure that:

- a) records systems and processes are implemented according to authorized policies and business requirements;
- b) records systems and processes operate as defined and designed;
- c) changes to records requirements are met; and
- d) there is continuous improvement in the management of records.

Systems and processes provided by third party providers should also be monitored and evaluated, using contractual requirements relating to the management of records as evaluation criteria.”<sup>19</sup>

Although the Records and Information Analyst position description includes responsibility for co-ordinating activities related to RIM performance measures and compiling and interpreting data as directed to evaluate compliance with corporate RIM standards, we found no evidence of RIM performance measures. We also found no evidence of audits of all I&RM practices in a department / branch having been completed; however, reviews were completed in which lists of files in Versatile were compared to the files in a department / branch to identify files that should be transferred to Records Retention or which should be destroyed because their retention periods had been completed (such audits were completed for Fire Services in 2013 and Community Services in 2016).

It is recommended that the City prioritize RIM performance measurement to measure the performance of the expanded RIM Program and to assess the City’s RIM compliance in the future.

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<sup>18</sup> ARMA International, Implementing the Generally Accepted Recordkeeping Principles® (ARMA International TR 30-2017), p. 19.

<sup>19</sup> ISO 15489-1:2016, s. 6.4.



### **5.3.2 Develop RIM Performance Measures**

It is recommended that measures to evaluate RIM performance be developed, approved, implemented, and periodically reviewed for each RIM policy, procedure, tool, or technology. The development of the performance measurement methodologies would be incremental, with a methodology being designed as each RIM policy, procedure, tool, or technology was developed and implemented, thus ensuring performance measurement was 'baked in'. Consideration should also be given to including RIM criteria in (annual) performance management reviews, particularly for CLT, Directors, and Managers / Supervisors.

Some performance measurement would be ongoing (e.g. monitoring Records Retention Schedule use) while other performance measurement would be performed only when/as required (e.g. a review of a records preservation order after the order had been revoked).

When designing the performance measures for a RIM policy, procedure, tool, or technology, care must be taken to neither over- nor under-measure and to ensure the availability of appropriate resources to monitor performance at the anticipated frequencies. Targets would also be established if/as appropriate (e.g. a target of accurately classifying 95% of the files / records in a shared drive). The performance measures should be reviewed periodically to ensure they remain sufficient.

The performance measurement data would identify any challenges / constraints or poor performance so remediation plans could be developed and implemented. Performance measurement results would be reported (quarterly or semi-annually) to the IMDSC.

### **5.3.3 Conduct RIM Compliance Reviews**

The Principle of Compliance in the Generally Accepted Recordkeeping Principles® states, "An information governance program should be constructed to comply with applicable laws, other binding authorities, and the organization's policies."<sup>20</sup> Therefore, the City should periodically review or audit its RIM compliance.

The proposed RIM compliance review methodology (or methodologies) and compliance review frequency would be shared with IMDSC for review and feedback prior to implementation.

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<sup>20</sup> ARMA International, Implementing the Generally Accepted Recordkeeping Principles® (ARMA International TR 30-2017), p. 22.

Complete RIM compliance review findings would be reported to IMDSC and an overview would be reported to CLT. Department / branch-specific deficiencies would be reported to the appropriate management employee for remediation. Upon request, RIM Program staff would assist department / branch management in developing remediation plans.

#### **5.4 RIM Services for Local Boards**

This goal addresses the provision of RIM services to local boards.

##### **5.4.1 Identify Local Boards**

The Municipal Act, 2001 requires a municipality to manage its records as follows:

1. Allow, subject to MFIPPA and at all reasonable times, inspection of the records<sup>21</sup> under the control of the clerk (s. 253(1)).
2. Provide within a reasonable time, and upon request and payment of the applicable fee, a certified copy under the municipality's seal of any record referred to in subsection 253(1) (s. 253(2)).
3. Retain and preserve the records of the municipality (and its local boards) in a secure and accessible manner (s. 254(1)). S. 254(9) defines 'secure and accessible manner' as "records can be retrieved within a reasonable time and that the records are in a format that allows the content of the records to be readily ascertained by a person inspecting the records."
4. May destroy a record if a retention period for the record has been established and the retention period has expired, or the record is a copy of the original record (s. 255(2)).
5. May establish retention periods during which the municipality's records (and those of its local boards) must be retained and preserved in accordance with section 254 (s. 255(3)).

Notwithstanding the references to local boards<sup>22</sup> above, the RIM Program currently provides services to City departments / branches only.

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<sup>21</sup> Those records are: "(a) by-laws and resolutions of the municipality and of its local boards; (b) minutes and proceedings of regular, special or committee meetings of the council or local board, whether the minutes and proceedings have been adopted or not; (c) records considered at a meeting, except those records considered during that part of a meeting that was closed to the public; (d) the records of the council; and (e) statements of remuneration and expenses prepared under section 284." (s. 253(1))

<sup>22</sup> S. 1(1) of the Municipal Act, 2001 defines 'local board' as follows: "'local board' means a municipal service board, transportation commission, public library board, board of health, police services board, planning board, or any other board, commission, committee, body or local authority established or exercising any power under any Act

RIM Program staff identified the Oshawa Senior Community Centres (OSCC) as one entity for which clarity is required regarding RIM responsibility. OSCC is a not-for-profit charitable organization which receives funding from a variety of sources including an annual grant voted by Council. The OSCC also uses some City services (IT, payroll, and purchasing). While it does not use RIM Program services directly, RIM Program staff are aware that some OSCC records are kept by City departments / branches (e.g. employee records with HR and membership records with Recreation and Culture). The City recently received two FOI requests for OSCC records. Recently, a question arose regarding the City's responsibility for obtaining and preserving the records of a business improvement area (BIA) given that a BIA is a local board of management.

It is recommended that the City identify the entities that satisfy the definition of local board.

#### ***5.4.2 Determine RIM Service Delivery Model for Local Boards***

It is recommended that the City determine the model by which RIM services will be provided to local boards. The model would identify the services to be provided (i.e. will the City provide only services to assist a local board to retain and preserve its records in a secure and accessible manner and establish retention periods for the board's records as described above, or will the City provide additional RIM services to local boards such as the storage of inactive physical records). The model will also specify the financial arrangements for the provision of RIM services.

Once the model has been determined, it is recommended that the City enter into a service level agreement with each local board to which it will provide RIM services.

#### ***5.4.3 Deliver RIM Services to Local Boards***

It is recommended that the City deliver services to local boards as per the terms and conditions in the service level agreements which would be negotiated with local boards.

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with respect to the affairs or purposes of one or more municipalities, excluding a school board and a conservation authority". The Act also states, "Note: On a day to be named by proclamation of the Lieutenant Governor, the definition of "local board" in subsection 1(1) of the Act is amended by striking out "police services board" and substituting "police service board".

## **6. Lifecycle Management of Paper Records and Unstructured Electronic Records**

This strategic priority provides recommendations for improving the lifecycle management of the City's paper records and its unstructured electronic records (including e-mails, Intranet content, public website content, and social media content).

### **6.1 Creation, Capture, and Declaration**

The I&RM Assessment Report makes several observations about the creation, capture, and declaration of paper and unstructured electronic records. The observations address the following topics:

- Ownership of information.
- Records creation guidance, including responsibility for creating records and the need to prevent the creation of inappropriate content (e.g. rambling thoughts, a mix of business and personal communication in an e-mail message, etc.).
- Responsibility for records capture and declaration.
- Differentiating between 'official' and 'transitory' records.
- Document imaging specifications and procedures.
- Retention of physical records after they have been imaged.
- Forms management.

As described below, several objectives must be met to achieve the goal of improving the creation, capture, and declaration of paper records and unstructured electronic records.

Note: See the following for additional objectives relating to the creation, capture, and declaration of paper records and unstructured electronic records:

- Objective # 3.2.1 for including an ownership of information statement in the new RIM Policy.
- Objective # 3.2.8 for revising the Personal Devices for Work Purposes Policy to address ownership of information.
- Objective # 6.6.3 for ensuring (sufficient) notices for personal information collection on City forms.

#### **6.1.1 *Revise Mobile Communication Device Criteria and Guidelines to Address Information Ownership***

It is recommended that the Mobile Communication Device Criteria and Guidelines (Policy & Procedure 075-12) be revised to include a statement which clearly articulates

the City's ownership of the data / documents / information / records that employees create / receive and maintain on the mobile communication devices provided by the City.

The Mobile Communication Device Criteria and Guidelines state that an employee who is moving to a different position at the City that qualifies for a mobile communication device may, with the approval of the appropriate Department Head and provided it is cost effective to do so, take the device with them; however, the Mobile Communication Device Criteria and Guidelines do not state what is to be done with the corporate data on a mobile device when an employee moves to a different City position. It is recommended that the Mobile Communication Device Criteria and Guidelines be revised to provide such direction.

#### ***6.1.2 Review Records Creation, Capture, and Declaration Provisions in Business Processes***

As stated in the ISO 15489-1 records management standard, "Business rules, processes, policies and procedures which control the creation, capture and management of records . . . should be implemented and documented to ensure the authenticity<sup>23</sup> of records. Records creators should be authorized and identified."<sup>24</sup>

It is recommended that the City develop a methodology that departments / branches would use to review their business processes and assign record creation responsibilities, ensure all necessary records are being created and that they contain the necessary information (whether required by business needs and/or legislated requirements), ensure records are not created unnecessarily, and assign responsibilities for capturing records into the appropriate recordkeeping system (whether paper or electronic). After completing the reviews, departments / branches would update their policies / procedures accordingly. Records and Information Analysts would be available as a resource to departments / branches during the reviews.

#### ***6.1.3 Specify Records Creation, Capture, and Declaration Responsibilities in Charters and Terms of Reference***

Knowing who is responsible for creating, capturing, and declaring a record is crucial for ensuring good I&RM practices. Knowing who is responsible for creating, capturing, and declaring a record is particularly challenging for project teams and may also be a challenge for some department / branch committees.

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<sup>23</sup> ISO 15489-1:2016, s. 5.2.2.1 describes an 'authentic' record as a record "that can be proven to: a) be what it purports to be; b) have been created or sent by the agent purported to have created or sent it; and c) have been created or sent when purported."

<sup>24</sup> Ibid.

It is recommended that a project team's charter and the terms of reference for a committee clearly assign responsibility for creating, capturing, and declaring to the appropriate recordkeeping system (whether paper or electronic) the records created / received by the project team or committee. This would ensure that the required records will be created and that the records which are created (or received) by the project team or committee will become part of the City's records collection. Particularly for project teams, this will likely reduce records duplication at the end of a project because team members will be more willing to dispose of their record copies if they know that the official records have been captured and can be accessed in the future if/as needed.

#### ***6.1.4 Develop Guidelines for Creating Appropriate Record Content***

While it is important to create records to document the City's activities, decisions, and obligations, it is equally important that the content of those records is appropriate. As noted in the I&RM Assessment Report, some City records contain inappropriate content (e.g. rambling thoughts or a mix of business and personal communication in an e-mail message) and some City records inadvertently release confidential information. The way in which many employees write e-mails (e.g. addressing multiple topics in one e-mail message, including personal information, inadvertently communicating legal opinions, etc.) requires the City to redact content prior to releasing the messages where their release is permitted under MFIPPA; however, requesters are often dissatisfied by the extent of the redactions.

It is recommended that the City develop guidelines for creating record content, thus significantly reducing the day-forward inclusion of inappropriate content in City records.

#### ***6.1.5 Define 'Official' and 'Transitory' Records***

The MFIPPA Policy (1997) is the only City policy which currently defines what a 'record' is. That policy states that a record is "Any information however recorded, whether in printed form, on film, by electronic means or otherwise, and includes: correspondence, memoranda, books, plans, maps, drawings, diagrams, pictorial or graphic works, photographs, films, microfilms, sound recordings, videotapes, machine-readable records." While that definition is helpful in informing employees of the multiplicity of formats in which records may reside, it does not differentiate between the records which should be considered 'official' as opposed to the records which are 'transitory'. Many organizations have found that differentiating between 'official' and 'transitory' records and training employees to do so helps reduce records duplication and increases the likelihood that official records will be captured in the organization's recordkeeping systems (whether for paper or unstructured electronic records).

It is recommended that the new Records and Information Management Policy (see Objective # 3.2.1) define the terms 'official record' and 'transitory record' and that all employees be trained to differentiate between the two types of records. While the new RIM Policy will include definitions and general 'official' versus 'transitory' record information, we encourage the City to include department / branch - specific examples of transitory records, particularly duplicate records and multiple copies, in the training to assist employees to translate transitory records theory into action as they perform their duties. The creation of a decision tree for determining whether to file (official) or destroy (transitory) a record would be a useful addition to the training. Some organizations reproduce the transitory records decision tree on posters or mousepads to further support employees in their identification and management of transitory records. Armed with this knowledge, employees will be equipped to identify transitory records and dispose of them as soon as possible after use, thus helping to reduce the volume of records kept by the City. Employees will also be able to better identify the official records that they should retain according to the Records Retention Schedule, thus ensuring that they do not waste time scheduling the retention of transitory records.

#### **6.1.6 Develop Standards-compliant Records Digitization Program**

The I&RM Assessment Report observed that some departments / branches are planning to or have begun to scan (digitize) paper records to create images that will be used as the official records. Focus group discussions revealed that employees are uncertain of the legal validity of scanned records, particularly those bearing a signature, and whether paper records can (or should) be destroyed after scanning.

It is recommended that the City develop and implement a standards-compliant<sup>25</sup> Records Digitization Program to manage the digitization of existing collections of physical records (records digitization projects) and the day-forward addition of paper records digitization in new or existing business processes (ongoing records digitization). The Records Digitization Program would consist of the following:

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<sup>25</sup> The Records Digitization Program should be compliant with the Canadian General Standards Board standard, Electronic Records as Documentary Evidence (CAN / CGSB-72.34-2017) which includes the electronic image clauses (i.e. Part III and Part IV Section 3) formerly contained in the Microfilm and Electronic Images as Documentary Evidence standard (CAN / CGSB-72.11-1993). Although no longer published, the Microfilm and Electronic Images as Documentary Evidence standard provides detailed information about the records digitization procedures that the City should develop. The City would benefit from referencing that standard in addition to the CAN / CGSB-72.34-2017 standard.

- a) Records Digitization Policy: Among other topics, the Records Digitization Policy would require the completion of records digitization feasibility assessments prior to implementing records digitization projects or ongoing records digitization, the development of imaging specifications and procedures, and the destruction of physical records that have been imaged (e.g. destroy the physical records 30 days after image quality assurance has been completed) provided their destruction is not prohibited by law<sup>26</sup>.
- b) Records Digitization Feasibility Assessment: Given the costs involved to create and maintain images that will satisfy industry standards and the requirements of evidence laws, digitization should not be undertaken without careful analysis. A feasibility assessment would be conducted for each proposed records digitization project / ongoing records digitization to thoroughly examine the intended use(s) of the images, the retention period of the source documents, the productivity or other benefits that digitization would provide, the constraints or limitations for imaging the records, storage space requirements (image files tend to take up a lot more space than, for example, a PDF rendered from a Word file), and the costs to both image the records and maintain the images over time. The assessment would also identify any records which must be kept in physical format to satisfy legal (or other) requirements. The goal of the assessment would be to ensure only the records most suitable for imaging were digitized because of their value to the City, their condition, their frequency of use, etc.
- c) Digitization Specifications: Specifications (e.g. dpi resolution, whether OCR<sup>27</sup> images will be produced, image file format, etc.) would be developed for each approved records digitization project / ongoing records digitization.
- d) Digitization Procedures: Procedures (e.g. document preparation, scanning, indexing, and quality assurance) would be developed for each approved records digitization project / ongoing records digitization.

#### **6.1.7 Rename and Rescope Online Forms Committee**

The I&RM Assessment Report observed that the City has had a Forms Committee led by City Clerk Services since the 1990's and that the committee's name recently changed to the Online Forms Committee. With the name change, the focus has been on online forms and the Forms Builder software.

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<sup>26</sup> The Records Retention Schedule will identify any physical records which cannot, by law, be destroyed after imaging and specify a retention period for each of the physical records and the digitized records.

<sup>27</sup> Although OCR'd images are larger and, therefore, take up more storage space, a record which has not been OCR'd is an unintelligible image (essentially just a picture).



It is recommended that the City revert to the original committee name (Forms Committee) and rescope the Forms Committee's mandate to include both paper and online (electronic) forms.

#### **6.1.8 Develop Forms Committee Mandate / Charter**

The I&RM Assessment Report observed that Ergo did not receive for review a mandate statement / charter describing the committee's responsibilities or its membership. The Assessment Report also observed that the RIM Program is in the process of updating the governance model for forms, including the determination of the department / branch employees who will be authorized to create forms for review and approval by the RIM Program.

It is recommended that the City develop a mandate / charter for the Forms Committee with City Clerk Services, and specifically the RIM Program, continuing to be responsible for forms management at the City and for leading the Forms Committee. Among other topics, the mandate / charter would clearly articulate the Forms Committee's responsibility for all City forms, whether in paper or electronic format (the latter would include, but not be limited to, electronic forms used on the City's websites), i.e.

- Departmental forms (i.e. forms used by only one department to aid in an administrative process).
- Corporate forms (i.e. internal forms used by more than one department or forms used by the public or organizations outside the City to provide data / information to the City).

#### **6.1.9 Revise Forms Procedure and Forms Standards**

The Forms Procedure and the Forms Standards were last revised in 1997<sup>28</sup>. It is recommended that the Forms Procedure be revised to, among other topics, update forms management roles and responsibilities and that the Forms Standards be revised to, among other topics, to include the requirements for AODA compliant forms.

#### **6.1.10 Continue Forms Database**

The RIM Program maintains a forms database which tracks all forms regardless of media and assigns a form number to each form. It is recommended that the RIM Program continue to maintain the database to provide a complete record of all City forms and assist in the identification of requests for the creation of duplicate forms.

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<sup>28</sup> The Forms Standards includes the revised form numbering codes issued in June 2000.

## **6.2 Classification, Search, and Retrieval**

The I&RM Assessment Report makes several observations about classification, search, and retrieval of paper records and unstructured electronic records. The observations address the following topics:

- The absence of a Records Classification Scheme.
- Lack of a single source of truth for many aspects of the City's operations (e.g. a project, etc.) because records are often kept in both paper and electronic formats and in multiple storage locations according to different methods of classification / organization.
- Lack of naming conventions for unstructured electronic records.
- Challenges in retrieving paper and unstructured electronic records (including e-mail).
- Lack of access to some records needed for decision-making.

As described below, several objectives must be met to achieve the goal of improving information classification, search, and retrieval.

Note: See Objective # 6.4.1 for developing records storage location lists.

### **6.2.1 Develop Function-based Records Classification Scheme**

The City does not have a Records Classification Scheme to identify and describe City records and specify how they should be classified (filed).

It is recommended that the City develop a function-based Records Classification Scheme (RCS). A function-based RCS would organize records into categories based on a top-down view of the City's functions and activities, not the subject of the records or the department / branch where the records are created / received and maintained. A function-based RCS answers the question, "Why are records created and used?" because it classifies records based on work processes.

Function-based records classification is endorsed by the ISO 15489-1:2016 records management standard to more readily respond to accountability obligations and to manage records efficiently and effectively. It is also the preferred classification approach of the Canadian federal government and many provincial governments (including Ontario). Some municipalities (including Ontario municipalities) are replacing (or have replaced) their records classification schemes with function-based schemes.

The many benefits of a function-based RCS include:

- Directly linking records with the City's functions and activities.
- Being relatively stable because a City's functions and what it does (its activities) remain relatively stable over time as compared to subjects and department / branch names which change more often.
- Eliminating the siloed view of information and the dispersal of identical (or related) records across different categories.
- Helping to reduce the time spent retrieving information, particularly in response to FOI requests or in the event of litigation, investigation, or audit, because records would be organized and described at a granular level as compared to the high-level superstructure in the Records Retention Schedule.
- Being suitable for organizing both paper and unstructured electronic records, resulting in one system for employees to learn and use.
- Being able to easily adapt to future changes in business operations and organization.

The function-based RCS would be based on a top down view of the City's operations and services to identify the core functions representing the City's primary activities (e.g. Council administration, provision of recreation programs, etc.) and the functions which support those activities (e.g. finance, human resources, etc.). Records would be organized using a set pattern of divisions in a hierarchical (or tiered) structure from the general to the specific and by function. The RCS would also specify how to organize each type of information (e.g. by date, then subject). A retention period would also be assigned to each record group / series.

The RIM Program would develop the RCS in consultation with department / branch representatives to ensure the inclusion of all City records and their optimum organization / arrangement. The department / branch representatives would also validate their respective parts of the draft RCS to ensure a logical, consistent, easy to use, and unambiguous structure (i.e. it should be possible to classify a record in only one part of the RCS). The RIM Program would administer a process for requesting, approving, and implementing revisions to the approved RCS to ensure its integrity over time.

Note: It is also recommended that the function-based Records Classification Scheme not include 'general' record series<sup>29</sup> as the current Records Retention Schedule does

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<sup>29</sup> For example, Scope Notes for the A-1000 Administration - General records series state "Includes general inter-departmental correspondence and records relating to Administration which cannot be classified elsewhere. Use only if no other heading is applicable."

because the provision of general series increases the likelihood that employees will use such series as catchalls, thus eliminating the need to determine and use a more specific record series.

### **6.2.2 Develop File Naming Conventions for Unstructured Electronic Records**

It is recommended that the City develop electronic file naming conventions to be used by all departments / branches. The naming conventions would address such topics as the structure of a file name (i.e. the order of the elements in a file name such as 'recipient name - subject - date' when naming an electronic file containing a letter sent by the City), date format, permissible abbreviations (e.g. RPT for report), and version control.

The City-wide use of the naming conventions would create understandable, consistent, and predictable electronic file names and help employees to identify and track versions<sup>30</sup>. Using standardized electronic file naming conventions would improve retrieval speed and accuracy and facilitate the disposition of versions which are no longer required. Specifically, the development and consistent use of electronic file naming conventions would:

- Help employees easily identify the record(s) they are looking for.
- Enable employees to browse file names more effectively and efficiently.
- Help employees distinguish one electronic record from others on the same (a similar) topic.
- Increase the likelihood that employees would be able to interpret file names without needing to open the files to confirm their purpose / contents or having to consult with the file creator.
- Make file naming easier because an employee who followed the conventions would not have to 're-think' the naming process each time s/he named a file.
- Allow sorting of documents in a logical sequence (e.g. by date).
- Eliminate the confusion and delays often experienced when attempting to distinguish between different versions of a draft document, between drafts and final / approved / published documents, and between final approved versions over time such as approved policy which has been superseded or revised.
- Reduce the likelihood that an obsolete version would be used or distributed.

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<sup>30</sup> This protocol is not required for files in Microsoft SharePoint or an enterprise content management (ECM) system because those systems provide automated version control provided a user uploads a revised file of the same name.

The use of electronic file naming conventions would be particularly helpful in shared network drives because the current lack of standardized naming conventions often results in ad hoc file names which have little (or no) meaning to anyone other than the file creator.

Using the file naming conventions in conjunction with the RCS would bring greater precision to the organization of unstructured electronic records, particularly in the near-future until the City implements an enterprise content management (ECM) system (or similar technology) in which versioning is automated and a 'record type' can be captured in a filename via a drop-down box during the file saving process.

### **6.2.3 Complete Records Classification Clean-up Projects**

It is recommended that the Records and Information Analysts work with individual departments / branches to plan records classification clean-up projects for paper records (in individual offices / at workstations, in central filing areas within departments / branches, and in Records Retention) and unstructured electronic records (in personal and shared network drives and e-mail accounts and on portable electronic storage media (e.g. CDs) where used). It is also recommended that the Records and Information Analysts work with a cross-departmental team to plan a records classification clean-up of corporate shared network drives. Employees in the departments / branches would perform the clean-ups.

A records classification clean-up project in a department / branch would be planned and completed in phases by record format (paper or electronic) and storage location given the department / branch's priorities (e.g. the storage location that constitutes the largest volume of records, records of most frequent use, etc.). For example, a department / branch that relies heavily on a shared network drive may begin the clean-up there.

Below is a high-level list of the tasks that would be completed during a records classification clean-up project. Note: The tasks apply to paper and unstructured electronic records unless otherwise indicated.

- Delete 'ROT' (redundant, obsolete, or transitory) records.
- Review and classify the contents of orphan folders on shared drives and orphaned personal drives (i.e. folders / drives of departed employees).
- Apply the Records Classification Scheme. For unstructured electronic records this would involve setting up the applicable parts of the Records Classification Scheme in a folder / sub-folder structure in personal and shared drives and in e-mail accounts.
- Apply the file naming conventions to unstructured electronic records.

- Move from personal to shared drives and classify any files of interest / benefit to other employees or any file types which the department / branch has decided to store centrally going forward.

Employees would be trained to complete these tasks and Records and Information Analysts would be available as resources to answer questions during the clean-ups.

Completing the records classification clean-ups would provide several benefits:

- a) Improve the organization / classification of records.
- b) Eliminate a sizeable volume of valueless information or 'ROT'.
- c) Reduce the time required to locate records because the records would be better organized.
- d) Support the future implementation of an ECM system (or similar technology) by improving the organization of the records that would need to be migrated to the new system.

Note: The City may find it advantageous to use file analysis and de-duplication software (e.g. FileFacets, ActiveNavigation, etc.) during the records classification clean-ups for unstructured electronic records.

#### **6.2.4 Improve Access to Records Needed for Decision-making**

Having access to the records one needs to make decisions depends on having the necessary information to allow retrieval of the records (i.e. knowing what the records are called and where they are stored) and having the necessary security rights / privileges to be able to physically access the records. While 96% of I&RM Survey respondents said they 'always' (40%) or 'usually' (56%) have access to the records they regularly need to make decisions in their work, some records access gaps were noted such as agreements, (historical) invoices, records in Records Retention, policies and procedures, and Council reports / motions / decisions.

The development of records storage location lists (see Objective # 6.4.1) will inform employees where records are kept within their departments / branches. In addition to those lists, it is recommended that the City document where records of (potential) interest to all employees are kept (e.g. council reports / motions / decisions) and how to access those records. The implementation of both recommendations would provide employees with an understanding of the records that exist, what they are called, and where they are kept so that they may access the records subject to any necessary security / access restrictions (e.g. knowing that HR keeps personnel files in alphabetical order by employee surname does not mean that an employee will be granted access to

a co-worker's personnel file because access restrictions are in place to safeguard the confidentiality of the information in those files).

#### **6.2.5 Transfer Annual File Folder Label Generation to Departments / Branches**

The I&RM Assessment Report noted that each department / branch is responsible for the on-site, in department / branch storage of its active paper records; however, the Records and Information Analysts use Versatile to create file entries and generate annual folder labels for selected record series in each department / branch<sup>31</sup>.

It is recommended that the Analysts cease to perform this largely administrative activity in favour of reallocating their time to the delivery of higher value RIM Program services. The implementation of this recommendation would also result in departments / branches being solely responsible for the management of their active paper records. Note: Versatile system administration access is required to generate the annual file folder labels. Currently, a user with system administration access has full read / write / delete privileges to all records in the system. Therefore, the implementation of this objective is dependent on the software vendor making it possible for the City to restrict system administration access to the records of a single department / branch.

### **6.3 Collaboration and Sharing**

The I&RM Assessment Report makes several observations about document collaboration and the sharing of unstructured electronic records, including the sharing of documents via e-mail. The observations address the following topics:

- Frequent use of e-mail attachments for document collaboration and sharing.
- Challenges in using links as an alternative to distributing a document via e-mail.
- Inefficient document collaboration practices.
- Challenges of sending (and receiving) large attachments via e-mail.
- Use of cloud-based file storage or file transfer / sharing applications for work-related purposes.

As described below, several objectives must be met to achieve the goal of improving document collaboration and sharing.

Note: See Objectives # 6.13.1 - # 6.13.5 for enterprise content management, a technology which typically provides document collaboration software.

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<sup>31</sup> For non-annual files, departments / branches are encouraged to create Versatile entries and generate folder labels when the files are first created.

### **6.3.1 Promote Approved Document Sharing and Collaboration Methods**

It is recommended that the City promote approved methods for sharing documents (both internally and externally) and recommend the most appropriate use of each method given the audience and a document's confidentiality. Examples of methods for sharing documents internally include distributing a document as an e-mail attachment or storing a document in a shared drive. Examples of methods for sharing documents externally include e-mail attachments, .zip files, and an external party's FTP or Microsoft SharePoint site (provided the City's network allows access). The City would also specify if/when encryption was required, particularly for documents shared externally.

The City would also determine whether cloud-based file storage or file transfer / sharing applications may continue to be used and if yes, standardize the use of such software by authorizing the use of one such application and a back-up application.

### **6.3.2 Keep Large Attachments in E-mail System**

Several focus group participants and I&RM Survey respondents often receive very large e-mail attachments (e.g. drawings, photos, videos), primarily from external parties such as consultants and taxpayers. Because of mailbox size limits, an employee who receives many large e-mail attachments will print and file a paper copy of the attachment or manage the attachment electronically as follows:

- Save the attachment<sup>32</sup> to network storage and then delete the message (including its attachment(s)), and/or
- Periodically create a .pst file.

Saving the attachment (in native file format or Adobe PDF format) to network storage is problematic because it breaks the attachment's audit trail by separating the attachment from the e-mail message with which it was transmitted, raising the potential that the attachment's authenticity may be questioned in the future. This is also true of an attachment which is printed to hard copy and then filed. Saving an e-mail message to network storage also creates the potential that the message may be inadvertently or deliberately altered. The creation of .pst files is also problematic because doing so creates yet more unstructured electronic files to be managed. For these reasons, it is recommended that the City instruct employees to keep large e-mail attachments and the e-mail messages with which they were transmitted in the e-mail system<sup>33</sup>. Note: It is

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<sup>32</sup> Sometimes the attachment is converted to Adobe Acrobat PDF format before saving.

<sup>33</sup> This recommendation is contrary to the E-mail Management Guidelines for City Staff which state "Outlook should not be used for storage, as it prevents other users from



understood that keeping large attachments in the e-mail system means that other employees cannot access those attachments. The implementation of enterprise content management (ECM) technology would allow large attachments to be transferred from the e-mail system to a secure repository, thus increasing access to the attachments subject to any necessary security rights / privileges. See Objectives # 6.13.1 to # 6.13.5 for information about ECM systems.

## **6.4 Storage**

The I&RM Assessment Report makes several observations about the storage of paper records and unstructured electronic records (including e-mail). As described below, a few objectives must be met to achieve the goal of improving records storage.

Note: See the following objectives related to storage:

- Objective # 6.8.8 for promoting Records Retention Schedule use for active paper records.
- Objective # 6.5.5 for improving the security of inactive paper records by prohibiting the recording of identifying information on records storage boxes.

### **6.4.1 Develop Records Storage Location Lists**

When conducting a records search, whether to find information for operational purposes, respond to a FOI request, or assemble documents for a legal matter, it is often necessary to search multiple storage locations such as paper records in a central storage area, unstructured electronic records in a shared network drive, data in a structured system (core / enterprise system or line of business system), e-mail accounts, and microfilm / microfiche (where used). It is also possible that not all potential storage locations will be known depending on the type of records being sought and the tenure / experience of the employee who is searching for the records, further increasing the risk that the complete record (if it exists) will not be found.

To help overcome these challenges, it is recommended that each department / branch develop a list of the locations in which records are kept. These lists would be at the business function level and further subdivided by record series, subject, name, or other category as appropriate. The lists would also be date specific, for example listing the date ranges of paper records stored off-site versus those kept in a central file room at City Hall / another City facility.

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accessing City records that they may need for their work” (page 4) and identify two options for storing e-mail records: “printing and filing or saving as a PDF file on the appropriate department’s shared drive.” (page 4).

#### **6.4.2 Switch to Random Spot Checks of Inactive Paper Records**

As noted in the I&RM Assessment Report, a Records and Information Analyst performs the following time-consuming tasks prior to accepting each box of records into storage (aka 'Records Retention'):

- Ensure all file folders are labelled with Versatile-generated labels.
- Ensure all records in the box have the same destruction date (but are not necessarily of the same record series).
- Ensure the department / branch submitting the records for storage is the Responsible Branch as stated in the Records Retention Schedule.
- Remove any records for which the department / branch is not responsible (e.g. copies of Council reports if the department / branch is not City Clerk Services).

It is recommended that the Analysts stop performing these tasks for every box of records submitted for storage and instead perform spot checks only (e.g. if a department / branch is submitting 15 boxes for storage, perform a spot check of the above-listed tasks on only 2-3 of the boxes). In addition to enabling Analysts to reallocate time to the delivery of higher value RIM Program services, the implementation of this recommendation would place greater onus on the departments / branches for ensuring the correct preparation of their records storage shipments.

#### **6.4.3 Store Inactive Paper Records at Commercial Record Centre**

As of June 2019, the City was storing 4,785 boxes of inactive paper records. 62.5% (2,988 boxes) were stored on-site in 'Records Retention' (two locations at City Hall) and the balance was stored at a local third-party commercial warehouse. That warehouse is not a commercial record centre (i.e. a purpose-built facility for records storage); instead, it is a warehouse in which a variety of goods, household / office contents, and business records are stored. The City's current contract with the warehouse will expire on March 31, 2020.

As noted in the I&RM Assessment Report, the Records Retention rooms are inappropriate for storing paper records<sup>34</sup>. The deficiencies of the Records Retention rooms include, but are not limited to, overhead water pipes, lack of temperature and humidity control, and dead-end aisles which pose a health and safety risk (particularly in the event of fire). While we did not visit the local, third party warehouse at which the City stores inactive records, RIM staff reported several concerns about the warehouse such as retrieved boxes often being dirty and/or damaged, lax warehouse security (e.g.

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<sup>34</sup> These rooms are even less appropriate for storing the City's small collection of archival records.

a Records and Information Analyst was not required to wear an identification badge or be escorted by warehouse staff when on the premises), and slow retrievals (two days to deliver a requested box to the City).

It is recommended that the City stop storing inactive paper records in Records Retention and at the third party, local warehouse and instead contract with a commercial record centre effective April 1, 2020. While the implementation of this recommendation would increase the City's inactive records storage costs, the additional cost would be well spent to significantly improve the conditions under which the City's inactive records are stored.

Note: While Ergo recommends the City move to a commercial record centre the inactive records currently stored in the on-site Records Retention rooms, the City may wish to continue using one of the rooms as a short-term (i.e. a few days or 1-2 weeks) staging area for small quantities of records pending shipment to the commercial record centre.

#### **6.4.4 *Promote Intended Uses of Network Drives***

The Computer and Internet User Corporate Policy (Policy Ag 10.99) directs employees to "Store all files in the appropriate network location" (page 4) and Appendix I of the policy describes the network file services (drives) to which each network user (employee) has access. Discussions at the focus groups and responses to the I&RM Survey demonstrate that the purposes or intended uses of the network drives, particularly personal drives (F:) versus shared drives such as G: and H: drives, are not widely known or are not consistently implemented where known.

It is recommended that the City review (and update if/as required) Appendix I of the Computer and Internet User Corporate Policy and then promote the intended use(s) of each network drive to all staff. Doing so will inform employees of the City's expectations for storing unstructured electronic records on network drives and enable them to identify the types of information they should be able to access on each drive type (subject to any necessary security rights / privileges). Promoting the intended use(s) of each network drive will also likely help reduce duplication on the network, thus reducing the storage volume of unstructured electronic records and helping to alleviate the confusion

#### **6.4.5 *Implement Data Archiving Solution***

The volume of unstructured electronic records on the network will invariably increase as more and more of the City's records are (and remain) 'born digital.

While acknowledging that this is a temporary workaround and not a solution for improved file management practices, it is recommended that the City explore implementing an automated, time-based data archiving solution on network drives to help ITS administer the network. Such a solution (implemented by municipalities such as Newmarket) automatically moves files not accessed in a defined period (e.g. 2 years) from primary storage to an archive solution. To the user there is no difference, the file appears to be available - but is stored somewhere else (on cheaper storage).

## **6.5 Security**

The I&RM Assessment Report makes a few observations about the security of paper records and unstructured electronic records. As described below, several objectives must be met to achieve the goal of improving the security of those records.

Note: See Objective # 3.2.7 for revising the Computer and Internet User Corporate Policy.

### **6.5.1 Review Network Drive Security Rights / Privileges**

Several focus group participants and some I&RM Survey respondents identified the challenge of security rights / privileges preventing them from accessing the drive of another department / branch, either to retrieve information or to share it with others. When this occurs, employees often resort to e-mailing the file(s) to each other and that action contributes to records duplication because multiple copies of the same file are invariably kept in several e-mail accounts. An alternative is to make the file(s) accessible in a drive that all employees concerned can access; however, this practice also contributes to records duplication because the file(s) is (are) usually copied, not moved to the shared drive. It is also recognized that placing the file(s) on a shared drive is not an option if the information needs to be kept confidential.

It is recommended that the City review the security rights / privileges on each network drive and adjust them accordingly to ensure employees can access all of the drives (and, therefore, the folders / files on those drives) that they need to do their jobs.

### **6.5.2 Review and Approve Staff Departure Procedure (Records)**

The unapproved Staff Departure Procedure (Records) developed by the RIM Program requires the Manager<sup>35</sup> of an employee<sup>36</sup> who has terminated his / her employment with the City to complete specified tasks for the paper documents and electronic information<sup>37</sup> in the employee's custody at the time of termination, including ensuring that all records (including those that may be required due to ongoing FOI requests, litigation, or insurance claims) are saved or filed to an appropriate repository, or otherwise protected from destruction. RIM staff have used the procedure in response to a Manager's request for assistance and the procedure was used to assist the outgoing Councillors after the 2018 election.

It is recommended that the City review (and revise if/as required) and approve the Staff Departure Procedure (Records).

### **6.5.3 Establish Data and Information Security Classification Scheme**

For various purposes, including for information security, open data, privilege management, and MFIPPA, the City requires a consistent Data and Information Security Classification Scheme. Working with a multidisciplinary team of RIM, ITS and data staff, the City should establish a consistent Data and Information Security Classification Scheme applicable to all City data / information / records.

A couple of samples for the City's consideration as a basis for developing its own Data and Information Security Classification Scheme are provided:

- <https://www.usask.ca/avp-ict/documents/Data%20Classification%20Summary.pdf>

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<sup>35</sup> The procedure defines the 'Manager' as "1. the individual to whom the former employee directly reported, or 2. where the immediate managerial or supervisory position is vacant, the individual occupying the next managerial or supervisory position within the City's management hierarchy, or 3. an experienced member of staff who is familiar with the business activities or work completed by the departed employee; or, 4. in the absence of a supervisory role, the City Clerk, or their designate." (pages 1 - 2)

<sup>36</sup> The procedure defines an 'employee' as any full-time, part-time and temporary employees, or volunteers, the Mayor and contractual legislative staff employed by the Office of the Mayor, or Councillors elected to City Council" (page 1).

<sup>37</sup> The procedure describes the location of the electronic information as follows: "the personal drive (F:), e-mail (oshawa.ca) account, or other computer / system accounts provided to the individual as a result of his/her employment with the City, including computers and other electronic devices in the custody of the employee at the time of his / her termination" (page 1).

- [http://imtdocs.alberta.ca/Data-and-Information-Security-Classification-Standard\(1\).pdf](http://imtdocs.alberta.ca/Data-and-Information-Security-Classification-Standard(1).pdf)

#### **6.5.4 Prohibit Identifying Information on Boxed Inactive Paper Records**

When touring the Records Retention rooms, we observed that many boxes are marked with identifying information such as department / branch name, record series names, and dates. For security reasons, it is RIM best practice to not mark the outside of a box with information other than a box number, a barcode (if used), and the shelf location (e.g. aisle, bay, shelf, box) to facilitate re-shelving the box after use.

It is recommended that all identifying information be removed from existing boxes and that departments / branches be prohibited from recording such information on all boxes transferred to Records Retention in the future. Note: In some cases, it may be necessary to transfer the contents of a marked box to a new box; however, the time and moderate cost (cost of new box) would be well spent to improve the security of the City's inactive paper records. Also note, the day-forward implementation of this objective is dependent on the software vendor creating a Versatile box label template which does not include any identifying information.

### **6.6 Freedom of Information and Privacy**

The I&RM Assessment Report provides observations about the City's FOI and privacy practices. As described below, several objectives are recommended to improve those practices.

Note: See Objective # 3.2.2. for revising the 1997 MFIPPA Policy.

#### **6.6.1 Implement Routine Access (Disclosure) Program**

Historically, the City has required a requester to complete and submit a formal FOI request when seeking access to City records under MFIPPA. Several municipalities with which we are familiar have established a process for making selected information, where appropriate, available via routine disclosure instead. Routine disclosure is performed by trained employees in the department / branch with custody of the requested records (e.g. trained Building Services employees would provide routine disclosure of the building plans and permits<sup>38</sup> in its custody to the registered owner of a property instead of requiring the property owner to submit a formal FOI request to access those records).

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<sup>38</sup> The records would be reviewed prior to disclosure and the personal information of any individuals other than the current, registered property owner would be redacted prior to the records' release.

It is recommended that the City implement a routine disclosure process. The implementation of routine disclosure will reduce the volume of formal FOI requests processed by the City and likely result in faster disclosure of information to requesters.

Although the City Clerk as ‘head of the institution’ under MFIPPA is not required to annually report routine disclosure volume to the IPC, it is recommended that departments / branches be required to capture routine disclosure statistics for two reasons. First, the capture of routine disclosure statistics will enable the Information, Access and Privacy Officer to monitor routine disclosure activity, potentially highlighting departments / branches where additional training is required to increase the volume of routine disclosure. Second, capturing routine disclosure statistics will enable management to assess the staffing implications of routine disclosure and plan accordingly.

Note: As stated in the I&RM Assessment Report, City Clerk Services is already striving to implement routine access (disclosure) and the existing MFIPPA Policy and Procedure differentiates between Request (Formal) and Request (Informal); however, a formal Routine Access Program has not yet been developed or implemented.

#### **6.6.2 *Require Written Certification of Formal FOI Request Searches***

As stated in the I&RM Assessment Report, the Information, Access and Privacy Officer prepares a FOI Branch Request for the department(s) / branch(es) which likely have records responsive to a request. The recipient of a FOI Branch Request is expected to complete a thorough search for responsive records and provide both the completed FOI Branch Request and the responsive records in complete, unaltered, and preferably electronic format (Adobe PDF) to the Information, Access and Privacy Officer within 10 business days. Unlike some other municipalities with which we are familiar, the recipient is not required to document the name and position title of each employee who conducted a search or the location(s) that were searched. Further, the employee(s) who conducted a search are not required to attest in writing to the accuracy or thoroughness of their searches.

It is recommended that the FOI Branch Request be revised to require each department / branch which receives a FOI Branch Request to document the name and position title of each employee who conducted a search and to document the location(s) that were searched. It is also recommended that the FOI Branch Request be revised to require each employee who conducted a search to attest in writing to the accuracy or thoroughness of his/her search. The implementation of these recommendations will further formalize the search process, underscore the responsibility of a department / branch for completing a thorough search and providing the Information, Access and

Privacy Officer with all responsive records, and hopefully eliminate (or significantly reduce) the finding of responsive records after the City has given a decision on a formal FOI request. Implementing these recommendations will also ensure that the information the City will need as evidence in the event of an appeal to the IPC is captured immediately following the search when memories are fresh.

### **6.6.3 *Ensure (Sufficient) Notices for Personal Information Collection***

MFIPPA requires the City to communicate a notice of collection<sup>39</sup> to the public whenever personal information is collected (i.e. how and why the personal information is collected, used and disclosed, and under what authority and to provide contact information for questions). The Information, Access and Privacy Officer is aware that some City forms do not have (sufficient) notices of collection and has identified the need for a more standard notice of collection on all City forms.

It is recommended that the City review all forms used to collect personal information to ensure the provision of (sufficient) notices of collection.

Note: Work on this objective should be aligned with work on Objective # 7.5.2 for establishing a new customer consent model for data.

### **6.6.4 *Develop Personal Information Bank Index***

As noted in the I&RM Assessment Report, the rudimentary, partial, and likely out of date index of forms is not publicly available and does not satisfy the legislated requirements of a Personal Information Bank Index. S. 34(1) of MFIPPA requires the City to develop, keep current, and make available for public inspection an index of all personal information banks in its custody or control. The following information is to be provided for each personal information bank: name and location; legal authority for its establishment; types of personal information maintained in it; how the personal information is used on a regular basis; to whom the personal information is disclosed on a regular basis; the categories of individuals about whom personal information is maintained; and the policies and practices applicable to the retention and disposal of the personal information.

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<sup>39</sup> S. 29(2) of the Municipal Freedom of Information and Protection of Privacy Act (R.S.O. 1990, c. M.56) requires the City to inform the information to whom the personal information relates as follows: the legal authority for collecting the personal information, the principal purpose(s) for which the personal information is intended to be used, and the title, business address, and business phone number of an office or employee of the City who can answer the individual's questions about the collection.



It is recommended that the City develop a Personal Information Bank Index and publish the Index on the City's public website.

#### **6.6.5 *Require Completion of Privacy Impact Assessments***

A privacy impact assessment (PIA) is used to identify the potential privacy risks of new or modified / redesigned programs or services and to help eliminate or reduce those risks to an acceptable level. The I&RM Assessment Report observed that one PIA was completed prior to the hiring of the Information, Access and Privacy Officer.

It is recommended that the City specify the circumstances for which PIA completion is required. For example, the Treasury Board of Canada Secretariat's Directive on Privacy Impact Assessment requires a PIA to be completed when a government department<sup>40</sup>:

- Uses or intends to use personal information in a decision-making process that directly affects an individual;
- Substantially modifies existing programs or activities where personal information is being used, or intended to be used, in a decision-making process that directly affects an individual;
- Contracts out or transfers a program or service to another level of government or the private sector resulting in substantial modifications to a program or activity;
- Substantially redesigns the system that delivers a program to the public, or;
- Collects personal information which will not be used in decision-making process that directly affect an individual but which will have an impact on privacy.

It is also recommended that the City develop a PIA Template and Procedure. Among other topics, the procedure would assign responsibilities for completing, reviewing, and approving PIAs. The City would also provide training to department / branch employees who will participate in completing PIAs.

#### **6.6.6 *Implement Privacy Audits***

A privacy audit assesses "an organization's privacy protection posture against any legislative / regulatory requirements or international best practices" and reviews "compliance with the organization's own privacy-related policies. The scope involves evaluating procedures undertaken by an organization throughout the typical life-cycle phases: how information is created or received, distributed, used, maintained and

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<sup>40</sup> Office of the Privacy Commission of Canada, Privacy Impact Assessments: Frequently Asked Questions [https://www.priv.gc.ca/en/privacy-topics/privacy-impact-assessments/02\\_05\\_d\\_33/](https://www.priv.gc.ca/en/privacy-topics/privacy-impact-assessments/02_05_d_33/)

eventually disposed of.”<sup>41</sup> A privacy audit may also be completed for the operations of a department / branch, a computer system, or for a City program or procedure (e.g. the Property Tax Grant Application Program for low-income seniors or persons with a disability) to identify risks and enhance the security of personal information. The City does not currently conduct privacy audits.

It is recommended that the City develop a Privacy Audit Template and Procedure and begin to conduct privacy audits with the goal of completing at least one privacy audit per calendar year.

## **6.7 Business Continuity**

The IM Assessment Report makes a few observations vital records and the backup and recovery of electronically stored information. As described below, a few objectives must be met to achieve the goal of improving business continuity.

Note: See Objective # 6.8.13 for implementing a suitable retention period for full monthly backups.

### **6.7.1 Identify and Protect Vital Records**

‘Vital records’ are essential to the continuation or resumption of City business in the event of a disaster. They allow the City to fulfill its obligations to taxpayers, employees, other levels of government, and outside interested parties. The City has not identified its vital records; therefore, the City’s vital records may not be protected<sup>42</sup> with the exception of vital records in electronic format which are already being backed up as part of the business continuity service provided by ITS.

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<sup>41</sup> Muzamil Riffat, Privacy Audit - Methodology and Related Considerations, ISACA Journal (2014, Volume 1) <https://www.isaca.org/Journal/archives/2014/Volume-1/Pages/Privacy-Audit-Methodology-and-Related-Considerations.aspx>

<sup>42</sup> For example, City Clerk Services stores signed paper agreements (typically agreements signed by the Mayor and the City Clerk) and the City’s official signed paper by-laws in a ‘vault’ within the branch. Although the door to the ‘vault’ has a lock, it does not appear that this room affords any greater protection to paper records than any other file room at City Hall. The vault and the file cabinets in the vault are not fire-resistant. Since the 1960’s, a second signed paper copy of each by-law is also kept in Records Retention Room 1; however, that practice provides no guarantee of protection because a disaster at City Hall (e.g. a fire) could potentially affect both the vault in City Clerk Services and Records Retention Room 1.

It is recommended that the City identify its vital records in non-electronic formats (i.e. paper and microfilm / microfiche) and implement appropriate protection methods (e.g. fire-resistant file cabinets for paper vital records).

It is also recommended that the City identify its electronic vital records and confirm their appropriate protection, with protection being implemented or enhanced to resolve any protection gaps which may be identified.

#### **6.7.2 Develop Disaster Recovery Plan for Paper Records**

The City does not have a Disaster Recovery Plan for Paper Records. Part of an organization's overall disaster recovery planning, a Disaster Recovery Plan would document the actions to be taken to recover damaged or threatened records immediately following a disaster (e.g. measures to be taken in an attempt to rehabilitate records damaged by water).

It is recommended that the City develop a Disaster Recovery Plan for Paper Records. It is also recommended that the City test the Disaster Recovery Plan once per year.

### **6.8 Retention and Disposition**

The I&RM Assessment Report makes several observations about the Records Retention By-law (By-law 45-2002, as amended Office Consolidation revised June 23, 2016), the Records Retention Schedule (Schedule A of By-law 45-2002, as amended Office Consolidation August 3, 2016), and City's current practices for and challenges in retaining and disposing of information and records. As described below, several objectives must be met to achieve the goal of improving the retention and disposition of records.

Note: See the following objectives which are also related to retention and disposition:

- Objective # 3.2.3 for developing an Information / Records Preservation Order Policy.
- Objective # 6.9.1 for adding 'archival records' to the disposition options in the Records Retention Schedule.
- Objective # 6.9.3 for identifying records of archival value in the Records Retention Schedule.
- Objective # 6.9.4 for reviewing records designated as archival review at annual disposition.
- Objective # 6.9.5 for developing a Digital Preservation Plan.

### **6.8.1 Revise Records Retention By-law**

Section 6.8.1 of the I&RM Assessment Report identifies several omissions or deficiencies in the By-law, i.e.

- a) The By-law does not contain any definitions (e.g. definition of the term 'record').
- b) The purpose of the by-law is "to provide periods of retention for and to provide for the destruction of various documents of the Corporation of the City of Oshawa" (page 1), meaning that the City is to use only one disposition method at the end of a record's approved retention period (i.e. destruction). That is contrary to the permanent retention periods approved for some records, whether based on the records' archival value or not, and also contrary to RIM best practice which says records should be 'disposed of' at the end of their approved retention period with 'destruction' being just one possible disposition method.
- c) The Records Retention By-law does not define 'Corporation of the City of Oshawa'; therefore, it is not clear whether 'corporation' means only the City's departments / branches or whether it also includes the agencies, boards, commissions and other entities under the City's jurisdiction. RIM Program staff confirmed that the current Records Retention By-law pertains only to the City's departments / branches and, therefore, only the records of the City's departments / branches are listed in the Records Retention Schedule.
- d) Although revised on June 23, 2016, the following provision excerpted from the (then version of the) Municipal Act is obsolete because auditor approval is no longer required: "WHEREAS Section 116(1)(b) of The Municipal Act, R.S.O. 1990, c. M.45, (the "Act") as amended, provides that a municipality shall not destroy any of its receipts, vouchers, instruments, rolls or other documents, records and papers except in accordance with a by-law, approved by the auditor of the municipality<sup>43</sup>, establishing schedules of retention periods during which the receipts, vouchers, instruments, rolls or other documents, records and papers must be kept by the municipality;" (page 1).
- e) The By-law specifies a process for notifying departments / branches of scheduled records destructions and provides for the deferral of scheduled records

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<sup>43</sup> The Municipal Act, 2001, S.O. 2001, c. 25, s. 296(1) defines 'municipal auditor' as follows: "A municipality shall appoint an auditor licensed under the Public Accounting Act, 2004 who is responsible for, (a) annually auditing the accounts and transactions of the municipality and its local boards and expressing an opinion on the financial statements of these bodies based on the audit; and (b) performing duties required by the municipality or local board."

destructions. It is not clear, however, whether department / branch approval is required before records scheduled for destruction are actually destroyed<sup>44</sup>.

- f) The following provision is curious in that the retention periods in an approved Records Retention Schedule should take into consideration applicable legislated records retention requirements and those requirements should be periodically reviewed and the Retention Schedule updated accordingly to ensure compliance with legislated records retention requirements: “In the event of any conflict between this by-law and any statute or regulation of the Government of Canada or the Government of the Province of Ontario or other government or agency having jurisdiction, such statute or regulation shall prevail. If changes in the Act or other factors require the retention of any documents or records beyond the period stipulated in this by-law, then such documents or records shall be retained according to such requirements.” (page 1)

It is recommended that the City revise the By-law to address these omissions and deficiencies and secure Council approval of the new By-law.

#### **6.8.2 Use Same Records Structure as in Records Classification Scheme**

It is RIM best practice for the records in a Records Retention Schedule to be listed in the same structure as in an organization’s Records Classification Scheme (see Objective # 6.2.1) so employees need to learn only one structure. Some organizations embed retention periods into their Records Classification Scheme so employees need to reference only one document to determine both the classification and retention period of a record.

It is recommended that the records in the Records Retention Schedule be listed in the same structure as the Records Classification Scheme (to be developed).

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<sup>44</sup> RIM Program staff interpret this to mean that records can be destroyed without branch sign-off 30 days after the list has been provided to the branch. This interpretation is stated in the annual Mass Shred Memo which is sent to Branch Directors with their corresponding record lists: “Amendments made to Paragraph 4 of the Records Retention By-Law by By-law 113-2012, provide for the disposal of records due for destruction 30 days after the list of records due for destruction is provided to the branch head . . . Please note that if we do not receive a response boxes will still be destroyed without a sign off from the Branch as set out in the retention by-law.”

### **6.8.3 *Revise Records Retention Schedule Format***

Section 6.8.1 of the I&RM Assessment Report also identifies several omissions or deficiencies in the Records Retention Schedule<sup>45</sup>, i.e.

- a) Instructions on using the Records Retention Schedule are not provided.
- b) The difference between 'Active' and 'Total' Retention<sup>46</sup> is not explained.
- c) 'Originating Branch' is not defined.
- d) A Table of Contents (preferably hyperlinked) and an index (again, preferably hyperlinked) are not provided; therefore, the user must scroll to find a specific category or series or use the 'find' function in Adobe Acrobat.
- e) Category scope notes are not provided.

It is recommended that the City revise the format of the Records Retention Schedule to address these omissions and deficiencies.

### **6.8.4 *Research, Document, and Maintain Records Retention Requirement Citations***

It is RIM best practice to cite applicable legislation governing the retention of an organization's records. The Records Retention Schedule does not include any citations to legislated records retention requirements and we found no evidence that such requirements were researched (or are being updated / maintained).

It is recommended that the City research and document citations to legislated records retention requirements in Citation Tables (one for each of the Canadian federal and Province of Ontario jurisdictions) which would be appended to the Records Retention Schedule. Each citation would be uniquely numbered and cross-referenced, if/as applicable, to record series in the Records Retention Schedule. It is also recommended that the City research, document, and take into consideration any records retention requirements set by professional bodies such as the Law Society of Ontario or the Professional Engineers of Ontario because certain City employees are bound by those requirements. Requirements set by professional bodies would be captured in a third Citation Table.

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<sup>45</sup> The scope of this engagement did not include the review and validation of the record series, Responsible Branches designations, or Retention in the Records Retention Schedule; therefore, our observations address only the high-level content and the structure / format of the Retention Schedule.

<sup>46</sup> Although not explained in the Records Retention Schedule, the 'Active' period of retention would occur in the Responsible Branch(es) and the balance of the retention period (i.e. the 'Total' retention less the 'Active' retention) would occur in on- or off-site in Records Retention.

It is also recommended that the City review and update the Citation Tables annually to keep abreast of new and amended legislation or requirements set by professional bodies that may affect the retention of the City's records.

Note: We do not recommend including the citations in the body of the Records Retention Schedule because doing so adds yet more detail to a document which many users may already find overwhelming. Further, it has been our experience that most users do not need (or wish) to know the rationale for a retention period. They merely want to be told how long to keep records and trust in the accuracy / appropriateness of the retention periods they are asked to implement.

#### **6.8.5 *Revise Records Retention Schedule***

It is recommended that the City prepare and issue a revised Records Retention Schedule.

#### **6.8.6 *Complete Records Retention Clean-up Projects***

The Records and Information Analysts would work with individual departments / branches to plan records retention clean-up projects for paper records (in individual offices / at workstations, in central filing areas within departments / branches, and in Records Retention) and unstructured electronic records (in personal and shared network drives and e-mail accounts and on portable electronic storage media (e.g. CDs) where used). The Analysts would work with a cross-departmental team to plan a records retention clean-up of the corporate shared network drives. Employees in departments / branches would complete the clean-ups.

A records retention clean-up project in a department / branch would be planned and completed in phases by record format (paper or electronic) and storage location given the department / branch's priorities (e.g. the storage location that constitutes the largest volume of records, records of most frequent use, etc.). For example, a department / branch that relies heavily on a shared network drive may begin the clean-up there.

Below is a high-level list of the tasks that would be completed during a records retention clean-up project assuming that a records classification clean-up had already been completed. If not, the clean-up tasks listed under Objective # 6.2.3 would need to be completed first.

- Apply the Records Retention Schedule. For paper records this would include transferring records to Records Retention if/as applicable.

Employees would be trained to complete these tasks and Records and Information Analysts would be available as resources to answer questions during the clean-ups.

Completing the records retention clean-ups would provide several benefits:

- a) Reduce the time required to locate records because there would be a smaller volume to search after records that no longer have value to the City have been destroyed / deleted or transferred to an archives as per the retention periods in the Records Retention Schedule.
- b) Eliminate (or significantly decrease) records storage space constraints.
- c) Achieve a higher rate of Records Retention Schedule compliance.

Apart from these immediate efficiency and risk mitigation benefits, completing records retention clean-ups of unstructured electronic records would also reduce the amount of time required to run (or restore) back-ups and support the future implementation of an ECM system (or similar technology) by reducing the volume of records that would need to be migrated to the new system.

#### **6.8.7 Conduct Annual Records Retention Schedule Review**

As stated in the I&RM Assessment Report, the RIM Program does not periodically review and update the Records Retention Schedule. Revisions are made and approved by Council in response to department / branch requests.

It is recommended that a proactive approach be taken in the future, with the RIM Program engaging departments / branches in an annual review and update of the Records Retention Schedule. Doing so will ensure that the Records Retention Schedule continues to be accurate and complete and that the records retention periods reflect the City's needs.

#### **6.8.8 Promote Records Retention Schedule Use for Active Paper Records**

As noted in the I&RM Assessment Report, some focus group participants and I&RM Survey respondents are experiencing insufficient space for the storage of active paper records.

While storage space for active paper records is generally sufficient, it is recommended that the City promote Records Retention Schedule compliance as one way to help alleviate any such storage space constraints that occur today or may arise in the future. Regular (at least annual) review of active paper records and the prompt transfer of inactive paper records to Records Retention (as per the retention periods in the



Records Retention Schedule) will help contain the size of most paper records collections in departments / branches.

### **6.8.9 Apply Retention Periods to Unstructured Electronic Records**

Unstructured electronic records (e.g. word-processed documents, spreadsheets, presentations, etc.) and e-mails constitute a significant volume of the City's records and that volume will continue to grow unless processes are implemented to apply retention and disposition rules. The City's 888 network drives (personal, branch, and corporate drives) currently store 5.2 M files and consume 10.7 TB of storage. In addition, the City stores just over 3 TB of e-mails in 1,410 e-mail mailboxes<sup>47</sup>. The fifteen largest e-mail mailboxes range in size from 13 GB to 17 GB.

The date when an unstructured electronic record was last modified ('Last Modified Date')<sup>48</sup> is a good indicator of current and relevant information. The I&RM Assessment Report observed that most unstructured electronic records on the network were 'last modified' more than 7 years ago (42% for personal drives and 38% for each of branch and corporate drives). As cautioned in the Assessment Report, the determination of if/when to delete unstructured electronic records or move them to alternative storage should be made using an approved Records Retention Schedule because 'Last Modified Date' does not (and should not) determine the retention period of an unstructured electronic record; however, stale information which has not been modified for some time can be a potential candidate for archive<sup>49</sup>, deletion, or migration to lower tier storage.

It is recommended that the City promote the application of the Records Retention Schedule to unstructured electronic records (including e-mails) as one way to help manage the growth of those records. Regular (at least annual) review of those records and the prompt deletion of records that have met their retention requirements will help

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<sup>47</sup> This includes the e-mail accounts assigned to individual employees, shared e-mail accounts (e.g. [helpdesk@oshawa.ca](mailto:helpdesk@oshawa.ca)) which are accessed by multiple individuals and/or systems to send and/or receive messages for function-specific purposes, resource e-mail accounts which are used to manage calendar entries for meeting rooms, etc., and mailboxes for Oshawa Public Library employees.

<sup>48</sup> The 'Last Modified Date' of an electronic record changes when the file is modified (i.e. something is added to or removed from the file). The 'Last Modified Date' does not change if an employee opens a file but does not alter it.

<sup>49</sup> 'Archive' is used in the IT context to mean the movement of information that is no longer actively used to a separate storage device for further retention. This information is not necessarily 'archival' in the context discussed under Goal # 6.9 (Archival Information and Artifacts).

contain the overall growth in unstructured electronic records volume. This is especially true for e-mails to eliminate (or significantly reduce) the frequency with which e-mail accounts reach their allowed storage limits, requiring employees to engage in ad hoc, arbitrary, and often frantic activity to quickly identify e-mails that can be deleted (e.g. oldest messages, messages with largest attachments, etc.) so that they can reduce the size of their e-mail accounts and resume sending e-mails<sup>50</sup>.

#### ***6.8.10 Apply Retention Periods to Intranet Content***

As observed in the I&RM Assessment Report, it is not clear whether the following record series in the Records Retention Schedule is meant to contain the actual content on the City's Intranet: Website - Internal (Series ID A-3531) scheduled for CR+6 years total retention. The Scope Note for that record series reads: "Records relating to the City's intranet and internet sites, including website review team." Even if that series is meant to include the content on the Intranet, it is RIM best practice to schedule retention periods for such content based on the value of each piece / item of content instead of applying a blanket retention period (such as CR+6 or current year plus 6 years) to all such content.

It is recommended that the City apply the retention periods in the Records Retention Schedule to the individual pieces of Intranet content.

#### ***6.8.11 Apply Retention Periods to Public Website Content***

It is also not clear whether the following record series in the Records Retention Schedule is meant to contain the actual content on the City's public websites: Website - External (Series ID A-3532) scheduled for CR+6 years total retention. The Scope Note for that record series reads: "Records relating to websites hosted by the City of Oshawa on behalf of local boards, committees and partner organizations." As discussed above for Intranet content, it is RIM best practice to schedule retention periods for public website content based on the value of each piece / item of content instead of applying a blanket retention period (such as CR+6 or current year plus 6 years) to all such content.

The site for a community engagement project is live (i.e. available for comment) on the [www.connectoshawa.ca](http://www.connectoshawa.ca) site for a minimum of three weeks. At the end of that period, the site is removed from the homepage and the content for the project is archived and kept indefinitely.

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<sup>50</sup> An e-mail account which has exceeded its storage limit can, however, continue to receive e-mails.

It is recommended that the City apply the retention periods in the Records Retention Schedule to the individual pieces of content on its public websites.

#### **6.8.12 Apply Retention Periods to Social Media Content**

As stated in the I&RM Assessment Report, it is not clear if the following record series in the Records Retention Schedule is intended to contain the City's social media posts: record series E-Communications & Social Media (Series ID A-3106) scheduled for CR+6 years total retention. The Scope Note for the series reads: "Includes records relating to electronic communications and social media activities, including electronic newsletters and records relating to facebook, twitter and youtube." As with Intranet and public website content, it is RIM best practice to schedule retention periods for social media content based on the value of each piece / item of content instead of applying a blanket retention period (such as CR+6 or current year plus 6 years) to all such content.

The Online Communications Policy gives the City "the right to not post or to delete content (including comments, community events and external links)" (page 2) as follows:

- Include foul language or vulgarities;
- Are offensive to an individual or an organization, rude in tone, or abusive;
- Solicit / advertise / promote particular services, products, or political parties, advocacy groups or organizations;
- Infringe on copyrights or trademarks;
- Are spam; and/or
- Are off topic, meaning that the comment does not focus on City of Oshawa events and the promotion of local tourism.

The policy does not, however, require the City to keep a record of the content it refuses to post or the content it deletes. When content is deleted<sup>51</sup>, Corporate Communications staff take a screenshot of the deleted content, note why the content was deleted, and store the deleted content and note in the branch's shared drive. No retention period has yet been established for these records.

It is recommended that the City apply retention periods to social media content.

#### **6.8.13 Implement Suitable Retention Period for Full Monthly Backups**

As stated in the I&RM Assessment Report, ITS is responsible for backing up approximately 300 network servers. Incremental, nightly backups are kept for 30 days

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<sup>51</sup> Facebook only allows a comment to be hidden, not deleted.

while full, monthly backups are being kept indefinitely<sup>52</sup> pending the completion of the I&RM Strategic Plan project.

It is recommended that the City establish a suitable, quantified period for the retention of full, monthly backups. The retention period should be of sufficient duration to allow the restoration of data in the event of a disaster (the purpose for which backups are made). While analysis by ITS, RIM, and department / branch representatives would determine the optimum retention period and whether different retention periods should apply for different systems<sup>53</sup>, we recommend a retention period of 12 months or less.

#### **6.8.14 Schedule Retention Periods for Structured Data**

The I&RM Assessment Report observed that the City has a number of core / enterprise systems, line of business systems, and Access databases, many of which have been operation for several years and have retained data from the date that use started (i.e. no data has ever been purged even where the system provides purge functionality). The Records Retention Schedule does not include data in structured systems.

It is RIM best practice to schedule retention periods for the data in a structured system and not schedule one retention period for the system (or database) as a whole. Because databases are complex, consisting of tables and data elements (or fields / values) which are often in motion moving from one application to another through batch exchanges or defined middleware, it is a challenging and time-consuming exercise to isolate records in a structured system and determine their retention. Often a record is comprised of multiple data elements, each of which may be stored in a separate table. The ability to apply retention periods also largely depends on a system's functionality, with many (particularly older systems) lacking the ability to apply retention periods and delete data (at a discrete level). Consequently, it is necessary to apply a variety of remediation strategies to implement retention periods (e.g. leverage a system's reporting functionality and generate reports to be kept as records, use purpose built archiving in an off the shelf application where available, etc.). And unlike paper and unstructured electronic records, IT assistance is usually required when attempting to schedule retention periods for structured information / data. Due to these factors, an organization typically prioritizes the scheduling of retention periods for its structured systems in terms of the importance, level of effort, and cost for each system and

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<sup>52</sup> These backups were previously kept for 12 months.

<sup>53</sup> It may be appropriate, for example, to retain the December monthly backup of Peoplesoft for a different amount of time than monthly backups of other systems because that backup contains year-end data.

develops a phased approach for analyzing systems and scheduling retention periods for them.

It is recommended that the City develop a prioritized work plan for scheduling retention periods for the data in its structured systems and Access databases.

#### ***6.8.15 Ensure New Structured Systems Can Implement Retention Periods***

Moving forward, the City should ensure that it assesses whether new solutions being purchased / developed can suitably implement retention periods and data deletion, and that projects configure those capabilities.

#### ***6.8.16 Promote Correct RIM Use of Shredding Bins and Recycling Bins***

Shredding consoles are provided throughout City Hall and at other City facilities. We did not note any signs in the City Hall offices we visited that informed employees of the intended use(s) of the shredding consoles. Recycling bins are also provided; however, we did not find any signs informing staff whether any record types could be recycled (e.g. surplus copies of a report which had been released publicly). The RIM Program does not monitor or audit use of the shredding consoles or recycling bins.

It is recommended that the City post signs on the shredding bins and recycling bins to promote their correct use from a RIM perspective.

### **6.9 Archival Information and Artifacts**

The I&RM Assessment Report makes several observations about the current state of the City's aspirational Archival Program.

As described below, several objectives must be met to achieve the goal of improving the management of the City's archival records, both physical and electronic. Regardless of where the archival records are ultimately stored and used, the City must expand its RIM Program to accommodate the City's archival records by integrating the appraisal and disposition of its archival records within its Records Retention Schedule. At present, the City has identified only a small collection of archival records in physical form. Yet, an ever-increasing volume of the City's records are in electronic format (unstructured electronic records and structured data). Without proactive digital continuity measures, many of the City's electronic records and data are (or will be over time) at significant risk of becoming inaccessible due to software, hardware, and/or storage media obsolescence, and data corruption. This means the records and data will either cease to exist or the City will be unable to access and use them. The need for digital continuity is particularly acute for archival records to ensure the corporate memory is preserved. Recommendations 5.9.1 to 5.9.5 identify the actions needed to

accommodate both physical and electronic archival records within the City's RIM program.

The City must also consider the ongoing preservation, maintenance, and use of its archival records, regardless of form. The draft Corporate Archives Policy presents a framework for an excellent Archives Program; however, the policy has not been approved. More significantly, the necessary financial and human resources have not been allocated to achieve this vision.

Establishing and maintaining a professional in-house Archives Program requires a long-term commitment which should not be undertaken lightly.<sup>54</sup> Significant capital expenditure would be required to provide secure, environmentally controlled premises to appropriately house the archival records and provide access to them. However, housing the records in a suitable facility is but one requirement. The ongoing operation of an archives requires professional staff. As suggested by the observations in the I&RM Assessment Report regarding the archival functions of appraisal, accessioning, arrangement and description, storage, and digital preservation, professional archival practice comprises many complex functions, each of which has an established body of agreed upon principles and processes. The City would need to hire an experienced professional Archivist to direct the Archives Program. This individual must have a graduate degree in archives plus extensive practical experience in archives management, digitization, policy development, preservation, reference services for staff and citizens, and community outreach. Para-professional support staff (e.g. Archives Technicians) would also be required. Unless the necessary resources are committed to ensure an appropriate facility and ongoing operations, the risk of loss of the City's archival heritage and the resulting damage to the City's reputation is high.

A logical alternative is for the City to deposit its archival records in an established archival institution that can provide the full range of archival facilities and services. The City previously deposited a significant quantity of its older physical records in the Archives of Ontario<sup>55</sup>. Maintaining this relationship would ensure the ongoing

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<sup>54</sup> RIM Program staff may wish to consult with the City of Vaughan in York Region regarding its Archives Program. Information about the program is available at [https://www.vaughan.ca/services/vaughan\\_archives/pages/default.aspx](https://www.vaughan.ca/services/vaughan_archives/pages/default.aspx)

<sup>55</sup> As stated in the I&RM Assessment Report, the Archives of Ontario's Archives Descriptive Database [http://ao.minisisinc.com/scripts/mwimain.dll?get&file=\[ARCHON\]search.htm](http://ao.minisisinc.com/scripts/mwimain.dll?get&file=[ARCHON]search.htm) describes the City of Oshawa fonds (Fonds F 1844) which the Archives of Ontario states were transferred to the Archives of Ontario by the Oshawa City Council in 1982; however,

preservation of the City's archival records, physical and electronic, in secure environmentally controlled premises, and would fulfill the functions required to make the materials accessible for use in accordance with professional principles, standards, and practices. Recommendation 5.9.6 identifies the action needed to achieve this goal.

If the Archives of Ontario has changed its acquisition policy since 1982 and is unwilling to acquire the City's archival records, the City will have to identify other repositories with the capacity to professionally house and maintain the City's archives on an ongoing long-term basis. Municipal archives presently exist in Ajax<sup>56</sup> and Whitby<sup>57</sup>; however, their acquisition mandates are limited to their respective municipalities. The collections of the Oshawa Museum<sup>58</sup> include historical photographs and other records; but its focus is on heritage properties and artifacts. None of these institutions appear to have the capacity to house, preserve, and manage on an ongoing, long-term basis the volume of physical and electronic archival records produced by the City.

A bolder, innovative solution would be to begin discussions with the Region of Durham to assess the feasibility of establishing a regional archives to acquire, preserve, and make available the historical records of the regional government plus those of the municipalities and townships therein. Examples of successful and well-established regional Archives Programs can be found in Simcoe and Elgin Counties.<sup>59</sup> Recommendation 5.9.7 addresses this possibility.

Note: See Objective # 3.2.4 for establishing a Corporate Archives Policy.

### **6.9.1 Add 'Archival Records' to Records Retention Schedule Disposition Options**

There is no 'archives' designation in the existing Records Retention Schedule. While some record series have a 'P = permanent' retention period or a 'S = selected records retained' retention period, it is not known whether those retention periods are intended to preserve archival records. A brief review of the Records Retention Schedule also reveals that many records series that are potentially of archival value have been designated 'destroy' (e.g. Policies and Procedures, Strategic Plans, Public Relations, and Urban Design). While some of these series may not merit archival retention in their entirety, many should, at a minimum, be designated for selective retention.

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according to RIM Program staff, the database entry for fonds F 1844 is out of date and these records are no longer housed by the Archives of Ontario.

<sup>56</sup> <https://www.ajax.ca/en/play-and-discover/history-and-archives.aspx>

<sup>57</sup> <https://www.whitbylibrary.ca/archives-and-local-history>

<sup>58</sup> <http://www.oshawamuseum.org/about.html>

<sup>59</sup> <https://www.simcoe.ca/dpt/arc> and <https://www.elgincounty.ca/archives/>

It is recommended that the 'permanent' disposition option in the Records Retention Schedule be replaced by an 'archival' option. It is also recommended that an 'archival review' option be added and applied to those record series that need further review in order to identify the portion of material that is of archival value.

#### ***6.9.2 Develop Archival Appraisal Guidelines for Physical and Electronic Formats***

As noted, the draft Corporate Archives Policy does not define 'archival records' or 'enduring value'.

Archival appraisal is one of the most challenging of archival functions. To assist staff in identifying the archival records, it is recommended that the City seek the assistance of an experienced professional Archivist to develop detailed Archival Appraisal Guidelines for both physical and electronic formats.

#### ***6.9.3 Identify Archival Records in Records Retention Schedule***

It is recommended that the Records Retention Schedule be reviewed and revised, using the Appraisal Guidelines referred to above, to ensure that all records of archival value (in both physical and electronic) formats are identified. During the Records Retention Schedule review, records currently designated as 'permanent' would be changed to 'archival' where applicable.

We also recommend that the professional Archivist who will develop the detailed Archival Appraisal Guidelines also be retained to assist in applying the guidelines to the revised Records Retention Schedule. Doing so will provide an opportunity for the Archivist to assist RIM Program staff to identify any clarifications required to the Guidelines, identify and document in the Guidelines the subset of archival records in each record series coded as 'archival review' in the Records Retention Schedule, and mentor RIM Program staff in their use of the Guidelines.

#### ***6.9.4 Review Records Designated as Archival Review at Annual Records Disposition***

It is recommended that, when disposing of records annually, a professional Archivist be engaged to assist in appraising the archival value of those series that are designated in the Records Retention Schedule as 'archival review' and to update the Archival Appraisal Guidelines if/as required.

#### ***6.9.5 Develop Digital Preservation Plan***

It is recommended that the City seek the assistance of a professional Archivist with expertise in digital preservation to develop a Digital Preservation Plan to provide digital continuity for unstructured electronic records and structured data. The Digital



Preservation Plan would identify preservation options, costs, and requirements for complying with The Accessibility for Ontarians with Disabilities Act (AODA). Note: The Digital Preservation Plan would apply to archival records in electronic formats and also to non-archival records with long retention periods (decades).

**6.9.6 Investigate Future Deposit of Archival Records with Archives of Ontario.**

The I&RM Assessment Report notes that the City transferred 80 metres of the earliest City records (1850-1965) to the Archives of Ontario in 1982; however, RIM Program staff advised that those records are no longer housed at the Archives of Ontario.

It is recommended that the City contact the Archives of Ontario regarding the possibility of depositing its archival records with that institution in the future.

Note: Under s. 254(3) of the Municipal Act, 2001, a municipality may enter into an agreement for archival services with respect to the records it is required to retain and preserve. Any records transferred under such an agreement remain, for the purposes of MFIPPA, under the municipality's ownership and control (s. 254(4) of the Municipal Act, 2001) while s. 254(6) of the Act requires the municipality to ensure the transferred records are kept and preserved in a secure and accessible manner.

**6.9.7 Investigate Feasibility of Establishing Regional Archives**

If the Archives of Ontario is unwilling to acquire the City's archival records, it is recommended that the City begin discussions with the Region of Durham and its constituent municipalities and townships to assess the feasibility of establishing a regional archives.

**6.10 Intranet Content**

The I&RM Assessment Report makes a few observations about the current administration and content of the Intranet. As described below, a couple of objectives must be met to achieve the goal of managing Intranet content as a City record.

Note: See Objective # 6.8.10 for applying retention periods to Intranet content.

**6.10.1 Specify Intranet Content**

It is clear that the redesigned intranet site which was launched on September 23, 2019 is intended to provide information (likely including records such as policies and training materials) and facilitate communication across the City. When preparing the I&RM Assessment Report, we did not receive any documentation to review which described the intended relationship between the redesigned site and existing repositories of electronically stored information (and records), particularly the network file shares.

It is recommended that the City develop an Intranet Policy which would, among other topics, specify the content to be made available on the Intranet and explain the relationship between that content and the electronically stored information (and records) kept elsewhere.

#### **6.10.2 Require Semi-Annual Intranet Content Review**

Unless its content is regularly reviewed, an Intranet will suffer from obsolescence (e.g. content will become obsolete and project / committee / team pages (which are often used as collaboration sites) may be abandoned) and bloat (e.g. the number of pages will continue to grow).

It is recommended that the City require, and enforce the requirement for, a page owner to review its Intranet content (at least) twice every year.

### **6.11 Public Website Content**

The City has two public websites: the main corporate, information-based site ([www.oshawa.ca](http://www.oshawa.ca)) and the online engagement platform ([www.connectoshawa.ca](http://www.connectoshawa.ca)). The I&RM Assessment Report makes several observations about the current administration and content of these websites. As described below, a few objectives must be met to achieve the goal of managing public website content as a City record.

Note: See Objective # 6.8.11 for applying retention periods to public website content.

#### **6.11.1 Require Continuous Review of Public Website Content**

Just like an Intranet, a public website will suffer from obsolescence and bloat if its content is not regularly reviewed and managed (republish content that remains current, publish updated content, and delete obsolete content). Further, the City's image may be negatively impacted if the content on its public websites is not accurate or current.

It is recommended that the City require, and enforce the requirement for, a page owner to continuously review its content (daily, weekly, or monthly as appropriate for the communication requirement). The content management system for the [www.oshawa.ca](http://www.oshawa.ca) website produces a 'stale dated pages' report which lists any pages not changed / updated in the past six months. Page owners in departments / branches can review these lists and review / edit and republish the stale date pages if/as applicable.

It is also recommended that the City require, and enforce the requirement for, a page owner to complete a comprehensive evaluation of all content once per year.

### **6.11.2 Capture and Manage Public Website Content as Records**

As observed in the I&RM Assessment Report, the deletion of content from a page or the deletion of a page (and any associated images) does not result in that content / page being 'unpublished' (i.e. no longer viewable on the site but still resident on the site); instead, the content / page is deleted and, in the case of a deleted page, the page is removed from the sitemap. News postings are an exception - when they are no longer current, they are 'expired' (i.e. removed from view but remain on the site).

Further, the City does not capture screenshots of its public websites; therefore, the City would be unable to reproduce an exact image of specific content as it appeared on a site on a specific day unless the requested content had been captured by the third-party Internet Archive Wayback machine (for example, it saved content at [www.oshawa.ca](http://www.oshawa.ca) 412 times between June 2, 2002 and October 8, 2019) or the requested content could potentially be obtained from the backups maintained by the website hosting service. It may be necessary for legal or other purposes for the City to be able to demonstrate what content was – and was not – on its website on a certain date.

It is recommended that the City implement technology to capture, store, and manage the retention and disposition of its public website content. Note: The content management system (iCreate) saves each page as a different version. Therefore, provided a page has not been deleted, the City could (if necessary) roll back in time to establish the content that was available on a certain date.

## **6.12 Social Media Content**

The City has five corporate social media accounts (Facebook, Instagram, LinkedIn, Twitter, and YouTube). Four branches also have social media accounts (Animal Services on Facebook, Economic Development Services on Twitter, Fire Services on Twitter, Recreation and Culture Services - culture on Facebook and Twitter, and Recreation and Culture Services - Recreation on Facebook and Twitter)<sup>60</sup>. The I&RM Assessment Report makes observations about the City's current administration and use of social media channels. As described below, a few objectives must be met to achieve the goal of managing social media content as a City record.

Note: See Objective # 6.8.12 for applying retention periods to social media content.

### **6.12.1 Capture and Manage Social Media Content as Records**

The City does not use social media archiving software (e.g. ArchiveSocial); therefore, the City would need to rely on a social media channel's continued retention of the City's

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<sup>60</sup> The Oshawa Executive Airport also has a Twitter account.

social media content if the City was asked to provide evidence of a social media post or comment.

It is recommended that the City implement social media archiving software to capture and manage social media content as a record. Note: The City uses Hootsuite which captures the City's posts. It does not capture the comments that others may make in response to those posts.

It is further recommended that the City establish a retention period for the content it refuses to post or the content it deletes.

### **6.13 Enterprise Content Management (ECM)**

The I&RM Assessment Report observed that the City's current (2011) IT Strategic Plan identified "Information and Document Management: developing better solutions for document management and collaboration" (page 2) as one of six key technology business needs at the City over the next three years (i.e. 2011-2013) and recommended the completion of a Document and Records Management Assessment and an Information Management Strategy / Plan in 2011 with document management implementation occurring in 2012 - 2013. The Assessment Report also observed that the then Manager, Records Information Systems made a presentation to CLT in October 2016 on enterprise content management (ECM)<sup>61</sup> as a corporate-wide initiative. As described below, several objectives must be met to build and secure CLT support for and Council approval of an ECM business case with the goal of implementing an ECM system in the near future.

#### **6.13.1 Research ECM Systems**

It is recommended that the City conduct research to become familiar with ECM systems from a functional and technical perspective. The research process would include

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<sup>61</sup> Historically, this technology was called EDRMS (enterprise document and records management system) which the National Archives of Australia defines as "an automated software application designed to assist ... with the creation, management, use, storage and disposal of information and records. An EDRMS may also automate business processes such as workflows and approvals and be integrated with other business systems." <http://www.naa.gov.au/information-management/managing-information-and-records/systems/EDRMS/index.aspx> Today, the technology is known as ECM (enterprise content management) which Gartner defines as "Enterprise content management (ECM) is used to create, store, distribute, discover, archive and manage unstructured content (such as scanned documents, email, reports, medical images and office documents) and ultimately analyze usage to enable organizations to deliver relevant content to users where and when they need it." <https://www.gartner.com/it-glossary/> Some vendors have begun to refer to this technology as CSP (content services platform).

identifying ECM vendors / products and gathering authoritative evaluations / references. Gartner's Magic Quadrant for Content Services Platforms (last published in October 2018) would be a helpful starting point. Note: We recommend the research include Microsoft SharePoint because the inclusion of that software in Microsoft Office 365 licenses often presents a very attractive financial proposition for securing baseline ECM functionality which can be supplemented with add-on products.

### **6.13.2 Document ECM Requirements**

It is recommended that the City identify and prioritize its ECM functional, technical, and user requirements. Requirements would be identified as mandatory or discretionary and within the discretionary category, requirements would be classified as high, medium, or low priority.

The specification would most likely include requirements for document collaboration, workflow, auto-classification, and replacement of the Versatile system. It would potentially include requirements for electronic (digital) signatures. The specification would also address if/how an ECM would replace or integrate with systems already used by the City such as the Intranet and PeopleSoft.

The requirements definition would also identify the requirements for capturing and managing the City's social media and public website content unless provisions had been otherwise made to manage that content. The technical requirements would, among other topics, state whether the City required an on-premise or cloud-based ECM and address enterprise mobility requirements.

### **6.13.3 Assess ECM Implementation Readiness**

It is recommended that the City complete a Readiness Assessment to determine its readiness to implement an ECM system. Below are examples of the topics that would be addressed in the ECM Readiness Assessment.

1. Document and assess the City's current environment for managing the in scope information
  - Policy / procedures, practices, staffing and technology for managing the in scope information and any challenges, constraints, and risks presently experienced.
  - Intradepartmental and departmental requirements for accessing / sharing the in scope information.
  - Electronic document / file / record collaboration requirements.
2. Describe the future environment for managing the in scope information in an ECM system
  - ECM functionality that would most benefit the City.

- ECM technological environment (high-level only).
- How an employee's day-to-day management of records would change.
- 3. Assess the City's readiness for introducing an ECM system on five dimensions
  - Technological.
  - Policy / procedure / process.
  - Staffing.
  - Financial.
  - Cultural (includes change management).

#### **6.13.4 Prepare ECM Business Case**

It is recommended that the City develop an ECM Business Case to present:

1. The strategic case (i.e. why an ECM system is required and the business needs it will satisfy, ECM strategic objective(s), ECM benefits including any opportunities to automate business processes, ECM limitations, and any constraints or dependencies with other change initiatives / system implementations at the City).
2. The economic case (i.e. summary of ECM benefits and high-level, estimated costs to purchase, implement, and maintain an ECM system).
3. The funding case (i.e. determination whether the available sources of funding are sufficient for ECM implementation and maintenance and contingency plans to account for different levels of funding if/as applicable).
4. The commercial case (i.e. plan for ECM system procurement and procurement of any technology and/or services required to support ECM implementation or maintenance).
5. The project management case (i.e. governance arrangements for the ECM project, summary of ECM implementation milestones, and high-level identification of implementation and maintenance resource requirements).

#### **6.13.5 Prepare ECM Strategy and Implementation Plan**

Assuming the ECM Business Case was approved, the City would proceed to develop an ECM Strategy and Implementation Plan.

### **7. Data Management**

The I&RM Assessment Report revealed that much work remains to be done to improve the management of the City's structured data. Managing data across a broad range of systems is proving to be challenging for the City, especially in the absence of clearly defined standards, roles, and processes. If data is not managed properly, the overall utility of these systems and the information they create becomes less effective. The

growing reliance on technology solutions and the prospect of rethinking how an organization uses technology, people, and process to fundamentally change business performance (digital transformation<sup>62</sup>) has highlighted data management (or master data management) as a key capability for all organizations in the 21<sup>st</sup> century.

The topic of data is so large as to be somewhat overwhelming. Every person in the City is doing something with data each and every day. Many staff work with data all day long. Based on our assessment, there is much to be done to mature the City's data management practices. There is so much work, it is hard to imagine where to start.

As such, our general advice is to start small and stay focused, work in the open to learn and share together then use that learning as a platform for additional work. It is vital to be transparent and share learning through the IMDSC so that the City's data leaders and its data practitioners can collectively build a shared knowledgebase of what works well. Remember, "perfect is the enemy of good" - build something good enough for now, and plan to revisit and improve as you learn. We often refer to this method as innovation through iteration.

This strategic priority addresses improving the management of data in the City's structured systems, both core / enterprise solutions (e.g. Maximo) and systems that support the distinct business needs of individual City services (e.g. eSolutions and Gtechna "Officer").

There are a series of data projects that should be considered and which support planned corporate projects or DM initiatives. Many of the following goals recommend projects that could be undertaken to improve DM at the City and help develop a baseline upon which a DM Program could operate. This is in no way an exhaustive list of potential projects but, based on our investigation of the City's overall maturity level and the lack of an overall mandate and resources dedicated to DM, we feel that these initiatives would be a good starting point.

Note: Data Policy objectives are addressed in this Strategic Plan as follows:

- a) Objective # 3.1.1 for establishing data governance by expanding the current ISSC model.
- b) Objective # 3.1.8 for distributing DM roles throughout the City.
- c) Objective # 3.2.5 for developing a Data Policy.

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<sup>62</sup> CIO.org <https://www.cio.com/article/3211428/what-is-digital-transformation-a-necessary-disruption.html>

## **7.1 Data Work Plan and Priorities**

Two actions are recommended regarding Data Work Plan and priorities.

Note: See the following related objectives:

- a) Objective # 4.2.1 for expanding the GIS Program.
- b) Objective # 4.2.4 for reconstituting the Open Data Program.
- c) Objective # 4.2.5 for expanding the Open Data Program.

### **7.1.1 Formalize Rolling Two-Year Data Work Plan and Priorities**

It is recommended that the City formalize a rolling two-year Data Work Plan and Priorities that would be approved by IMDSC.

This should be a simple document prepared internally, not the output of a consulting engagement. It should be a compilation of the items recommended as part of this strategy, along with the work already underway as part of the GIS Program (and Open Data Program), as well as data work that is already underway or which will be tackled as part of high-profile City projects such CityView and Maximo. The intent is to create a single picture view of all the data management activities to ensure alignment is achieved.

Although leadership for this work would be ideally allocated to the proposed Data Program Manager position, the City will need to make this determination. Regardless, leadership of the Data Work Plan should be ratified by IMDSC.

### **7.1.2 Set Corporate Data Priorities and Classification**

It will be difficult for the City to improve its data practices wholesale across the organization without significant organizational resources and buy-in; therefore, it is recommended that the City focus on ratcheting up data standards in a small number of data domains where real progress can be made. Progress in these areas can be used to learn and establish good practices which can become lighthouse models to illustrate what it takes to be successful with data.

In selecting data domains, it is suggested that a focus be placed on data that is most important to the City corporately or data that will support strategically important projects (e.g. CRM, work order management, operational dashboard and performance monitoring, etc.). Working through the governance framework noted above, the City should prioritize a list of its top 5 datasets upon which to focus its data improvement efforts and attention (e.g.)



- Asset (Linear, Facility, Mobile).
- Financial (GL).
- Governance (Policy, By-laws, Agreements).
- Party (Employee, Customer, Vendor, Partner).
- Place (Address, Street, Non-Addressable Objects).

While undertaking this review, it is suggested that a classification schema also be developed and used to demarcate which datasets are either restricted, confidential, for internal use, or considered public information. This classification schema can be developed as part of the City's Data Policy recommended as part of 6.1.2 above.

Subsequent projects (discussed later) should be initiated to enhance processes and practices, quality, and completeness of these datasets.

## **7.2 Data and Integration Architecture**

One action is recommended for Data and Integrated Architecture.

### **7.2.1 Further Explore Power BI**

Data / BI platforms offer a large suite of data tools and capabilities including: a data warehouse, reporting, and dashboarding capabilities; data profiling and cleansing tools; extract, transform, and load tools to manage data migration between databases; an integration hub (Enterprise Service Bus); and master data management capabilities. While such a platform does not currently exist at the City, some very preliminary use of Microsoft Power BI has been explored. Although, at some point in the future the City will need to consider formal requirements for a data platform / BI tool, it is recommended that further exploration occur using Power BI to learn various capabilities offered through such a product. Pilots using BI and analytics in areas such as Service Oshawa and Fire Services may be fertile grounds to continue to this exploration alongside business partners who understand the value that data can provide to manage operations more effectively.

## **7.3 Data Format Standards**

Two actions are recommended regarding Data Format Standards.

### **7.3.1 Develop Data Format Standards**

Just like a branding guide or a writing style guide, the City should establish its basic data formatting standards so that new IT solutions can be designed to handle data in a consistent way. If followed, this will reduce the need to clean or reformat data, increase

data interoperability, and save time and effort during system implementations and continuous improvement efforts.

Thus, it is recommended that a small working group be formed to crowdsource input about current practices across the City, particularly those who are responsible for managing key datasets across the City (e.g. GL, properties, assets, etc.). From this input the team should compile and recommend basic data formatting standards to be used for future projects (e.g.) Prefixes, People Names, Suffixes, Gender, Cost Centre, Cost Element, Phone Number, Email, Domain Name, Date, Time, SIN, Business Number, CC (credit card), and GST Number.

These standards should be documented, approved by IMDSC, and published and socialized across the City, especially with application staff and project leads so that the standards can be applied to future projects.

### ***7.3.2 Complete Data Review of Recent and Current Implementations***

In support of recent and ongoing system implementation efforts (Intelligenz, Maximo, and CityView), consideration should be given to the establishment of master datasets which these systems will manage. Consideration may have already been given as to the interface / integration models that will make the master data managed by these systems available across the City and how they will interface with other key data sources. This review of the many data conversations and decisions made as part of these projects may be easily obtained by members engaged in project activities and/or through formal project management documentation. Applying the data management strategy characteristics outlined above and put forward through the CMMI-DMM will create a good baseline repository of data decisions, modeling techniques, and management practices which can help to inform the development of corporate data format standards.

This project could be managed by a working group under the auspices of the IMDSC. Although there will need to be some level of technical proficiency on the team, this exercise is primarily a learning and engagement opportunity to gather information and see the application of DM as it is currently applied to project work. Understanding this will be helpful to scale out these techniques to support other corporate projects.

## **7.4 Corporate Data Model**

Two actions are recommended regarding a corporate data model.

#### **7.4.1 Develop Corporate Data Model**

Ideally, under the leadership of a Data Program Manager, we recommend that the City begin work on a Corporate Data Model. The conceptual model will initially be the most valuable area for focus. Note that at this early stage, a data model should be developed around a few key focal points then scaled out through future iterations of the work.

Cities are complex organizations so we recommend attention be paid to documenting what is currently known, what standards are currently in place for the datasets that are under governance, and where standards have already been defined but may not be documented (e.g. Property / Address / Street through GIS or business system implementations such as Intelligenz, CityView, and Maximo). This will be a starting point for understanding how to document, how to share and socialize, and how to build value from the exercise. As new datasets come under governance, the data model can be evolved and further built out.

#### **7.4.2 Build Business Glossary**

As an output of work on the Corporate Data Model, alongside work on metadata in the GIS Program (and Open Data Program), the City should begin to evolve consistent business terminology for referencing data elements.

So, when working on data projects, the City should take the opportunity to create standardization for the terms and descriptions in use and work gradually toward building a Business Glossary. Under the auspices of IMDSC, a small working group could be struck to kick start this practice by relating to current work (CityView and Maximo) and planned to support future data-related projects.

### **7.5 Data Sharing / Data Providers**

Two actions are recommended regarding data sharing / data providers.

#### **7.5.1 Conduct Legislative Review of Data Sharing**

One of the challenges associated with data sharing within municipalities is a generalized concern about legislative controls that may prevent it outright. This can often be a grey area that can optically limit municipalities from making progress (i.e. cities will often take a conservative view and default to not sharing).

As the City begins to use data more and potentially strengthen its data sharing partnerships (TeachingCity, Regional and community partners, MPAC, etc.) combining or “mashing up” data may lead the City into areas where privacy becomes a challenge and the de-identification of data may become necessary. Therefore, we recommend conducting a review of existing legislation that inhibits or facilitates internal data sharing

so that the City may determine and document a formalized position that allows for this area to be demystified. Many municipalities and other governments have adopted an “open first” policy with respect to data sharing; however, most frequently this process starts with identifying data or situations whereby data cannot be shared as a result of legislative compliance.

### **7.5.2 *Establish New Customer Consent Model***

As part of building a master customer dataset, customer consent is required to allow for data sharing within the corporation. Use of the City’s CRM tool (Lagan) has almost strictly been managed by Service Oshawa. That said, there are opportunities to expand this platform to support of other customer service functions which is something that many proponents within the City noted to be important to them.

Undertaking the development of corporate Customer Consent Model ensures that customer consent for sharing is secured as a customer database is built. This consent review should include all appropriate customer contact points to ensure that the City can build a reliable customer database. Such a review should also realistically reflect the expectations of customers who typically believe that when interacting with the City (just as they do with private sector organizations) that information about them and their previous interactions with the City will be available to customer service agents.

Note also that the same concept can apply to data sharing about staff, a review of which is also recommended. For example, an employee who provided banking information to HR for payroll purposes likely expects that information to be available to Accounts Payable for processing any expense reimbursement claims that the employee may submit.

In short, sharing customer data within an organization can greatly enhance customer service offerings in general. The City’s longstanding use of CRM has been very effective to date; however, its use could be expanded to realize more value for citizens. This work is necessary to support any future expansion of CRM but would also be a practical way to manage and socialize concepts related to customer data and privacy. This could be jointly led by City Clerk Services and ITS reporting through IMDSC.

## **7.6 Corporate Data Catalogue**

Two actions are recommended regarding a Corporate Data Catalogue.

### **7.6.1 *Build Corporate Data Catalogue***

We recommend the City conduct an inventory of its data and use the inventory findings to build and publish a Corporate Data Catalogue. Following the approach noted above,

this should be an iterative process that builds value as it grows – not an endeavor that must capture every data source before it is published. Start simple, with known data sources and work openly with operational staff and other stakeholders to gradually build out a more complete Data Catalogue.

The City can use this process to formally agree / set the assignment of roles for each of the key datasets (e.g. custodian, steward), roles which should ideally be aligned with service owners.

### **7.6.2 Enhance Focus of Open Data Portal for Internal Use**

We recommend the City consider refocusing its open data portal to provide useful data to staff to support their daily activities. We know that staff most frequently visit open data catalogues to embed maps and information into their staff reports, web media, and Branch level documentation. Ensuring that staff can easily and quickly get access to consistent, accurate, and up-to-date information for Council reports, strategies, etc. would be a great way to help “reactivate” the Open Data Program in a very pragmatic way. It would also introduce staff to the many concepts applied to the data (e.g. normalization, metadata, etc.) and help to foster data custodianship throughout the organization. The open data portal could be a one-stop-shop / portal for staff to mine core master data that should be more broadly available internally. This would likely re-use the GIS platform for delivery as it could natively provide the source data as well as processed and visualizations of the data. Examples of commonly available data include:

- Budget books and financial performance data (budget vs. actuals).
- Census data.
- City projects (including approved technology projects).
- Common HR data (headcount, etc.).
- KPIs.
- Service Oshawa statistics (topics, volumes).
- Web traffic / analytics.

## **7.7 Data Quality Standards and Measures**

Five actions are recommended regarding data quality standards and measures.

### **7.7.1 Set Data Quality Guidelines**

Language around data quality should be refined so that the City can more effectively discuss and report on data quality (Figure 8 below). To date, there is no ability for the organization to gauge the overall quality of its data by asking the right questions (e.g. Is

this data complete? Is it accurate? Is it unique or does it have shared characteristics with other data? etc.).

Efforts in this regard need to focus on producing a corporately consistent data quality guideline that identifies the various dimensions of data quality and determines how to assess these for use on future data and technology projects. References should be made directly to the CMMI DMM in order to provide the necessary context to help build an approach.

**Figure 8 – Data Quality Dimensions**<sup>63</sup>



### **7.7.2 Document Current Data Quality Practices**

There are some interesting data quality control practices in place at the City today (e.g. Finance performs formal daily audits to check the accuracy of financial data and transactions which commonly extend to information systems and ITS and Branch staff also informally undertake reviews of system reporting to identify quality characteristics of certain data sets). Some of these good practices already in place in pockets across the City could be shared and applied in other business areas. Thus, it is recommended that the City work to compile its best and known data quality practices into a shared knowledge base that can be made broadly available to all data practitioners.

### **7.7.3 Document, Publish, and Socialize Data Quality Tools / Techniques**

We recommend the City document, publish, and socialize the existing data profiling, transformation, and cleansing methods and tools that are available within the City.

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<sup>63</sup> DAMA UK Working Group, The Six Primary Dimensions for Data Quality Assessment [https://www.whitepapers.em360tech.com/wp-content/files\\_mf/1407250286DAMAUKDQDimensionsWhitePaperR37.pdf](https://www.whitepapers.em360tech.com/wp-content/files_mf/1407250286DAMAUKDQDimensionsWhitePaperR37.pdf)

These include the shared knowledge base recommended above as well as the quality tools available as functionality within business systems (e.g. ESRI, PeopleSoft, and DataFix Municipal Voter View). The range of specificity in this functionality will require a review of current systems in order to identify which tools are available to users and which should be 'unlocked' to help custodians manage the quality of their data.

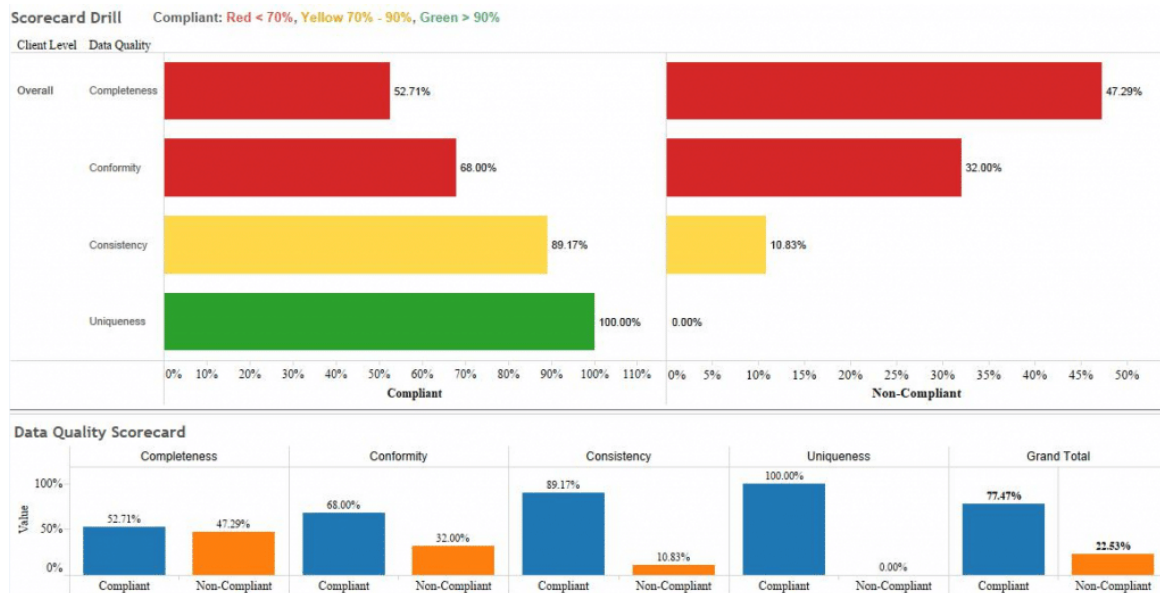
The City would complete a one-off exercise facilitated through the IMDSC to crowdsource or pool existing data handling, processing, cleansing, and data quality assurance (QA) processes that teams have been put in place. For instance, one team (perhaps GIS) may have developed a routine that validates and correctly formats malformed postal codes (capitalizing, trimming spaces, etc.) and this routine could be valuable to other staff at the City and to projects going forward.

The goal is to inventory and share amongst the data community where tools (however simple they may be) exist, so that staff are not reinventing the wheel. The more broadly applicable of these tools can be formalized into more robust data cleansing tools built on the GIS platform or provided through enterprise tools and more niche business systems. The City could first target socializing these capabilities within the ITS team (project managers, teams, and application analysts) and with data-savvy practitioners within business areas so they can become aware of the capabilities available which could then be used to support 'real world' pilots of quality control.

#### **7.7.4 Develop Data Quality Scorecards**

For the priority datasets that the City is working on (as discussed earlier), and to which the Data Quality Guidelines are being applied, it is recommended that the City develop data quality scorecards to easily quantify data quality (see scorecard example in Figure 9 below). These scorecards should be simple and easy to read but also subscribe to the data quality dimensions noted above to help develop corporate knowledge around data quality in general. Using these datasets as a learning case may also be an opportunity to illustrate basic data visualization practices which could be adopted to help socialize other corporate datasets.

**Figure 9 – Data Quality Scorecard Example<sup>64</sup>**



### 7.7.5 Complete One-off Data Cleansing Projects

In a number of current systems, malformed, inconsistent data is stored in key fields. For example, in a number of systems that handle employee records, names are not correctly split into constituent parts, prefixes and suffixes are included in the main name field, and some data is in ALL CAPS and some in lower case. This represents a good opportunity to establish business rules and develop data cleansing services using GIS and other City tools that can be consistently applied to name records. Ideally, cleansing projects could be selected through the IMDSC to address high risk areas within the corporation which relate to poor quality data.

## 7.8 Data Literacy Education / Training Program

Two actions are recommended regarding a Data Literacy Education / Training Program.

### 7.8.1 Develop Data Literacy Education / Training Program

It is recommended that the City develop a Data Literacy Program. Such a program should provide education on core data concepts such as the value of data-driven decisions, understanding data and statistics, data roles and responsibilities, designing effective data collection processes, and ethical use of data.

<sup>64</sup> 7 Data, Producing Eye-catching Data Quality Dashboards with Tableau (Tableau is a BI solution) <https://www.7wdata.be/article-datavisualisation/producing-eye-catching-data-quality-dashboards-with-tableau/>



A starting point may be to complete a data literacy assessment for the City to pinpoint areas of focus for the Data Literacy Program. Although market tools assist to perform this task, this could be a simple working group exercise designed to develop a corporate SWOT (strengths, weaknesses, opportunities, and threats) in relation to data literacy in general. Working through IMDSC and with data-savvy Branch staff would help identify where education and training needs should be focused. In addition, the City must also provide education and training around the tools, which may range from basic to advanced Microsoft Excel, building and using self-service dashboards and geo-tools, how to conduct complex statistical analysis, and how to conduct spatial analysis.

### **7.8.2 Build Data Community of Practice**

It is recommended that the City use online discussion forums, mailing lists, the newly redeveloped Intranet, and face-to-face sessions (lunch and learns, etc.) to build a network of self-identified staff and management involved in data management, analysis, and visualization. The City should curate this group to learn about existing pockets of good practice, share standards and best practices, and highlight examples of good work or useful resources from which the community can benefit.

A community of practice (COP) can expand over time and can help to inform IMDSC in relation to components of the overall DM strategy. It can also evolve to collaboratively support data training through events like GIS days and open data challenges. As part of our investigation we have determined that the overall data maturity of the City is very low; however, there are areas within the City (Building Services, Fire Services, Service Oshawa, etc.) that would likely show interest in supporting a community of practice to help further the DM discipline for the benefit of all staff.

See also Objective # 3.1.6 for establishing communities of practice. A good starting point is the Communities of Practice: Learning as a Social System article by Etienne Wenger. See footnote 8 for more information.

## **8. I&RM Strategic Plan Implementation Timeline**

This section provides a high-level timeline for the prioritized and phased implementation of the I&RM Strategic Plan (Figure 10). The timeline illustrates durations, some of which will be elapsed.

Many objectives in the I&RM Strategic Plan require something to be established, developed, revised, or replaced. The timeline indicates the year(s) in which each such action would occur. However, the timeline does not show the continued use of something which has been established developed, revised, or replaced because it is

assumed that the City would continue to use / deploy / implement what was put in place (e.g.)

- Establish I&RM Strategic Plan Implementation Project Manager Role (Objective # 4.1.1) is proposed for Year 1 and the role would continue for the balance of the 5 year implementation timeline. However, the timeline only indicates work on this objective in Year 1.
- Develop Standards-compliant Records Digitization Program (Objective # 6.1.6) is proposed for Years 2-3 and the Program would continue until such time as it was discontinued with revisions being made to the Program if/as appropriate over time. However, the timeline only indicates work on this objective in Year 3.

Conversely, some objectives are recurring activities which, once they begin, will reoccur annually. The timeline, therefore, shows continued work on those objectives (e.g.)

- Establish Working Groups (Objective # 3.1.4.) is listed under each of Years 1-5 because the City may need to establish different Working Groups each year.
- Resource Data Project Work (Objective # 4.2.6) is listed under each of Years 1-5 because different data projects would need to be resourced each year.

The proposed timeline assumes the availability of the necessary expertise (as provided by existing City employees, temporary employees, consultants, co-op students / interns / practicum program students or some combination thereof), the timely approval of new / revised policies, processes, business cases, and other documents, and the availability and active participation of all City employees to support I&RM Strategic Plan implementation. Note that the proposed timeline also assumes that the Data Program Manager role (Objective # 4.2.3) and the I&RM Strategic Plan Implementation Project Manager role (Objective # 4.1.1) will be filled by the time Strategic Plan implementation commences; therefore, those objectives are listed in the 'Dependency (Objective # if any)' column for many of the objectives in the timeline.

The 'Responsibility' column in Figure 10 indicates the committee(s), group(s), and/or position(s) who are responsible for an objective. The 'Participants' column indicates the committee(s), group(s), and/or position(s) who will participate in the completion of an objective (e.g. provide input, review and feedback, and/or approval, provide funding, etc.). Figure 11 provides the full name of the acronyms used in the Responsibility and Participants columns in Figure 10. The qualifier 'proposed' after the full name of a committee, group, or position indicates a committee, group, or position which is proposed in this Strategic Plan.

**Figure 11 - Acronyms in Responsibility and Participants Columns**

<b>Acronym</b>	<b>Full Name</b>
<b>Biz Systems SCs</b>	Business Systems Steering Committees (proposed)
<b>CCS</b>	City Clerk Services
<b>CLT</b>	Corporate Leadership Team
<b>COP</b>	Communities of Practice (proposed)
<b>Corp Comm</b>	Corporate Communications
<b>Council</b>	City Council
<b>Data Program Mgr</b>	Data Program Manager (proposed) <sup>65</sup>
<b>Dept / Branch</b>	Department / Branch
<b>Directors</b>	Directors in City departments / branches
<b>Forms Committee</b>	Online Forms Committee (proposed to be renamed Forms Committee)
<b>GIS SC</b>	GIS Steering Committee (proposed)
<b>HR</b>	Human Resources
<b>IMDSC</b>	Information Management and Data Steering Committee (proposed)
<b>I&amp;RM Project Mgr</b>	I&RM Strategic Plan Implementation Project Manager (proposed)
<b>ISSC</b>	Information Systems Steering Committee
<b>ITGC</b>	Information Technology Governance Committee (proposed)
<b>ITGC / CLT</b>	Information Technology Governance Committee (proposed) or Corporate Leadership Team (it remains to be determined what ITGC will approve versus CLT)
<b>ITS</b>	Information Technology Services
<b>Legal</b>	Legal Services
<b>RIM</b>	Records and Information Management Program
<b>WG</b>	Working Groups (proposed)

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<sup>65</sup> Although this new role is proposed to begin in Year 3, we identified several objectives to be completed in Years 1-2 for which data management responsibility is required. We recommend the City determine how best to resource that responsibility in the interim (e.g. it may be possible to assign some of these responsibilities to one or more existing positions and/or to one of the proposed Steering Committees and/or proposed Working Groups).

**Figure 10 – I&RM Strategic Plan Implementation Timeline**

Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
3.1.1	High	Reconstitute ISSC and Expand its Mandate to Include RIM and DM		CLT	ISSC	1				
3.1.2	High	Establish Information Management and Data Steering Committee (IMDSC)	3.1.1	ITGC	CLT	1				
3.1.3	High	Establish Additional Steering Committees	3.1.1	ITGC	CLT	1	2	3	4	5
3.1.4	High	Establish Working Groups	3.1.1	ITGC	Biz Systems SCs GIS SC IMDSC	1	2	3	4	5
3.1.5	High	Establish Project Teams	3.1.1	ITGC	Biz Systems SCs GIS SC IMDSC	1	2	3	4	5
3.1.6	High	Establish Communities of Practice (COP)	3.1.1	ITGC	Biz Systems SCs GIS SC IMDSC	1	2	3	4	5

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
3.1.7	High	Develop Strategic City Clerk Services and ITS Partnership		CCS ITS		1				
3.1.8	High	Distribute RIM and DM Roles Across the City		CLT	ITGC	1				
3.1.9	Medium	Revise Position Descriptions to Include RIM and/or DM Responsibilities		Directors HR	ITS RIM	1	2			
3.2.1	High	Develop RIM Policy	4.1.1	RIM	Council <sup>66</sup> IMDSC I&RM Project Mgr ITGC / CLT	1				
3.2.2	High	Revise 1997 MFIPPA Policy	4.1.1	RIM	Council IMDSC I&RM Project Mgr ITGC / CLT	1				
3.2.3	High	Develop Information / Records	4.1.1	RIM	Council IMDSC	1				

<sup>66</sup> We listed City Council as a participant for this new policy and for other new or revised policies in the timeline because it is our understanding that Council has approved such policies in the past. The City will adjust this table accordingly should it be determined that City Council approval is not required for a given policy. Note: City Council approval of the revised Records Retention By-law and the revised Records Retention Schedule are required under the Municipal Act.

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
		Preservation Order Policy			I&RM Project Mgr ITGC / CLT					
3.2.4	Medium	Develop Corporate Archives Policy	4.1.1	RIM	Council IMDSC I&RM Project Mgr ITGC / CLT	2				
3.2.5	High	Develop Data Policy	4.2.3	Data Program Mgr GIS SC	Council IMDSC ITGC / CLT	1				
3.2.6	High	Develop Open Data Policy	4.2.3	Data Program Mgr GIS SC	Council IMDSC ITGC / CLT					
3.2.7	High	Revise Computer and Internet User Corporate Policy		ITS	Council IMDSC ITGC / CLT	3				
3.2.8	High	Revise Use of Personal Devices for Work Purposes Policy		ITS	Council IMDSC ITGC / CLT	1				
3.2.9	High	Review RIM and DM-related Aspects of Code of Conduct	4.1.1	ITS HR RIM	Council IMDSC I&RM Project Mgr ITGC / CLT	1				
4.1.1	High	Establish I&RM Strategic Plan		CCS	CLT Council	1				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
		Implementation Project Manager Role			HR					
4.1.2	Medium	Establish One Temporary Records and Information Analyst Position		CCS	CLT Council HR	2				
4.1.3	Medium	Participate in RIM Internship, Co-op, and Practicum Programs	4.1.1	RIM	I&RM Project Mgr		2	3	4	5
4.1.4	Quick Win	Revise Selected City Clerk Services Position Descriptions	4.1.1	CCS HR	I&RM Project Mgr	1				
4.1.5	High	Reassign Backup Responsibility for Administrative Assistant Position		CCS		1				
4.2.1	Medium	Expand GIS Program	4.2.3	CLT	Council Data Program Mgr GIS SC ITGC / CLT	3				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
4.2.2	High	Allocate Active Leadership to Open Data Program		CLT	Council GIS SC ITGC / CLT	3				
4.2.3	High	Establish Data Program Manager Role		ITS	CLT Council HR	3				
4.2.4	Medium	Reconstitute Open Data Program	4.2.2 4.2.3	CLT	Council Data Program Mgr GIS SC ITGC / CLT WG	3				
4.2.5	Medium	Expand Open Data Program	4.2.2 4.2.3	CLT	Council Data Program Mgr GIS SC ITGC / CLT	3				
4.2.6	Medium	Resource Data Project Work		CLT	Biz Systems SCs ITGC Council		2	3	4	5
5.1.1	High	Prioritize Delivery of RIM Guidance and Consulting Services	4.1.1	RIM	I&RM Project Mgr	1				
5.2.1	High	Prioritize Delivery of RIM Training	4.1.1	RIM	I&RM Project Mgr	1				
5.2.2	High	Develop RIM Training Plans	4.1.1 5.2.1	RIM	IMDSC I&RM Project Mgr		2	3		



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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
5.2.3	High	Deliver RIM Training	4.1.1 5.2.1 5.2.3	RIM	I&RM Project Mgr		2	3	4	5
5.3.1	High	Prioritize Delivery of RIM Performance Measurement and RIM Compliance Reviews	4.1.1	RIM	I&RM Project Mgr	1				
5.3.2	Medium	Develop RIM Performance Measures	4.1.1 5.3.1	RIM	IMDSC I&RM Project Mgr					
5.2.3	Medium	Conduct RIM Compliance Reviews	4.1.1 5.3.1	RIM	I&RM Project Mgr	3				
5.4.1	Medium	Identify Local Boards		Legal		3				
5.4.2	Medium	Determine RIM Service Delivery Model for Local Boards	4.1.1 5.4.1	Legal RIM	Council I&RM Project Mgr ITGC / CLT	3 3				
5.4.3	Medium	Deliver RIM Services to Local Boards	4.1.1 4.1.2 5.4.1 5.4.2	RIM	I&RM Project Mgr					
						4				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
6.1.1	Quick Win	Revise Mobile Communication Device Criteria to Address Information Ownership		ITS	IMDSC ITGC / CLT	1				
6.1.2	Medium	Review Records Creation, Capture, and Declaration Provisions in Business Processes	4.1.1	Dept / Branch RIM	I&RM Project Mgr	2				
6.1.3	Quick Win	Specify Records Creation, Capture, and Declaration Responsibilities in Charters and Terms of Reference		Dept / Branch RIM	IMDSC	1	2	3	4	5
6.1.4	High	Develop Guidelines for Creating Appropriate Record Content	4.1.1	RIM	IMDSC I&RM Project Mgr	1				
6.1.5	High	Define 'Official' and 'Transitory' Records	4.1.1	RIM	IMDSC I&RM Project Mgr	1				
6.1.6	Medium	Develop Standards-compliant Records Digitization Program	4.1.1	RIM	IMDSC I&RM Project Mgr ITS		2 3			

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
					Legal WG					
6.1.7	Quick Win	Rename and Rescope Online Forms Committee		CCS		1				
6.1.8	Quick Win	Develop Forms Committee Mandate / Charter	4.1.1	RIM	Forms Committee IMDSC I&RM Project Mgr	1				
6.1.9	Quick Win	Revise Forms Procedure and Forms Standards	4.1.1	RIM	Forms Committee IMDSC I&RM Project Mgr	1				
6.1.10	Quick Win	Continue Forms Database	4.1.1	RIM	I&RM Project Mgr	1	2	3	4	5
6.2.1	High	Develop Function-based Records Classification Scheme	4.1.1	RIM	Dept / Branch IMDSC I&RM Project Mgr WG	1	2			
6.2.2	High	Develop File Naming Conventions for Unstructured Electronic Records	4.1.1	RIM	Dept / Branch IMDSC I&RM Project Mgr ITS WG	1				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
6.2.3	Medium	Complete Records Classification Clean-up Projects	4.1.1 6.2.1 6.2.2	Dept / Branch ITS RIM	I&RM Project Mgr WG		2	3		
6.2.4	Quick Win	Improve Access to Records Needed for Decision-making	4.1.1	Dept / Branch	I&RM Project Mgr ITS RIM	1				
6.2.5	Quick Win	Transfer Annual File Folder Label Generation to Departments / Branches	4.1.1	Dept / Branch	I&RM Project Mgr RIM	1				
6.3.1	Quick Win	Promote Approved Document Sharing and Collaboration Methods	4.1.1	RIM	I&RM Project Mgr ITS	1				
6.3.2	Quick Win	Keep Large Attachments in E-mail System	4.1.1	Dept / Branch	I&RM Project Mgr ITS RIM	1	2	3	4	5
6.4.1	Quick Win	Develop Records Storage Location Lists	4.1.1	Dept / Branch	I&RM Project Mgr RIM	1				
6.4.2	Quick Win	Switch to Random Spot Checks of Inactive Paper Records	4.1.1	RIM	I&RM Project Mgr	1				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
6.4.3	High	Store Inactive Paper Records at Commercial Record Centre	4.1.1	RIM	I&RM Project Mgr	1				
6.4.4	Quick Win	Promote Intended Uses of Network Drives	4.1.1	ITS	IMDSC I&RM Project Mgr RIM	1				
6.4.5	Medium	Implement Data Archiving Solution	4.1.1	ITS	Council IMDSC I&RM Project Mgr ITGC / CLT RIM	3				
6.5.1	High	Review Network Drive Security Rights / Privileges	4.1.1	ITS	Dept / Branch I&RM Project Mgr RIM	1				
6.5.2	Quick Win	Review and Approve Staff Departure Procedure (Records)	4.1.1	RIM	I&RM Project Mgr ITS IMDSC	1				
6.5.3	High	Establish Data and Information Security Classification Scheme	4.1.1 4.2.3	ITS RIM	Data Program Mgr IMDSC I&RM Project Mgr ITGC / CLT WG	1				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
6.5.4	High	Prohibit Identifying Information on Boxed Inactive Paper Records	4.1.1	RIM	Dept / Branch I&RM Project Mgr	1				
6.6.1	Quick Win	Implement Routine Access (Disclosure) Program	4.1.1	RIM	Dept / Branch I&RM Project Mgr	1				
6.6.2	High	Require Written Certification of Formal FOI Search Request Searches	4.1.1	RIM	Dept / Branch I&RM Project Mgr	1				
6.6.3	Quick Win	Ensure (Sufficient) Notices for Personal Information Collection	4.1.1	RIM	Forms Committee I&RM Project Mgr	1	2			
6.6.4	Medium	Develop Personal Information Bank Index	4.1.1	RIM	IMDSC I&RM Project Mgr ITGC / CLT WG	2				
6.6.5	High	Require Completion of Privacy Impact Assessments	4.1.1	RIM	Dept / Branch IMDSC I&RM Project Mgr ITGC / CLT	1	2	3	4	5
6.6.6	Medium	Implement Privacy Audits	4.1.1	RIM	Dept / Branch IMDSC			3	4	5

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
					I&RM Project Mgr ITGC / CLT					
6.7.1	Medium	Identify and Protect Vital Records	4.1.1	RIM	Dept / Branch IMDSC I&RM Project Mgr WG		2	3		
6.7.2	Low	Develop Disaster Recovery Plan for Paper Records	4.1.1	RIM	IMDSC I&RM Project Mgr WG					
6.8.1	Medium	Revise Records Retention By-law	4.1.1	RIM	Council Dept / Branch IMDSC I&RM Project Mgr ITGC / CLT Legal WG	4	3			
6.8.2	Medium	Use Same Records Structure as in Records Classification Scheme	4.1.1 6.2.1	RIM	I&RM Project Mgr	3				
6.8.3	Medium	Revise Records Retention Schedule Format	4.1.1	RIM	IMDSC I&RM Project Mgr WG					
						3				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
6.8.4	Medium	Research, Document, and Maintain Records Retention Requirements Citations	4.1.1	RIM	I&RM Project Mgr Legal	2				
6.8.5	Medium	Revise Records Retention Schedule	4.1.1 6.8.1 6.8.2 6.8.3 6.8.4	RIM	I&RM Project Mgr Legal	3				
6.8.6	Medium	Complete Records Retention Clean-up Projects	4.1.1 6.8.1 6.8.5	Dept / Branch ITS RIM	I&RM Project Mgr WG			3	4	
6.8.7	Medium	Conduct Annual Records Retention Schedule Review	4.1.1 6.8.1 6.8.5	RIM	Dept / Branch I&RM Project Mgr Legal					
6.8.8	Quick Win	Promote Records Retention Schedule Use for Active Paper Records	4.1.1	RIM	I&RM Project Mgr	1 4				
6.8.9	Quick Win	Apply Retention Periods to Unstructured Electronic Records	4.1.1	Dept / Branch RIM	I&RM Project Mgr ITS	1				



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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
6.8.10	Medium	Apply Retention Periods to Intranet Content	4.1.1	Dept / Branch RIM	HR I&RM Project Mgr ITS	3				
6.8.11	Medium	Apply Retention Periods to Public Website Content	4.1.1	Corp Comm Dept / Branch RIM	I&RM Project Mgr ITS	3				
6.8.12	Medium	Apply Retention Periods to Social Media Content	4.1.1	Corp Comm Dept / Branch RIM	I&RM Project Mgr ITS	3				
6.8.13	Quick Win	Implement Suitable Retention Period for Full Monthly Backups	4.1.1	ITS	I&RM Project Mgr RIM	1				
6.8.14	Medium	Schedule Retention Periods for Structured Data	4.1.1	ITS RIM	I&RM Project Mgr	3				
6.8.15	Quick Win	Ensure New Structured Systems can Implement Retention Periods	4.1.1	ITS RIM	I&RM Project Mgr	1				
6.8.16	Quick Win	Promote Correct Use of Shredding Bins and Recycling Bins	4.1.1	RIM	I&RM Project Mgr	1				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
6.9.1	High	Add 'Archival Records' to Records Retention Schedule Disposition Options	4.1.1	RIM	I&RM Project Mgr	3				
6.9.2	High	Develop Appraisal Guidelines for Physical and Electronic Formats	4.1.1	RIM	I&RM Project Mgr	3				
6.9.3	High	Identify Archival Records in Records Retention Schedule	4.1.1 6.9.1 6.9.2	RIM	I&RM Project Mgr	3				
6.9.4	Quick Win	Review Records Designated as Archival Review at Annual Records Disposition	4.1.1 6.9.3	RIM	I&RM Project Mgr			3	4	5
6.9.5	Low	Develop Digital Preservation Plan	4.1.1	RIM	I&RM Project Mgr ITS IMDSC ITGC / CLT					
6.9.6	Medium	Investigate Deposit of Archival Records with Archives of Ontario	4.1.1	RIM	I&RM Project Mgr Legal	5 3				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
6.9.7	Medium	Investigate Feasibility of Establishing Regional Archives	4.1.1	RIM	Council IMDSC I&RM Project Mgr ITGC / CLT	3				
6.10.1	Quick Win	Specify Intranet Content	4.1.1	HR RIM	I&RM Project Mgr ITS	1				
6.10.2	Quick Win	Require Semi-Annual Intranet Content Review		HR		1	2	3	4	5
6.11.1	Quick Win	Require Continuous Review of Public Website Content		Corp Comm Dept / Branch		1	2	3	4	5
6.11.2	Medium	Capture and Manage Public Website Content as Records	4.1.1	Corp Comm Dept / Branch RIM	I&RM Project Mgr ITS			3 4	5	
6.12.1	Medium	Capture and Manage Social Media Content as Records	4.1.1	Corp Comm Dept / Branch RIM	I&RM Project Mgr GIS SC			3 4	5	
6.13.1	Medium	Research ECM Systems	4.1.1	ITS RIM	I&RM Project Mgr WG					
6.13.2	Medium	Document ECM Requirements	4.1.1 6.13.1	ITS RIM	IMDSC I&RM Project Mgr ITGC / CLT	3				
						3				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
					WG					
6.13.3	Medium	Assess ECM Implementation Readiness	4.1.1 6.13.2	ITS RIM	IMDSC I&RM Project Mgr ITGC / CLT WG					
6.13.4	Medium	Prepare ECM Business Case	4.1.1 6.13.1 6.13.2 6.13.3	ITS RIM	Council IMDSC I&RM Project Mgr ITGC / CLT WG	4				
6.13.5	Medium	Prepare ECM Strategy and Implementation Plan	4.1.1 6.13.4	ITS RIM	Council I&RM Project Mgr IMDSC ITGC / CLT WG	4				
7.1.1	High	Formalize Rolling 2-Year Data Work Plan and Priorities	4.2.3	Data Program Mgr	GIS SC IMDSC ITGC / CLT	5				5
7.1.2	High	Set Corporate Data Priorities and Classification	4.2.3	Data Program Mgr	GIS SC IMDSC ITGC / CLT	3		3	4	
7.2.1	Quick Win	Further Explore Power BI	4.2.3	Data Program Mgr	GIS SC IMDSC ITS ITGC / CLT		2	3	4	5

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
7.3.1	High	Develop Data Format Standards	4.2.3	Data Program Mgr	ITS IMDSC ITGC / CLT WG		2	3	4	5
7.3.2	High	Complete Data Review of Recent and Current Implementations	4.2.3	Data Program Mgr	GIS SC IMDSC ITGC / CLT Project Teams	1		3		
7.4.1	High	Develop Corporate Data Model	4.2.3	Data Program Mgr	GIS SC IMDSC ITGC / CLT WG		2	3		
7.4.2	High	Build Business Glossary	4.2.3	Data Program Mgr	COP IMDSC ITGC / CLT Project Teams WG		2	3		
7.5.1	Quick Win	Conduct Legislative Review of Data Sharing		ITGC	IMDSC Legal RIM	1		3		
7.5.2	Quick Win	Establish New Customer Consent Model	4.2.3	Data Program Mgr RIM	IMDSC ITGC / CLT Legal	1				
7.6.1	Medium	Build Corporate Data Catalogue	4.2.3	Data Program Mgr	COP GIS SC	2				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
					IMDSC ITGC / CLT Project Teams WG					
7.6.2	Medium	Enhance Focus of Open Data Portal for Internal Use	4.2.3 4.2.4	Data Program Mgr	COP GIS SC IMDSC ITGC / CLT Project Teams WG		2	3	4	
7.7.1	High	Set Data Quality Guidelines	4.2.3 7.7.2	Data Program Mgr	COP GIS SC IMDSC ITGC / CLT Project Teams WG		2	3		
7.7.2	Quick Win	Document Current Data Quality Practices	4.2.3	Data Program Mgr	IMDSC ITGC / CLT WG	1		3		
7.7.3	Quick Win	Document, Publish, and Socialize Data Quality Tools /Techniques	4.2.3	Data Program Mgr	Dept / Branch (that currently manage own data quality control) IMDSC ITGC / CLT	1				

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Objective #	Priority	Objective	Dependency (Objective # if any)	Responsibility	Participants	Year				
7.7.4	Medium	Develop Data Quality Scorecards	4.2.3 7.7.2	Data Program Mgr	COP IMDSC ITGC / CLT Project Teams WG	3				
7.7.5	Medium	Complete One-off Data Cleansing Projects	4.2.3 7.7.1	Data Program Mgr	COP IMDSC ITGC / CLT Project Teams WG		2 3	4	5	
7.8.1	Quick Win	Develop Data Literacy Education / Training Program	4.2.3	Data Program Mgr	IMDSC ITGC / CLT	1	2	3	4	5
7.8.2	Quick Win	Build Data Community of Practice	4.2.3	Data Program Mgr	IMDSC ITGC / CLT		2 3	4	5	

## **9. I&RM Strategic Plan Implementation Costs**

Staff time comprises a significant, but unquantifiable, cost for implementing many of the objectives in the I&RM Strategic Plan.

RIM Program employees and ITS employees (particularly the proposed new I&RM Strategic Plan Implementation Project Manager role and the Data Program Manager role) must complete a significant amount of work as shown in the 'Responsibility' column in Figure 12. It is assumed that City Clerk Services and ITS will assess the capabilities / expertise and availability of staff to determine if/when additional employees will be required; however, Figure 12 allocates funds for the following additional staff resources because they are proposed new roles / positions:

- a) I&RM Strategic Plan Implementation Program Manager role (Objective # 4.1.1).
- b) One temporary Records and Information Analyst position (Objective # 4.1.2).
- c) Data Program Manager role (Objective # 4.2.3).
- d) Resources for data project work because the City typically does not fund that work or does not fund it sufficiently as part of a technology project (Objective # 4.2.6).

In addition, costs are proposed for the City to secure professional expertise in selected areas, i.e.

- a) Archival appraisal (Objectives # 6.9.2 - # 6.9.4).
- b) Digital preservation (Objective # 6.9.5).
- c) ECM Strategy development and ECM implementation planning (Objective # 6.13.5).
- d) Data Literacy Assessment (Objective # 7.8.1).

All City employees will be asked to do some new tasks (e.g. attend training, participate in records classification and records retention clean-up projects, etc.). They will also be asked to do some existing tasks in a different way (e.g. use the to be determined date convention when including a date in a filename instead of whatever convention they use currently). No monetary compensation is anticipated for the performance of new or modified tasks. The allocation of employee time to new tasks or from inefficient, ad hoc RIM efforts to deliberate, targeted, and City-wide RIM initiatives should increase overall productivity.



Figure 12 lists only the objectives for which the City would incur costs during I&RM Strategic Plan implementation. In many cases, the implementation of an objective depends on information that is not presently known (e.g. volumes). Further, some objectives require the completion of a detailed analysis of requirements and options prior to deciding if/how to proceed. Consequently, until a detailed business case is prepared, the cost to implement those objectives cannot be reliably estimated. 'TBD' in Figure 12 stands for 'To be determined'.

Following initial implementation of the I&RM Strategic Plan, many activities would continue in perpetuity (e.g. delivery of RIM training). Figure 12 does not include the costs, if any, for perpetual activities.

**Figure 12 – Summary of Estimated I&RM Strategic Plan Implementation Costs**

Objective #	Priority	Objective	Cost Item(s)	Estimated Cost (plus HST where applicable)
4.1.1	High	Establish I&RM Strategic Plan Implementation Project Manager Role	Annual salary	Minimum \$81,388 - \$95,751 plus benefits <sup>67</sup>
			Workspace (desk, chair, computer, telephone)	TBD as per City's standard cost recovery (if any)
4.1.2	Medium	Establish One Temporary Records and Information Analyst Position	Annual salary	Minimum \$57,794 - \$64,203 <sup>68</sup> plus benefits
			Workspace (desk, chair, computer, telephone)	TBD as per City's standard cost recovery (if any)
4.1.3	Medium	Participate in RIM Internship, Co-op, and Practicum Programs	Salary for co-op students or interns (students in practicum programs are not usually paid)	TBD as per the compensation requirements of the co-op or internship program and/or the City's standard compensation for co-op students or interns with similar qualifications
4.1.4	Quick Win	Revise Selected City Clerk Services Position Descriptions	Potential salary changes when positions are re-evaluated for job evaluation purposes	TBD depending on the outcome of the job evaluation process
4.1.5	High	Reassign Backup Responsibility for Administrative Assistant Position	Salary for new position if the duties cannot be reassigned existing City Clerk Services positions other than the Records and Information	TBD depending on the outcome of the reassignment process

<sup>67</sup> This is the current salary range for the Information, Access and Privacy Officer position.

<sup>68</sup> This is the current salary range for the Records and Information Analyst position.

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Objective #	Priority	Objective	Cost Item(s)	Estimated Cost (plus HST where applicable)
			Analyst or the Information, Access and Privacy Officer position	
4.2.3	High	Establish Data Program Manager Role	Annual salary	Minimum \$90,000 - \$110,000 plus benefits
			Workspace (desk, chair, computer, telephone)	TBD as per City's standard cost recovery (if any)
4.2.6	Medium	Resource Data Project Work	Cost of hiring project resources or backfilling staff to allow them to participate in data projects	TBD on a project by project basis
5.2.3	High	Deliver RIM Training	Recording / production of online training (webinars or podcasts)	TBD depending on technology requirements, volume of online training to be recorded, and vendor's pricing
			Printing of training materials for in-class training (where applicable)	TBD as per City's standard cost recovery for internal Print Shop services (if any)
			Refreshments for in-class training (where applicable)	TBD depending on menu and quantity
6.2.5	Quick Win	Transfer Annual File Folder Label Generation to Departments / Branches	Software vendor to re-program Versatile to allow system administration privileges to be restricted by department / branch	TBD depending on software vendor's pricing
6.3.1	Quick Win	Promote Approved Document Sharing and Collaboration Methods	FTP licences if a City FTP site is one of the approved methods	TBD

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Objective #	Priority	Objective	Cost Item(s)	Estimated Cost (plus HST where applicable)
6.4.3	High	Store Inactive Paper Records at Commercial Record Centre	Increased cost of off-site Records Retention	TBD depending on volume of records stored, retrieval activity, and vendor's pricing
6.4.5	Medium	Implement Data Archiving Solution	Purchase of digital archiving solution	Minimum \$20,000
			Annual license for digital archiving solution	TBD
6.5.4	High	Prohibit Identifying Information on Boxed Inactive Paper Records	Moderate cost to replace boxes for which identifying information cannot be securely removed	\$1,000
			Software vendor to re-program Versatile to create a box label template that does not include any identifying information	TBD depending on software vendor's pricing
6.7.1	Medium	Identify and Protect Vital Records	Cost to implement protection methods for paper vital records	TBD depending on volume and protection method(s)
			It is assumed that electronic vital records are already protected via the existing network backup process; therefore, no costs have been estimated to protect vital electronic records	TBD if existing network backup process cannot accommodate the protection of additional records
6.8.4	Medium	Research, Document, and Maintain Records	Purchase of Records Retention: Statutes and Regulations	\$1,000 + annual supplement fees (print)

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Objective #	Priority	Objective	Cost Item(s)	Estimated Cost (plus HST where applicable)
		Retention Requirements Citations	(Ontario) <sup>69</sup> and purchase of Records Retention Statutes and Regulations (Federal) <sup>70</sup>	
			<b>OR</b> Purchase of Records Retention Compliance Centre (Ontario) <sup>71</sup>	\$4,429 + annual supplement fees (USB)
6.8.5	Medium	Complete Records Retention Clean-up Projects	Increased shredding service fees	TBD depending on volume and vendor's pricing
			Purchase additional boxes to store inactive paper records off-site	TBD depending on volume and vendor's pricing
			Commercial record centre fees to transfer boxed paper records to storage and process them	TBD depending on volume and vendor's pricing
6.8.13	Medium	Schedule Retention Periods for Structured Data	Some City systems may not be able to implement records retention periods; therefore, the implementation of retention periods may need to be deferred unless / until the system is upgraded or replaced	TBD system upgrade or replacement fees

<sup>69</sup> For more information, visit <https://store.thomsonreuters.ca/product-detail/records-retention-statutes-and-regulations-ontario/>

<sup>70</sup> For more information, visit <https://store.thomsonreuters.ca/product-detail/records-retention-statutes-and-regulations-federal/>

<sup>71</sup> For more information, visit <https://store.thomsonreuters.ca/product-detail/filelaw-ontario/>

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Objective #	Priority	Objective	Cost Item(s)	Estimated Cost (plus HST where applicable)
6.9.2	High	Develop Appraisal Guidelines for Physical and Electronic Formats	Consulting fees for professional expertise in archival appraisal	Minimum of \$10,000
6.9.3	High	Identify Archival Records in Records Retention Schedule	Consulting fees for professional expertise in archival appraisal	Minimum of \$10,000
6.9.4	Quick Win	Review Records Designated as Archival Review at Annual Records Disposition	Consulting fees for professional expertise in archival appraisal	Minimum of \$1,000 for each annual records disposition
6.9.5	Low	Develop Digital Preservation Plan	Consulting fees for professional expertise in digital preservation	Minimum \$20,000
			Cost to implement the Digital Preservation Plan	TBD depending on the digital preservation method(s) to be used and vendor's pricing
6.11.2	Medium	Capture and Manage Public Website Content as Records	Software to capture public website content as records	TBD depending on software requirements, number of licences, and vendor's pricing
			Annual software licence	TBD depending on vendor's pricing and number of licenses
6.12.1	Medium	Capture and Manage Social Media Content as Records	Software to capture public website content as records	TBD depending on software requirements, number of licences, and vendor's pricing
			Annual software licence	TBD depending on vendor's pricing and number of licenses

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Objective #	Priority	Objective	Cost Item(s)	Estimated Cost (plus HST where applicable)
6.13.1	Medium	Research ECM Systems	Purchase of analyst / consultant research reports	\$5,000
6.13.5	Medium	Prepare ECM Strategy and Implementation Plan	Consulting fees for professional expertise in ECM Strategy development and ECM implementation planning	Minimum \$50,000
			Cost to implement ECM if Business Case is approved (software purchase, hardware purchase if any, professional services, etc.)	TBD depending on ECM requirements, number of licenses, and vendor's pricing
			Annual software license (if any)	TBD depending on vendor's pricing and number of licenses
7.8.1	Quick Win	Develop Data Literacy Education / Training Program	Consulting fees to complete Data Literacy Assessment	\$25,000
			Recording / production of online training (webinars or podcasts)	TBD depending on technology requirements, volume of online training to be recorded, and vendor's pricing
			Printing of training materials for in-class training (where applicable)	TBD as per City's standard cost recovery for internal Print Shop services (if any)
			Refreshments for in-class training (where applicable)	TBD depending on menu and quantity

## Appendix 1: Acronyms and Abbreviations

Figure 13 lists the acronyms and abbreviations used in the I&RM Strategic Plan.

**Figure 13 – Acronyms and Abbreviations Used in the I&RM Strategic Plan**

Acronym	Full Name
<b>AODA</b>	Accessibility for Ontarians with Disabilities Act (an Ontario law)
<b>ArcGIS</b>	ESRI's GIS platform
<b>AI</b>	Artificial intelligence
<b>ArcSDE</b>	ESRI Spatial Database Engine
<b>ARIS</b>	Authorized Requester Information Service (Ministry of Transportation)
<b>BI</b>	Business intelligence
<b>City</b>	City of Oshawa
<b>CCTV</b>	Closed Circuit Television
<b>CLOCA</b>	Central Lake Ontario Conservation Authority
<b>CLT</b>	Corporate Leadership Team
<b>CMMI</b>	Capability Maturity Model Integration
<b>COBIT</b>	Control Objectives for Information and Related Technologies
<b>CRM</b>	Customer relationship management
<b>csv</b>	Comma-separated values
<b>DB</b>	Database
<b>DM</b>	Data management
<b>DMM</b>	Data Management Maturity
<b>DMP</b>	Data management platform
<b>EDRMS</b>	Electronic document and records management system
<b>EFT</b>	Electronic funds transfer
<b>ERP</b>	Enterprise resource planning (system)
<b>ESRI</b>	Environmental Systems Research Institute
<b>FMS</b>	Facilities Management Services
<b>FOI</b>	Freedom of information
<b>FTE</b>	Full-time equivalent
<b>GB</b>	Gigabyte (a unit of data storage capacity roughly equivalent to one billion bytes)
<b>GIS</b>	Geographical information system
<b>GL</b>	General ledger
<b>HR</b>	Human Resource Services (a branch in the Office of the City Manager)
<b>IPC</b>	Information and Privacy Commissioner of Ontario
<b>ISACA</b>	Information Systems Audit and Control Association
<b>ISSC</b>	Information Systems Steering Committee



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<b>Acronym</b>	<b>Full Name</b>
	(a City of Oshawa committee)
<b>IT</b>	Information technology in the context of using computers, storage, networking and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data Note: Some employees refer to the City's Information Technology Services Branch as IT instead of ITS.
<b>ITS</b>	Information Technology Services (a branch in the City's Corporate Services Department)
<b>LEAN</b>	Lean Education Academic Network
<b>M</b>	Million
<b>MDM</b>	Mobile device manager
<b>MFIPPA</b>	Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56, as amended, and includes any regulations passed under it
<b>MPAC</b>	Municipal Property Assessment Corporation
<b>ORG</b>	eSolutions Organization Management (system)
<b>P2P</b>	PeopleSoft Procure-to-Pay (system)
<b>PCI-DDS</b>	Payment card industry data security standard
<b>PIA</b>	Privacy impact assessment
<b>PIN</b>	Personal identification number
<b>PM</b>	Project management
<b>POS</b>	Point of sale
<b>PTAM</b>	Parking ticket appeals management (Court Services)
<b>QA</b>	Quality assurance
<b>QC</b>	Quality control
<b>RACI</b>	Responsible, accountable, consulted, and informed
<b>Records Retention</b>	Name of the on-site records storage facilities for boxed records on the ground floor at City Hall (two rooms known as Records Retention Room 1 and Records Retention Room 2)
<b>RIM</b>	Records and information management
<b>SaaS</b>	Software as a service
<b>SAP</b>	Systems, Applications and Products (software provider / vendor)
<b>SOA</b>	Service oriented architecture
<b>TB</b>	Terabyte (a unit of data storage capacity consisting of 1,024 gigabytes)
<b>TOR</b>	Terms of reference
<b>UPID</b>	Unique property identifier
<b>USB</b>	Universal serial bus ("stick" storage unit)
<b>USRID</b>	Unique street reference identifier

## Appendix 2: Definitions

Figure 14 defines the key terms in the I&RM Strategic Plan. The prefix 'External' is used before the name of a document in the 'Definition Source' column to indicate a resource published by a 3<sup>rd</sup> party.

**Figure 14 – Definitions**

Term	Definition	Definition Source
<b>Accession (verb)</b>	To take legal and physical custody of records and to formally document their receipt by entering brief information about them in a register or database.	External: Glossary of Archival and Records Terminology (2005)
<b>Accession Register</b>	An official record of each group of records received by a repository.	External: Glossary of Archival and Records Terminology (2005)
<b>Active Records</b>	A readily accessible record related to current, ongoing, or in-process activities and referred to on a regular basis to respond to day-to-day operational requirements.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Archival Record</b>	Materials created or received by a person, family, or organization, public or private, in the conduct of their affairs that are preserved because of the enduring value contained in the information they contain or as evidence of the functions and responsibilities of their creator.	External: Glossary of Archival and Records Terminology
<b>Archival Value</b>	The ongoing usefulness or significance of records, based on the administrative, legal, fiscal, evidential, or historical information they contain, justifying their continued preservation.	External: Glossary of Archival and Records Terminology (2005)
<b>Artificial Intelligence</b>	Artificial intelligence (AI) applies advanced analysis and logic-based techniques, including machine	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )

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Term	Definition	Definition Source
	learning, to interpret events, support and automate decisions, and take actions.	
<b>Arrangement</b>	The process of intellectually and/or physically organizing records in accordance with the archival principles of provenance and original order, and into levels of arrangement such as the fonds, the series, the file, and the item.	External: Millar, Archives Principles and Practices (2010)
<b>Born Digital</b>	Document or information created in electronic (digital) form, and not the one digitized through scanning	External: Business Dictionary ( <a href="http://www.businessdictionary.com/definition/born-digital.html">http://www.businessdictionary.com/definition/born-digital.html</a> )
<b>Business Intelligence</b>	Offerings to design, develop and deploy enterprise processes and to integrate, support and manage the related technology applications and platforms. These include business and infrastructure applications for BI platforms, analytics needs and data warehousing infrastructure. Solutions include areas such as corporate performance management (CPM) and analytics, in addition to the traditional BI platform, data warehouse/data infrastructure and data quality areas.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>BYOD Device</b>	Is alternative strategy allowing employees, business partners and other users to utilize a personally selected and purchased client device to execute enterprise applications and access data. Typically, it spans smartphones and tablets, but the strategy may also be used for PCs. It may include a subsidy.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Data</b>	Information in raw or unorganized form (such as alphabets, numbers, or symbols) that refer to, or represent, conditions, ideas, or objects. Data is limitless and present everywhere in the universe.	External: Business Dictionary ( <a href="http://www.businessdictionary.com/definition/data.html">http://www.businessdictionary.com/definition/data.html</a> )

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Term	Definition	Definition Source
<b>Data Management / Master Data Management</b>	Technology-enabled discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, semantic consistency and accountability of the enterprise's official shared master data assets. Master data is the consistent and uniform set of identifiers and extended attributes that describes the core entities of the enterprise including customers, prospects, citizens, suppliers, sites, hierarchies and chart of accounts.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Description</b>	The process of establishing intellectual control over archival material by creating finding aids or other access tools that identify the content, context, and structure of the archives.	External: Millar, Archives Principles and Practices (2010)
<b>Disclosure</b>	Disclosure means the release of personal information by any method (e.g. sharing information by any means such as verbally, sending an email, posting online) to anybody or person.	External: Town of Whitby, Corporate Access and Privacy Policy <a href="https://whitby.civicweb.net/FileStorage/8296039F5A0D4756AB3EA6EAE4E6878F-CLK%2011-16%20Corporate%20Access%20and%20Privacy%20Policy.pdf">https://whitby.civicweb.net/FileStorage/8296039F5A0D4756AB3EA6EAE4E6878F-CLK%2011-16%20Corporate%20Access%20and%20Privacy%20Policy.pdf</a>
<b>Disclosure, Routine</b>	Routine disclosure is the routine or automatic release of certain records and information in response to informal requests.	External: Town of Newmarket, Routine Disclosure Policy <a href="https://www.newmarket.ca/TownGovernment/Documents/Routine%20Disclosure%20Policy%20Final%20September%2011.pdf">https://www.newmarket.ca/TownGovernment/Documents/Routine%20Disclosure%20Policy%20Final%20September%2011.pdf</a>
<b>Disposition</b>	For a record, the final action taken per the retention schedule, concluding with destruction, transfer, or permanent preservation.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Enduring Value</b>	The continuing usefulness or significance of records, based on the administrative, legal, fiscal, evidential, or historical information they contain, justifying their ongoing preservation.	External: Glossary of Archival and Records Terminology (2005)

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<b>Term</b>	<b>Definition</b>	<b>Definition Source</b>
<b>FOI Request, Formal</b>	A request for access to or copies of a record which is submitted in writing detailing the requested records, is dated and signed by the requester. This type of request should be received only after the informal request has been denied.	MFIPPA Policy (1997)
<b>FOI Request, Informal</b>	A verbal request for access to or copies of a record. May also be referred to as an over-the-counter or routine request. All requests should begin informally and requesters should only formally submit a request as a last resort.	MFIPPA Policy (1997)
<b>Fonds</b>	The entire body of documents, regardless of form or medium, created or accumulated by a particular individual, family, corporate body or other agency as part of life and work and retained because those materials have ongoing archival value as evidence of those functions and activities.	External: Millar, Archives Principles and Practices (2010)
<b>Form</b>	A paper or electronic document with a fixed arrangement of predetermined spaces designed for entering and extracting prescribed information or variable data.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Forms Management</b>	The function that establishes standards for the creation, design, analysis, revision, procurement, and warehousing of all forms within an organization, regardless of format or medium.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Inactive Record</b>	A record no longer needed to conduct current business but preserved until it meets the end of its retention period. Note: Inactive records are often stored in a records centre or on offline media.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Information</b>	Data that has been given value through analysis, interpretation, or compilation in a meaningful form.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition

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Term	Definition	Definition Source
<b>Information Governance</b>	A strategic, cross-disciplinary framework composed of standards, processes, roles, and metrics that hold organizations and individuals accountable for the proper handling of information assets. The framework helps organizations achieve business objectives, facilitates compliance with external requirements, and minimizes risk posed by sub-standard information handling practices	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Integration / Data Integration</b>	The discipline of data integration comprises the practices, architectural techniques and tools for achieving the consistent access and delivery of data across the spectrum of data subject areas and data structure types in the enterprise to meet the data consumption requirements of all applications and business processes.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Interface</b>	In computing, an interface is a shared boundary across which two or more separate components of a computer system exchange information. The exchange can be between software, computer hardware, peripheral devices, humans, and combinations of these. Some computer hardware devices, such as a touchscreen, can both send and receive data through the interface, while others such as a mouse or microphone may only provide an interface to send data to a given system.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Internet</b>	An electronic communications network that connects computer networks and organizational computer facilities around the world.	Computer and Internet User Corporate Policy (Policy AG 10.99)
<b>Intranet</b>	Is a computer network that uses Internet Protocol technology to share information, operational	Computer and Internet User Corporate Policy (Policy AG 10.99)

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Term	Definition	Definition Source
	systems, or computing services within an organization.	
<b>Key Data Entities</b>	The fundamental information objects that are employed by the business applications to execute the operations of the business while simultaneously providing the basis for analyzing the performance of the lines of business	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Lifecycle (of a record)</b>	The major milestones of a record's existence, subject to changing requirements: creation / receipt, classification, use, retention, and disposition (i.e. transfer to another entity, archival retention, or destruction).	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Metadata</b>	Metadata is information that describes various facets of an information asset to improve its usability throughout its life cycle. It is metadata that turns information into an asset. Generally speaking, the more valuable the information asset, the more critical it is to manage the metadata about it, because it is the metadata definition that provides the understanding that unlocks the value of data.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Microfiche</b>	A flexible, transparent sheet of film bearing a number of micro-images arranged in a grid pattern with a heading area across the top.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Microfilm</b>	<ol style="list-style-type: none"> <li>1) A high-resolution film in roll form or mounted onto aperture cards containing micro-images.</li> <li>2) The action of recording micro-images on film.</li> </ol>	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Microforms</b>	Generic term for any material, usually photographic film, that contains micro-images.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition

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Term	Definition	Definition Source
<b>Normalization (Denormalized)</b>	The process of structuring a relational database[clarification needed] in accordance with a series of so-called normal forms in order to reduce data redundancy and improve data integrity. It was first proposed by Edgar F. Codd as part of his relational model.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Open Data</b>	Information or content made freely available to use and redistribute, subject only to the requirement to attribute it to the source. The term also may be used more casually to describe any data that is shared outside the organization and beyond its original intended use, for example, with business partners, customers or industry associations. Formally, data designated as “open” is subject to several conditions and licensing that can be found at <a href="http://opendefinition.org">opendefinition.org</a> .	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Original Order</b>	The order and organization in which records were created, used, maintained and stored by the creator or office of origin. The Principle of Original Order states that the order and organization in which records were created, used, maintained and stored by the creator or office of origin is maintained by an archives.	External: Millar, Archives Principles and Practices (2010)
<b>Patch</b>	A set of changes to a computer program or its supporting data designed to update, fix, or improve it. This includes fixing security vulnerabilities and other bugs, with such patches usually being called bugfixes or bug fixes, and improving the functionality, usability or performance.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )



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Term	Definition	Definition Source
<b>Personal Information</b>	Recorded information about an identifiable individual (not a corporation, partnership or sole proprietorship), including information relating to: a) race, national or ethnic origin, colour, religion, age, sex, sexual orientation or marital or family status of the individual; b) education, medical, psychiatric, psychological, criminal or employment history, financial transactions c) any identifying number, symbol, address, telephone number, fingerprints or blood type d) personal opinions or views of the individual except if they relate to another individual, and views or opinions of another individual about the individual e) correspondence sent to the City which is implicitly or explicitly of a private or confidential nature and replies to that correspondence f) the individual's name if it appears with any other personal information	MFIPPA Policy (1997)
<b>Personal Information</b>	S. 2(1): "personal information" means recorded information about an identifiable individual, including,  (a) information relating to the race, national or ethnic origin, colour, religion, age, sex, sexual orientation or marital or family status of the individual,  (b) information relating to the education or the medical, psychiatric, psychological, criminal or employment history of the individual or information	External: Municipal Freedom of Information and Protection of Privacy Act, s. 2(1) and s. 2(2)

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Term	Definition	Definition Source
	<p>relating to financial transactions in which the individual has been involved,</p> <p>(c) any identifying number, symbol or other particular assigned to the individual,</p> <p>(d) the address, telephone number, fingerprints or blood type of the individual,</p> <p>(e) the personal opinions or views of the individual except if they relate to another individual,</p> <p>(f) correspondence sent to an institution by the individual that is implicitly or explicitly of a private or confidential nature, and replies to that correspondence that would reveal the contents of the original correspondence,</p> <p>(g) the views or opinions of another individual about the individual, and</p> <p>(h) the individual's name if it appears with other personal information relating to the individual or where the disclosure of the name would reveal other personal information about the individual;</p> <p>S. 2(2) Personal information does not include information about an individual who has been dead for more than thirty years.</p> <p>S. 2(2.1) Personal information does not include the name, title, contact information or designation of an individual that identifies the individual in a business, professional or official capacity.</p>	

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Term	Definition	Definition Source
	S. 2(2.2) For greater certainty, subsection (2.1) applies even if an individual carries out business, professional or official responsibilities from their dwelling and the contact information for the individual relates to that dwelling.	
<b>Personal Information Bank</b>	A Personal Information Bank is a collection of personal information that is organized and capable of being retrieved using an individual's name or an identifying number or particular assigned to the individual).	MFIPPA Policy (1997)
<b>Personal Information Bank Index</b>	<p>A head shall make available for inspection by the public an index of all personal information banks in the custody or under the control of the institution setting forth, in respect of each personal information bank,</p> <ul style="list-style-type: none"> <li>(a) its name and location;</li> <li>(b) the legal authority for its establishment;</li> <li>(c) the types of personal information maintained in it;</li> <li>(d) how the personal information is used on a regular basis;</li> <li>(e) to whom the personal information is disclosed on a regular basis;</li> <li>(f) the categories of individuals about whom personal information is maintained; and</li> </ul>	External: Municipal Freedom of Information and Protection of Privacy Act, s. 34(1)

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Term	Definition	Definition Source
	(g) the policies and practices applicable to the retention and disposal of the personal information.	
<b>Platform</b>	<p>Platforms (in the context of digital business) exist at many levels. They range from high-level platforms that enable a platform business model to low-level platforms that provide a collection of business and/or technology capabilities that other products or services consume to deliver their own business capabilities.</p> <p>Platforms that enable a platform business model have associated business ecosystems. They typically expose their capabilities to members of those ecosystems via APIs.</p> <p>Internal platforms also typically expose their capabilities via APIs. But they may offer other mechanisms, such as direct data access, as required by the products that consume them.</p>	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Privacy Breach</b>	Privacy Breach – means the use or disclosure of Personal Information or records containing Personal Information in violation of Sections 31 or 32 of the Act [Municipal Freedom of Information and Protection of Privacy Act]	Privacy Breach Protocol
<b>Privacy Impact Assessment (PIA)</b>	A Privacy Impact Assessment (PIA) is a process that helps determine whether government initiatives involving the use of personal information raise privacy risks; measures, describes and quantifies these risks; and proposes solutions to	External: Officer of the Privacy Commissioner of Canada ( <a href="https://www.priv.gc.ca/en/privacy-topics/privacy-impact-assessments/gd_exp_201103/">https://www.priv.gc.ca/en/privacy-topics/privacy-impact-assessments/gd_exp_201103/</a> )

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Term	Definition	Definition Source
	eliminate privacy risks or mitigate them to an acceptable level.	
<b>Provenance</b>	The person, agency or office of origin that created, acquired, used and retained a body of records in the course of their work or life. The Principle of Provenance states that the records created acquired, used and retained by a person, agency or office of origin are kept together in an archives.	External: Millar, Archives Principles and Practices (2010)
<b>Record Series</b>	A group of related records filed / used together as a unit and evaluated as a unit for retention purposes (e.g. a personnel file consisting of an application, reference letters, benefit forms, etc.).	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Record</b>	Any information however recorded, whether in printed form, on film, by electronic means or otherwise, and includes: correspondence, memoranda, books, plans, maps, drawings, diagrams, pictorial or graphic works, photographs, films, microfilms, sound recordings, videotapes, machine-readable records.	MFIPPA Policy (1997)
<b>Record</b>	“record” means any record of information however recorded, whether in printed form, on film, by electronic means or otherwise, and includes,  (a) correspondence, a memorandum, a book, a plan, a map, a drawing, a diagram, a pictorial or graphic work, a photograph, a film, a microfilm, a sound recording, a videotape, a machine readable record, any other documentary material, regardless of physical form or characteristics, and any copy thereof, and	External: Municipal Freedom of Information and Protection of Privacy Act, s. 2(1)

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Term	Definition	Definition Source
	(b) subject to the regulations, any record that is capable of being produced from a machine readable record under the control of an institution by means of computer hardware and software or any other information storage equipment and technical expertise normally used by the institution;	
<b>Record</b>	“record” means information however recorded or stored, whether in printed form, on film, by electronic means or otherwise, and includes documents, financial statements, minutes, accounts, correspondence, memoranda, plans, maps, drawings, photographs and films;	External: Municipal Act, 2001, s. 1(1)
<b>Records and Information Management</b>	The field of management responsible for establishing and implementing policies, systems, and procedures to capture, create, access, distribute, use, store, secure, retrieve, and ensure disposition of an organization’s records and information.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Records Retention Schedule</b>	A comprehensive list of record series titles, indicating for each series the length of time it is to be maintained. May include retention in active office area, inactive storage areas, and when and if such series may be destroyed or formally transferred to another entity, such as an archives for historical preservation.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Remote Wipe</b>	A remote wipe refers to a system where an administrator has the ability to remotely delete data on a hardware device or system.	External: <a href="https://www.techopedia.com/definition/10352/remote-wipe">https://www.techopedia.com/definition/10352/remote-wipe</a>
<b>Retention Period</b>	The length of time a record must be kept to meet administrative, fiscal, legal, or historical requirements.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition

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Term	Definition	Definition Source
<b>SaaS</b>	Software as a service (SaaS) is software that is owned, delivered and managed remotely by one or more providers. The provider delivers software based on one set of common code and data definitions that is consumed in a one-to-many model by all contracted customers at anytime on a pay-for-use basis or as a subscription based on use metrics.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Series (in the archives context)</b>	Aggregations of files or other records within a larger fonds or group that relate to the same processes or that are evidence of a common form, purpose or use.	External: Millar, Archives Principles and Practices (2010)
<b>Service Oriented Architecture (SOA)</b>	Service-oriented architecture (SOA) is a design paradigm and discipline that helps IT meet business demands. Some organizations realize significant benefits using SOA including faster time to market, lower costs, better application consistency and increased agility. SOA reduces redundancy and increases usability, maintainability and value. This produces interoperable, modular systems that are easier to use and maintain. SOA creates simpler and faster systems that increase agility and reduce total cost of ownership (TCO).	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Social media</b>	Social media (social networking) are media for social interaction that use various forms of web-based technologies and sites (often called Web 2.0) that include networking (Facebook, LinkedIn, wikis, discussion boards) blogging, micro-blogging (Twitter), photo sharing (Flickr), video sharing (YouTube) and webcasting (podcast). These formats allow users to interact with each other by	Computer and Internet User Corporate Policy (Policy AG 10.99)

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Term	Definition	Definition Source
	sharing information, opinions, knowledge and interests.	
<b>Structured data (or structured information or structured records)</b>	Information with a high degree of pre-defined organization so humans and/or software applications handling it know exactly where to find each data element. An example is a relational database with tables, data fields, and relations among fields in different tables.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Transitory Records</b>	A record of short-term value that can be destroyed immediately or after meeting its transitory need.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Vital Record</b>	A record that is fundamental to the functioning of an organization and necessary to the continuance of operations. Also referred to as essential record.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition



### Appendix 3: Version Control Log

Figure 15 provides the history of the drafting and finalization of the I&RM Strategic Plan.

**Figure 15 – Version Control Log**

Date	Description	Author
November 4, 2019	Draft strategic plan submitted to the I&RM Strategy Project Committee and CLT	Ergo Information Management Consulting
November 12, 2019	Final report submitted to the City's Project Manager for the I&RM Strategy Project	Ergo Information Management Consulting

**DELIVERABLE**

**City of Oshawa**

**Information and Records Management (I&RM) Assessment Report**

**October 22, 2019**

**Ergo Information Management Consulting**  
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**Note to Reader:**

- a) This report contains text excerpted from Ontario legislation. Consult the Government of Ontario's e-Laws website at <https://www.ontario.ca/laws> for the full-text of the cited legislation.
- b) This report also contains text excerpted from City of Oshawa policies and other documents, some of which are not available on the City's website. Page numbers provided after the excerpted text refer to pages in the referenced policy or other document and not to a page in this report.
- c) All URLs in the report were current as of October 22, 2019.
- d) If this report is required in an accessible format, please contact Sheila Taylor at (905) 702 8756 or [staylor@eimc.ca](mailto:staylor@eimc.ca)

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## 1. Executive Summary

Finance Committee Report FIN-19-37 states “The City is advancing improvement of overall governance and management of its information resources through the development and implementation of an Information and Records Management Strategic Plan.” (page 1)

Ergo Information Management Consulting (Ergo) was retained to document and assess the City’s current practices for managing information and records and prepare an Information and Records Management Strategic Plan (I&RM Strategic Plan) which will outline phased, multi-year recommendations for the City’s consideration.

This report provides Ergo’s I&RM findings and assessment based on industry best practices, our experience in completing similar engagements for many municipal and other clients, and our analysis of the findings from a robust data collection consisting of the review of City-supplied data / documentation (see list in Appendix 4); interviews with more than 30 employees who are subject matter experts in records and information management (RIM), areas related to or having a connection to RIM (e.g. the administration of social media content), or the City’s structured systems; focus groups with 42 employees from across the organization; 286 responses to the I&RM Survey and 14 responses to the Microsoft Access Database Survey. See Appendix 3 for a list of the employees who attended the interviews and focus groups and for high-level information about the survey responses.

The I&RM Strategy Project Committee (see Section 2 for a list of the members of the committee) provided input on the data collection methodology and gave feedback on the report, both its structure and an earlier version. Some Project Committee members, by nature of their positions, gathered City data / documentation, participated in interviews and/or focus groups, and were invited to complete the Microsoft Access Database Survey. They were also eligible to complete the I&RM Survey.

The review and assessment revealed that progress has been made in developing and implementing a corporate RIM Program, e.g. the 2015 establishment of a second Records and Information Analyst position and the 2018 establishment of an Information, Access and Privacy Officer position; the purchase and implementation of Versatile Enterprise for the management of paper records; Council approval of the Records Retention By-law and Records Retention Schedule (although both need to be updated); Council approval of a Municipal Freedom of Information and Protection of Privacy Policy and Procedure in 1997 (needs to be updated); the writing of draft policies (a Corporate Archives Policy and a Litigation Hold Policy) and initial work on a Privacy Program (e.g. Council approval of a

Privacy Breach Protocol). Notwithstanding this progress, much work remains to be done to improve the lifecycle management of the City's paper records, unstructured electronic records, and e-mails.

The review and assessment also revealed that much work remains to be done to improve the management of the City's structured data. Managing data across a broad range of systems is proving to be challenging for the City, especially in the absence of clearly defined standards, roles, and processes. If data is not managed properly, the overall utility of these systems and the information they create becomes less effective. The growing reliance on technology solutions and the prospect of rethinking how an organization uses technology, people, and process to fundamentally change business performance (digital transformation<sup>1</sup>) has highlighted data management (or master data management) as a key capability for all organizations in the 21<sup>st</sup> century.

A SWOT analysis (see Section 8) revealed a number of I&RM weaknesses and threats. Examples of weaknesses include lack of clearly defined roles and responsibilities for RIM and structured data, ad hoc practices which do not manage the lifecycle of all information / records, significant challenges in retrieving information, and a culture of creating independent and somewhat overlapping silos / systems of information (e.g. personal drives, shared drives, e-mail system, intranet, etc.) rather than considering information holistically. The I&RM threats include, but are not limited to, failure to implement and sustain I&RM improvements may prevent the City from having authoritative records (i.e. records which are authentic, reliable, useable, and possessing integrity), further criticism of not having accurate, complete, and well-managed information, risk of loss of the City's archival heritage without an Archives Program based on professional standards and practices, and continued data quality issues.

Ergo used the Information Governance Maturity Model (an industry best practice developed by ARMA International) to rate the maturity of the RIM Program and the City's I&RM practices. Based on the Generally Accepted Recordkeeping Principles® plus the established body of standards, best practices, and legal / regulatory requirements for managing recorded information, the Maturity Model defines the characteristics of information governance programs at differing levels of maturity, completeness, and effectiveness. The City's average score of 1.1% on a five-point scale across the eight Principles (as summarized in Figure 1 below) reinforces the need for I&RM improvements.

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<sup>1</sup> CIO.org <https://www.cio.com/article/3211428/what-is-digital-transformation-a-necessary-disruption.html>



Level 3 is the minimum target level for each Principle in any organization. See Appendix 6 for the rationale for our benchmarking rating for each Principle.

**Figure 1 – The Principles Benchmarking Ratings**

<b>Principle</b>	<b>High-level Definition<sup>2</sup></b>	<b>City's Current Level</b>
<b>Accountability</b>	"A senior executive (or a person of comparable authority) shall oversee the information governance program and delegate responsibility for information management to appropriate individuals."	<b>1</b>
<b>Transparency</b>	"An organization's business processes and activities, including its information governance program, shall be documented in an open and verifiable manner, and that documentation shall be available to all personnel and appropriate, interested parties."	<b>1</b>
<b>Integrity</b>	"An information governance program shall be constructed so the information assets generated by or managed for the organization have a reasonable guarantee of authenticity and reliability."	<b>1</b>
<b>Protection</b>	"An information governance program shall be constructed to ensure an appropriate level of protection to information assets that are private, confidential, privileged, secret, classified, essential to business continuity, or that otherwise require protection."	<b>1.5</b>
<b>Compliance</b>	"An information governance program shall be constructed to comply with applicable laws, other binding authorities, and the organization's policies."	<b>1</b>
<b>Availability</b>	"An organization shall maintain its information assets in a manner that ensures their timely, efficient, and accurate retrieval."	<b>1</b>
<b>Retention</b>	"An organization shall maintain its information assets for an appropriate time, taking into account its legal, regulatory, fiscal, operational, and historical requirements."	<b>1</b>
<b>Disposition</b>	"An organization shall provide secure and appropriate disposition for information assets no longer required to be maintained, in compliance with applicable laws and the organization's policies."	<b>1</b>

<sup>2</sup> ARMA International, Implementing the Generally Accepted Recordkeeping Principles® (ARMA International TR 30-2017), Appendix A - The ARMA International Generally Accepted Recordkeeping Principles®, pages 19-25.

The above ratings are illustrative but should not overly alarm the City. These scores should be considered opportunities to target and prioritize key areas for improvement. Indeed, many organizations with which we have worked started with comparable scores and are either working toward or have succeeded in attaining the Level 3 targets. This report also identifies key issues at the City regarding data maturity. Although we did not formally assess the City's data maturity using the Capability Maturity Model Integration (CMMI) Data Maturity Model (DMM) framework, it is clear that the City's data management maturity level would be assessed as very low (i.e. between 0 and 1 on the CMMI Data Management Maturity scale).

Our review and assessment revealed a general appreciation of the need to improve I&RM and a desire for I&RM improvements. While some current I&RM practices (both formal and informal) may be working, they are not necessarily efficient and I&RM (particularly information retrieval) is often a frustrating and time-consuming activity. The review and assessment also identified several factors which compel the implementation of I&RM improvements, i.e.

- Pending wave of retirements: 34.9% of the City's workforce (256 employees) is eligible to retire on an unreduced pension over the next 10 years (2019 - 2028). If processes are not put in place to capture and ensure easy access to – upon authorized request – the records those employees create / receive and maintain prior to their retirement, the City risks losing access to a significant volume of its corporate memory.
- Significant (and increasing) volume of unstructured electronic records and e-mail: Unstructured electronic records (e.g. word-processed documents, spreadsheets, presentations, etc.) and e-mails constitute a significant volume of the City's records and that volume will continue to grow unless processes are implemented to apply retention and disposition rules. The City's 888 network drives (personal, branch, and corporate drives) currently store 5.2 M files and consume 10.7 TB of storage. 42% of the files in personal network drives and 38% of the files in each of the branch and corporate network drives were last modified more than seven years ago. In addition, the City stores just over 3 TB of e-mails in 1,410 e-mail mailboxes. The fifteen largest e-mail mailboxes range in size from 13 GB to 17 GB.
- Greater public awareness of MFIPPA and a significant increase in FOI requests: Society's awareness of access to information legislation has increased, resulting in more FOI requests. Over the past five years, the City has experienced a 90% increase in FOI request volume. Consequently, employees must search for, locate, compile, and review an ever-increasing number of records.

The I&RM Strategic Plan will provide recommendations and a 3-5 year phased and prioritized roadmap for addressing the deficiencies and risks noted in the assessment. The Strategic Plan will build on the City's I&RM strengths such as employee interest in moving to a 'less paper based' organization in which born digital records and images of paper records are recognized as the City's official records, 'super user' groups have been defined and engaged as part of technology implementation projects to work on data management matters, and the GIS and Open Data Program has developed excellent data practices, including a governance process. It will also capitalize on the City's I&RM opportunities such as introducing effective and efficient document collaboration functionality to overcome the challenges now encountered, ability to more easily and efficiently respond to future FOI requests and litigation, audits, and investigations, formalizing a Data Management Program, and introducing governance prior to the implementation of new systems to ensure their compliance with the City's RIM / RIM-related policies and its legislated obligations for RIM and privacy.

## 2. Scope and Methodology

Ergo Information Management Consulting (Ergo) was retained to document and assess the City's current practices for managing information and records and prepare an Information and Records Management Strategic Plan (I&RM Strategic Plan) which will outline phased, multi-year recommendations for the City's consideration. This report provides Ergo's I&RM findings and assessment based on industry best practices, our experience in completing similar engagements for many municipal and other clients, and our analysis of the findings from a data collection consisting of:

- The review of data / documentation, both City-supplied and relevant City documents / information and information about the City that we found through Internet searching.
- Interviews with 14 City employees who are subject matter experts in records and information management (RIM) or who are subject matter experts in areas related to or having a connection to RIM (e.g. the administration of social media content).
- Interviews with 20 City employees who are subject matter experts regarding the City's structured systems.
- 12 focus groups attended by 42 employees from across the organization (focus groups were held with CLT, representative Directors, RIM Program employees, and all City departments).
- 286 responses to the I&RM Survey (approximately 31% response rate).
- 14 responses to the Microsoft Access Database Survey (approximately 39% response rate).

See Appendix 3 for high-level information about the survey responses and a list of the City employees who participated in the interviews and focus groups. See Appendix 4 for a list of the data / documentation that we reviewed.

The following types of information and records are in scope for this engagement:

- a) Paper documents / files / records
  - At desks or in offices at City Hall and other City facilities.
  - Inactive paper records stored on-site in 'Records Retention' at City Hall.
  - Inactive paper records stored off-site at a local, third party warehouse.
- b) Unstructured electronic documents / files / records (e.g. word-processed documents, spreadsheets, PDFs, etc.) stored in the following locations:
  - Personal network drives.
  - Shared network drives.
  - Portable electronic storage such as USBs, CDs, etc. (where used).

- Stored on and/or accessed using mobile devices (e.g. smartphones).
- c) E-mail messages and attachments in Microsoft Outlook and .pst files (where used).
- d) Data in the City's structured systems (e.g. PeopleSoft) and Microsoft Access databases.
- e) Content on the City's public websites (<https://www.oshawa.ca/index.asp> and <https://connectoshawa.ca/>).
- f) Content on the City's intranet (iConnect).
- g) Content on the City's social media channels (Facebook, Instagram, LinkedIn, Twitter, and YouTube).

The draft I&RM Assessment Report was presented to the I&RM Strategy Project Committee for review and validation and Ergo prepared the final version of the report after that meeting. Figure 2 lists the position titles of the I&RM Strategy Project Committee<sup>3</sup> members.

**Figure 2 - I&RM Strategy Project Committee Members**

Department	Position Title
City Clerk Services	Council Committee Co-ordinators
	Information, Access and Privacy Officer
	Interim City Clerk
	Records and Information Analyst, and City Project Manager for I&RM Strategy Project
Communications	Corporate Communications Officer
Community Services	Supervisor, Events and Community Engagement
	Manager, Program and Facilities
	Manager, Strategic and Business Services
Facilities Management Services	Project and Quality Assurance Manager
Finance	Senior Financial Analyst
Human Resources	HR Assistant
IT	Network Security Manager
Legal	Legal Assistant
MLELS / Licensing	Policy and Research Analyst
Service Oshawa (part of City Clerk Services)	Reception, Admin Assistant
	Co-ordinator, Customer Service

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<sup>3</sup> RIM Program staff prepared a proposed list of members for review and confirmation by Managers / Supervisors. Employees were selected because they are Branch Records Representatives or otherwise responsible for the management of records in their department / branch.

### 3. Organizational and Workplace Characteristics

An I&RM Strategy should take into consideration the characteristics of the organization for which it is developed and the characteristics of today's workplaces. The following characteristics were identified (in no particular order).

1. Many (long-term) employees will retire over the next 10 years.

Like other municipalities, many (long-term) City employees are eligible to retire on an unreduced pension over the next few years. As shown in Figure 3, 34.9% of the City's current workforce (256 employees) is eligible to retire over the next 10 years. If processes are not put in place to capture and ensure easy access to – upon authorized request – the records those employees create / receive and maintain prior to their retirement, the City risks losing access to a significant volume of its corporate memory.

**Figure 3 – Retirement Eligibility Statistics<sup>4</sup>**

<b>Eligible to Retire Now</b>	<b>Eligible to Retire in the Next 5 Years</b>	<b>Eligible to retire in the Next 10 Years<sup>5</sup></b>	<b>Total Number of Regular Full-time Employees (at October 9, 2019)</b>
<b>10.6%</b> (78 employees) <sup>6</sup>	<b>22.6%</b> (166 employees)	<b>34.9%</b> (256 employees)	733

2. Change management will be required to create the culture change necessary to achieve improvements in the City's I&RM practices.

RIM must be positioned as a priority, accountabilities and responsibilities for both records and data must be clearly defined, assigned, and adequately resourced, and employees must be both empowered and supported in implementing improved I&RM practices. If change management is not carefully planned and adequately resourced, the City is unlikely to achieve a high rate of success in improving its I&RM practices.

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<sup>4</sup> Statistics provided by OMERS in October 2019.

<sup>5</sup> This is the total number of employees eligible to retire from 2019 to 2028.

<sup>6</sup> This includes employees who became eligible to retire on an unreduced pension in prior years but who have not yet retired.

3. There is a lack of common understanding of what constitutes a record.

Employees are uncertain what a record is. It is not widely understood that newer forms of technology also produce records (e.g. texts, chats) which must be managed in compliance with the City's policies and its legislated obligations (e.g. MFIPPA).

4. Employees, generally, have confidence in the City's information.

The I&RM Survey asked respondents to rate their level of confidence that the records they use in their work are correct, complete, and up to date. 78% of respondents answered this question, reporting an average 72% confidence level. The most frequently reported confidence level ranges were:

- 90-100% (24.7% of the employees who responded to this question).
- 70-79% (24.2% of the employees who responded to this question).
- 80-89% (21.5% of the employees who responded to this question).

5. Greater public awareness of MFIPPA and a significant increase in FOI requests.

Society's awareness of access to information legislation has increased, resulting in more FOI requests. The 90% increase in FOI request volume over the past five years has resulted in employees having to search for, locate, compile, and review an ever-increasing number of records.

#### **4. Legislated I&RM Requirements and Records as Evidence**

Various laws govern the City's delivery of services / programs and many of those laws (or their regulations) specify requirements for managing service / program records, e.g.

- The Assessment Act (R.S.O. 1990, c. A.31) requires the Clerk of a municipality to "Immediately upon receiving the assessment roll for the municipality ... make it available for inspection by the public during office hours." (s. 39(2))
- The Building Code Act, 1992 (S.O. 1992, c. 23) requires the City to "keep on file the records of all official business" (s. 15.6(7)) conducted by the Property Standards Committee.
- The Municipal Elections Act, 1996 (S.O. 1996, c. 32) requires the Clerk of a municipality to "retain the ballots and all other documents and materials related to an election for 120 days after declaring the results of the election" (s. 88(1)).

In addition, two acts specify overarching requirements for the management of the records in the City's custody or control and records constitute a vital source of evidence as summarized below.

##### **4.1.1 Municipal Act, 2001**

The Municipal Act, 2001 defines a 'record' as "information however recorded or stored, whether in printed form, on film, by electronic means or otherwise, and includes documents, financial statements, minutes, accounts, correspondence, memoranda, plans, maps, drawings, photographs and films; ("document")" (s. 1(1)). Therefore, the requirements for managing records apply not only to records in paper / hard copy format and more traditional electronic formats such as word-processed documents and e-mails but also to records in newer electronic formats such as website content and social media content (e.g. Facebook posts, tweets, and YouTube videos).

A municipality is required to manage its records as follows:

1. Allow, subject to MFIPPA and at all reasonable times, inspection of the records<sup>7</sup> under the control of the clerk (s. 253(1)).
2. Provide within a reasonable time, and upon request and payment of the applicable fee, a certified copy under the municipality's seal of any record referred to in subsection 253(1) (s. 253(2)).

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<sup>7</sup> Those records are: "(a) by-laws and resolutions of the municipality and of its local boards; (b) minutes and proceedings of regular, special or committee meetings of the council or local board, whether the minutes and proceedings have been adopted or not;



3. Retain and preserve the records of the municipality (and its local boards) in a secure and accessible manner (s. 254(1)). S. 254(9) defines ‘secure and accessible manner’ as “records can be retrieved within a reasonable time and that the records are in a format that allows the content of the records to be readily ascertained by a person inspecting the records.”
4. May destroy a record if a retention period for the record has been established and the retention period has expired, or the record is a copy of the original record (s. 255(2)).
5. May establish retention periods during which the municipality’s records (and those of its local boards) must be retained and preserved in accordance with section 254 (s. 255(3))<sup>8</sup>.

A municipality may also enter into an agreement for archival services with respect to the records it is required to retain and preserve (s. 254(3)). Any records transferred under such an agreement remain, for the purposes of MFIPPA, under the municipality’s ownership and control (s. 254(4)) while s. 254(6) requires the municipality to ensure the transferred records are kept and preserved “in a secure and accessible manner” (s. 254(5)).

The Municipal Act, 2001 also sets out requirements for the accountability and transparency of a municipality and its operations. Therefore, the RIM, accountability, and transparency requirements in that Act, coupled with complaints processes, ombudsman oversight, and MFIPPA requirements (as discussed below), result in an environment in which both regulation and public expectation requires the City to be able to locate and provide information in a timely fashion subject to any allowable exemptions such as those under MFIPPA regarding the release of specified types of information.

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(c) records considered at a meeting, except those records considered during that part of a meeting that was closed to the public; (d) the records of the council; and (e) statements of remuneration and expenses prepared under section 284.” (s. 253(1))

<sup>8</sup> Until May 30, 2017, s. 255(3) read as follows (bold, italicized, and underlined text added for emphasis): “A municipality may, ***subject to the approval of the municipal auditor,*** establish retention periods during which the records of the municipality and local boards of the municipality must be retained and preserved in accordance with section 254.” The City’s Records Retention By-law (By-law 45-2002) predates that change; therefore, it states “This by-law shall come into effect upon approval by the auditor for the City of Oshawa.” Note: The Municipal Act, 2001, S.O. 2001, c. 25, s. 296(1) defines ‘municipal auditor’ as follows: “A municipality shall appoint an auditor licensed under the Public Accounting Act, 2004 who is responsible for, (a) annually auditing the accounts and transactions of the municipality and its local boards and expressing an opinion on the financial statements of these bodies based on the audit; and (b) performing duties required by the municipality or local board.”

#### **4.1.2 Municipal Freedom of Information and Protection of Privacy Act**

This act governs the collection, use and disclosure of information, provides the public with right of access to information, and protects an individual's personal information. Like the Municipal Act, 2001 the definition of a 'record' in MFIPPA is media independent. MFIPPA defines a 'record' as:

“any record of information however recorded, whether in printed form, on film, by electronic means or otherwise, and includes, (a) correspondence, a memorandum, a book, a plan, a map, a drawing, a diagram, a pictorial or graphic work, a photograph, a film, a microfilm, a sound recording, a videotape, a machine readable record, any other documentary material, regardless of physical form or characteristics, and any copy thereof, and (b) subject to the regulations, any record that is capable of being produced from a machine readable record under the control of an institution by means of computer hardware and software or any other information storage equipment and technical expertise normally used by the institution; (“document”)”.

(s. 2(1))

Part I of MFIPPA addresses freedom of information (access to records, exemptions, access procedures, and information to be published or available), Part II governs the protection of personal privacy (collection, use, disclosure, and retention of personal information as well as personal information banks and the rights of access and correction), Part III describes the appeal process, and Part IV covers general matters such as fees and the Commissioner's powers and duties. Subject to s. 48(2), every person who contravenes s. 48(1) of the Act is guilty of an offence and liable, on conviction, to a fine not exceeding \$5,000.

There is a correlation between good RIM practices and meeting access to information obligations. In the words of Dr. Ann Cavoukian, Ontario's previous Information and Privacy Commissioner:

“poor records management can impede the public's right to access important government-held information. In particular, a failure by government institutions to adhere to proper records management practices can have an adverse effect on the ability of individuals to scrutinize the activities of public bodies and to obtain information that is crucial to exercising their fundamental rights”<sup>9</sup>

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<sup>9</sup> Information and Privacy Commissioner / Ontario (2003), Electronic Records and Document Management Systems: A New Tool for Enhancing the Public's Right to Access Government-Held Information?, page 1.

“Good records management is an essential pillar that supports the FOI process in Ontario. The public’s statutory right to access government-held information cannot be fulfilled unless public servants properly document government programs and activities and maintain records in a well-organized manner.”<sup>10</sup>

The following recent amendments to MFIPPA strengthened that relationship by requiring the preservation of records and expanding the list of offences under MFIPPA to include the alteration, concealment, or destruction of records.

- a) “Every head of an institution shall ensure that reasonable measures respecting the records in the custody or under the control of the institution are developed, documented and put into place to preserve the records in accordance with any recordkeeping or records retention requirements, rules or policies, whether established under an Act or otherwise, that apply to the institution.” (s. 4.1)
- b) “No person shall . . . alter, conceal or destroy a record, or cause any other person to do so, with the intention of denying a right under this Act to access the record or the information contained in the record”. (s. 48(1)(c.1)) The Act allows for commencement of a prosecution for these actions up to two years after the day evidence of the offence was discovered.

An individual who contravenes the act is “guilty of an offence and on conviction is liable to a fine not exceeding \$5,000” (s. 48(2)).

#### **4.1.3 Records as Evidence**

The Evidence Act (R.S.O. 1990, c. E. 23) governs the use of electronic records (s. 34.1) and business records (s. 35) in an “action” which the Act defines as including “an issue, matter, arbitration, reference, investigation, inquiry, a prosecution for an offence committed against a statute of Ontario or against a by-law or regulation made under any such statute and any other proceeding authorized or permitted to be tried, heard, had or taken by or before a court under the law of Ontario” (s. 1). The City may need to use its data, documents, information, or records as evidence in actions.

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<sup>10</sup> Ibid, page 2.

## **5. Records and Information Management (RIM) Program**

This section describes the current status of the City's RIM Program.

### **5.1 RIM Program Governance and Reporting Structure**

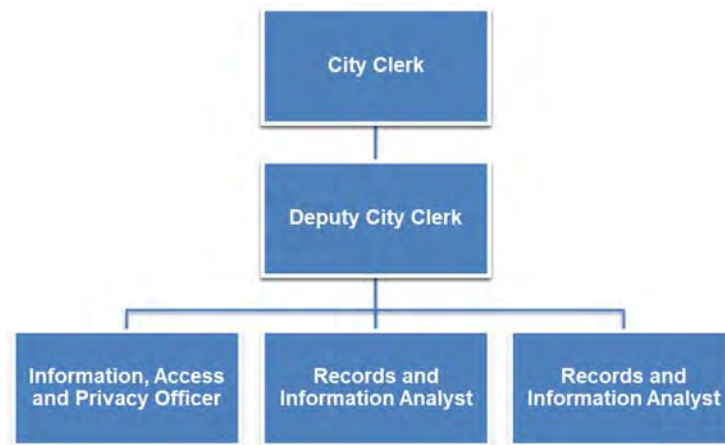
The RIM Program is part of City Clerk Services and, therefore, reports to the City Clerk. The tradition of a RIM Program reporting to a Municipal Clerk evolved from the Clerk's responsibilities under s. 253(1) of the Municipal Act, 2001 for managing and providing access to specific records under his / her control (i.e. the by-laws and resolutions of the municipality and of its local boards; minutes and proceedings of regular, special or committee meetings of the council or local board; records considered at a meeting except for records considered during any part of a meeting that was closed to the public; the records of the council; and statements of remuneration and expenses prepared under s. 284 of the Act).

Section 228(2) of the Municipal Act, 2001 provides that a Municipality may appoint Deputy Clerks who have all the powers and duties of the Clerk under this and any other Act. The Deputy City Clerk is responsible for the RIM Program's day-to-day operations. Note: The Deputy City Clerk position is currently vacant.

As discussed in Section 6.6.1 of this report, the 'Head' of an institution under MFIPPA is responsible for decisions made by the institution and for overseeing the administration of that Act within the institution. At the City, the City Clerk is the Head of the institution for these purposes. An amendment to MFIPPA effective January 1, 2016 created a statutory obligation requiring the head of an institution to ensure that 'reasonable measures' respecting the records in the institution's custody or control are developed, documented, and put into place to preserve the records.

Figure 4 illustrates the reporting structure of the City's RIM Program.

**Figure 4 – RIM Program Reporting Structure**



Unlike some other Ontario municipalities, the City has not established a RIM Steering Committee<sup>11</sup> composed of subject-matter stakeholders such as Audit, IT, Legal, Privacy, RIM, Security, and the business (Department / Branch Representatives in the City's case). Examples of the responsibilities of such a committee are:

- Provide leadership and governance over RIM.
- Advocate compliance with RIM / RIM-related City policies, procedures, industry standards, and best practices.
- Identify opportunities to develop new RIM / RIM-related policies, procedures, guides, forms, standards, and practices.
- Review proposed new or revised City policies that will impact or affect the City's RIM policies, procedures, or practices.
- Guide the management of corporate information assets across the organization.
- Provide clarity of RIM roles and responsibilities.
- Partner with existing and future internal steering / project committees to identify City initiatives with a RIM connection.
- Advocate for an effective balance between information transparency while managing corporate risk and privacy protection.

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<sup>11</sup> A RIM Steering Committee may be otherwise known as a RIM Advisory Committee, RIM Governance Committee, or RIM Oversight Committee. Some organizations (including municipalities with whom we have worked) use the term 'Information Governance' instead to more fully reflect the committee's responsibilities for all of the organization's information assets (i.e. records and structured data).

## 5.2 RIM Program Vision, Mission, and Strategy

A 'mission statement' is "a written declaration of an organization's core purpose and focus that normally remains unchanged over time. Properly crafted mission statements (1) serve as a filters to separate what is important from what is not, (2) clearly state which markets will be served and how, and (3) communicate a sense of intended direction to the entire organization."<sup>12</sup> A 'vision statement' is "An aspirational description of what an organization would like to achieve or accomplish in the mid-term or long-term future. It is intended to serve as a clear guide for choosing current and future courses of action."<sup>13</sup> A 'mission statement' is different from a 'vision statement' "in that the former is the cause and the latter is the effect; a mission is something to be accomplished whereas a vision is something to be pursued for that accomplishment."<sup>14</sup>

While mission and vision statements are typically prepared for an organization, they can also be prepared for a department, function, program, or service within an organization.

The RIM Program does not have a mission statement or a vision statement.

To the best of our knowledge, this project will result in the first I&RM Strategic Plan at the City.

## 5.3 RIM Program Staffing

This section discusses the evolution of RIM Program staffing, the RIM Program's current staff complement, the Potential Adjustment Description and Justification for a new RIM Co-ordinator position prepared by City Clerk Services for the 2020 operating budget process, and aspirational RIM responsibilities in approved City Clerk Services position descriptions.

### 5.3.1 The Evolution of RIM Program Staffing

A Manager, Records Information Systems position reported directly to the City Clerk from approximately November 2008 to November 2018. The purpose of the Manager position was to "Establish, maintain and enhance the management of all corporate records in

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<sup>12</sup> Business Dictionary <http://www.businessdictionary.com/definition/mission-statement.html>

<sup>13</sup> Business Dictionary <http://www.businessdictionary.com/definition/vision-statement.html>

<sup>14</sup> Business Dictionary <http://www.businessdictionary.com/definition/mission-statement.html>

accordance with legislative, legal, administrative and service delivery requirements. Conduct municipal elections.” That position was merged with the Manager, Support Services position in December 2018 when the Deputy City Clerk position was re-established. With this change, management responsibility for the RIM Program (as well as responsibility for other functions and duties) was assigned to the Deputy City Clerk position. Note: The Deputy City Clerk position was vacant as of the writing of this report; therefore, the Interim City Clerk currently has direct management responsibility for the RIM Program.

In September 2015, the existing Records Analyst position was upgraded to the new Records and Information Analyst position and the Records Clerk position was eliminated to create an additional Analyst position (resulting in two Analyst positions with no change to the total FTE complement in Corporate Records / City Clerk Services). According to the Statement of Manager appended to the Records and Information Analyst position description, it was anticipated that “Job duties will rotate between the two positions, with one assuming responsibility for access requests and records audits, while the other is responsible for forms, privacy impact assessments and privacy audits. Responsibilities will rotate after a period of 6 months.” (page 8)

Due to the high volume of FOI requests and to enable the establishment of a Privacy Program, an Information, Access and Privacy Officer position was created in December 2018. According to the position description, the purpose of this new position is: “Reporting to the Deputy City Clerk, the Information, Access and Privacy Officer will be responsible for leading the City’s information access and privacy program responsibilities in keeping with the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA); develops and leads best-practice policies, procedures and initiative related to information access, privacy and records management; undertaking election-related duties and other project initiatives within the Branch, Department and corporately, as assigned and supporting City Clerk Services’ management team.” (page 1)

### **5.3.2 Current RIM Program Staff Complement**

The RIM Program’s current staff complement consists of three full-time, permanent positions: one Information, Access and Privacy Officer and two Records and Information Analysts. City Clerk Services reports that “a poll of area municipalities has confirmed that other municipalities, which have substantially less FOI requests than Oshawa and are smaller, have two or three staff working on Records. Some have additional staff to assist with FOI requests while others use their Records staff to assist with processing FOIs.”<sup>15</sup>

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<sup>15</sup> Attachment to the Potential Adjustment Description and Justification for the proposed new Records Co-ordinator position as part of the 2020 operating budget process, page 1.

It is noteworthy that the Information, Access and Privacy Officer position is not in the bargaining unit; however, the Records and Information Analyst position is unionized<sup>16</sup> despite continuing to have many of the same responsibilities as the Officer. The Interim City Clerk advised that having unionized Analysts review records, apply disclosure exemptions, and make decisions relative to disclosure and fees to be signed and approved by the Head (the City Clerk) has sometimes been a challenge with department / branch employees who have cited confidentiality concerns when providing records to the Analysts. The Interim City Clerk also advised that some departments / branches do not want unionized Analysts to review or audit their RIM practices.

The Records and Information Analyst candidate pool in Southern Ontario, particularly candidates with municipal RIM experience, is relatively small and municipalities often experience challenges in attracting and retaining qualified individuals. Because the salary range for the Analyst position is lower than the salary range for many comparable positions at other Ontario municipalities, including municipalities with more Analyst positions than the City (e.g. Region of Durham, Region of York, and City of Toronto), the City may experience recruitment challenges when there is employee turnover or should the number of Analyst positions be expanded in the future.

The City has augmented its RIM Program staff complement in the past by engaging interns or co-op students (from Durham College and Sir Sanford Fleming College) who were completing programs of study in related disciplines but has not participated in any paid internships or co-op programs or in any RIM practicum programs such as the one offered by the University of Toronto's iSchool.

While the 'reporting to' statement is incorrect and responsibility for co-ordinating the City's Access and Privacy Programs is now held by the Information, Access and Privacy Officer, the balance of the position purpose statement in the Records and Information Analyst position description clearly positions the Analyst as the City's RIM lead:

"Reporting to the Manager, Records Information Systems, the Records and Information Analyst is responsible for designing, developing, and implementing Records and Information Management (RIM) Systems for Departments and Branches, as assigned; conducting research, audits, and preparing reports related to RIM activities with in City Departments and Branches; provides training, support, and customer service activities to internal staff engaged in RIM initiatives; leads and/or participates in RIM projects intended to improve the management of corporate records and information; co-ordinates the City's Access and Privacy Programs, including responding to access requests and conducting

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<sup>16</sup> We note that Records and Information Analyst (or comparable) positions are unionized in many Ontario municipalities.



privacy impact assessments; co-ordinates the City's Forms Program, including the preparation, approval, and tracking of corporate forms; and co-ordinates various election activities." (page 1)

It is, therefore, curious that the following responsibilities are assigned to the Information, Access and Privacy Officer position (page 2 of the position description): leads "best-practice policies, procedures and initiatives related to corporate records management", "best practice records management initiatives in consultation with City Clerk Services management", and "internal training, communications, and public educational initiatives related to . . . best practice records management".

The Records and Information Analysts and the Information, Access and Privacy Officer report directly to the Deputy City Clerk; therefore, the Analysts are not accountable to the Officer for any RIM services that they provide. It is intended that the Analysts and the Officer work together as a team.

### **5.3.3 Proposed RIM Co-ordinator Position**

As part of the 2020 operating budget process, City Clerk Services submitted a Potential Adjustment Description and Justification for a new full-time RIM Co-ordinator position "Due to the amount of work required to implement the Strategic Plan [the I&RM Strategic Plan to be developed later this fall] and current workloads" (page 1). The Potential Adjustment Description and Justification states the I&RM Strategic Plan will "improve the overall governance and management of our [the City's] information resources" and "The initial stages of the plan focuses on improvements to information governance, including improvements to the City's records management program and information management. Policies, practices and By-laws will be updated to set the foundation for information management at the City as well as comply with legislative / regulatory requirements. A training program for all staff outlining their responsibilities and how to manage and search records will be developed and implemented." The justification section of the Potential Adjustment Description and Justification refers to a September 2013 recommendation by the City's Integrity Commissioner regarding the RIM Program<sup>17</sup> and included in the Corporate Service's Department Business Plan since 2015.

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<sup>17</sup> The Final Report re Investigation Related to Report AG-13-09 recommended "That Council consider clarifying its definition of "records" in its Records Retention By-law to address security and accessibility with respect to e-mails and other electronic records of the corporation" (page 52).

City Clerk Services proposed a full-time position to “ensure the plan is implemented and maintained.” The Potential Adjustment Description and Justification anticipates that the position would not be filled until the 2<sup>nd</sup> quarter of 2020.

#### **5.3.4 Aspirational RIM Program Responsibilities**

A review of the City Clerk and Deputy City Clerk position descriptions as they relate to RIM reveals that some RIM responsibilities in those descriptions are aspirational, i.e. reflecting work the City hopes will be undertaken rather than work that occurs today. Those aspirational responsibilities are summarized in Figure 5.

Note:

1. The June 16, 2016 City Clerk position description pre-dates the December 6, 2018 position description for the re-established Deputy City Clerk position; therefore, some RIM Program responsibilities overlap between the positions.

**Figure 5 – Aspirational RIM Responsibilities: City Clerk and Deputy City Clerk Positions<sup>18</sup>**

Position	Aspirational Responsibility	Ergo Comments
<b>City Clerk</b>	<ul style="list-style-type: none"> <li>Custodian of all City official records and archives</li> </ul>	<ul style="list-style-type: none"> <li>RIM Program is only the custodian of inactive paper records (i.e. records kept on- or off-site in 'Records Retention')</li> <li>Departments / branches are the custodians of active paper records</li> <li>Departments / branches are also the custodians of all electronic records (including e-mails) that they create / receive unless paper copies of those records are printed for storage in 'Records Retention'</li> </ul>
	<ul style="list-style-type: none"> <li>Responsible for the management, custody, and maintenance of the City's records and archives</li> <li>Direct and oversee the Corporate Records Management and Archives Program and provide consultative services</li> <li>Ensure preservation of records of enduring value</li> <li>Maintain corporate Library and archives</li> </ul>	<ul style="list-style-type: none"> <li>City does not have an Archives Program</li> <li>We found no evidence of a corporate library</li> </ul>
	<ul style="list-style-type: none"> <li>Manage corporate records throughout the lifecycle of creation, maintenance, use, and disposition regardless of format in a manner that supports work processes, information preservation, and information retrieval</li> </ul>	<ul style="list-style-type: none"> <li>Current RIM Program services focus almost exclusively on the management of paper records</li> </ul>
	<ul style="list-style-type: none"> <li>Ensure compilation and maintenance of inventories, classification system, index<sup>19</sup> and retention schedules</li> </ul>	<ul style="list-style-type: none"> <li>RIM Program does not inventory records</li> <li>RIM Program has not developed a (Records) Classification System</li> </ul>

<sup>18</sup> Information in the 'Aspirational Responsibility' column is from the position description for the City Clerk position and the position description for the Deputy City Clerk position.

<sup>19</sup> Ergo is uncertain what 'index' is being referenced here.

Position	Aspirational Responsibility	Ergo Comments
	<ul style="list-style-type: none"> <li>Develop and maintain a Vital Records Program and disaster recovery plan</li> </ul>	<ul style="list-style-type: none"> <li>A Vital Records Program does not exist</li> <li>A Disaster Recovery Plan (for records) has not been developed</li> </ul>
<b>Deputy City Clerk</b>	<ul style="list-style-type: none"> <li>Manage corporate records management and archives program throughout the lifecycle of creation, maintenance, use, and disposition regardless of format in a manner that supports work processes, information preservation and information retrieval</li> <li>Ensure preservation of records of enduring value</li> </ul>	<ul style="list-style-type: none"> <li>City does not have an Archives Program</li> <li>Current RIM Program services focus almost exclusively on the management of paper records</li> </ul>
	<ul style="list-style-type: none"> <li>Ensure compilation of records inventories, classification system, index<sup>20</sup>, and retention schedules are in place and maintained</li> </ul>	<ul style="list-style-type: none"> <li>RIM Program does not inventory records</li> <li>RIM Program has not developed a (Records) Classification System</li> </ul>
	<ul style="list-style-type: none"> <li>Manage and oversee a Vital Records Program and disaster recovery plan</li> </ul>	<ul style="list-style-type: none"> <li>A Vital Records Program does not exist</li> <li>A Disaster Recovery Plan (for records) has not been developed</li> </ul>

While the fall 2015 establishment of a second Records and Information Analyst position was a welcome addition to the RIM Program staff complement, a combination of several factors have prevented the Analysts from performing all of their assigned responsibilities over the past four years. Those factors are:

- a) The high volume of FOI requests the Analysts were responsible for processing from 2015 - April 2019, many of which were for a high volume of records and some of which resulted in IPC appeals. It is often time-consuming to prepare a response to an IPC appeal.

<sup>20</sup> RIM Program staff advised that 'index' refers to the Records Retention Schedule which is Schedule A of the Records Retention By-law; therefore, the reference to 'retention schedules' in this responsibility statement is redundant.

- b) Filling in for the Administrative Assistant in City Clerk Services<sup>21</sup> when that employee is on lunch or absent (vacation or any other absence) and, since May 2019, assisting the Information, Access and Privacy Officer to process FOI requests. RIM Program staff estimate that these two tasks occupy 1/3 of the work year for one Records and Information Analyst.
- c) The Records and Information Analysts back up each other during vacations and other absences and also back up the Information, Access and Privacy Officer during vacations and other absences.
- d) Gapping between the departure of an Analyst in summer 2018 and the hiring of a replacement Analyst in January 2019 with the new Analyst requiring time to get up to speed in the position.
- e) The redirection of a significant amount of Analyst time to election duties during a municipal election year. During the last municipal election (2018), one Analyst spent ½ of each workday on election duties from January to the October election date and most of the rest of each workday during that period on FOI requests and IPC appeals. The Analyst also completed some election duties (e.g. tabulator testing) in the evening on an overtime basis.

Until the Information, Access and Privacy Officer was hired in May 2019, much of the Analysts' time was focused on FOI requests processing and IPC appeals and their availability to perform RIM tasks was largely confined to inactive records management (generating annual file folder labels for departments / branches, managing the storage and retrieval of inactive records from on- and off-site Records Retention, and the annual destruction of paper records from Records Retention) and providing Versatile training (one-on-one training) to new Branch Records Representatives and employees who have been granted search only access to Versatile.

A review of the Information, Access and Privacy Officer position description and the Records and Information Analyst position description also reveals some aspirational responsibilities as summarized in Figure 6.

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<sup>21</sup> Filling in for the Administrative Assistant has been a responsibility of the Records and Information Analyst position for several years; however, it is not included in the current Records and Information Analyst position description.

Note:

1. There are inconsistencies and (potential) overlap between the access to information and privacy responsibilities in the July 27, 2015 Records and Information Analyst position description and the December 6, 2018 Information, Access and Privacy Officer position description; therefore, Figure 6 identifies only the access to information and privacy responsibilities which we believe the Analyst position was not executing prior to the establishment of the Officer position.
2. The City's first Information, Access and Privacy Officer was hired in May 2019 so work had not yet begun on some aspects of the City's Information Access and Privacy Program as of the writing of this report.
3. The existing MFIPPA Policy and Procedure states the FOI Coordinator (the duties of that position were transferred to the new Information, Access and Privacy Officer position) is responsible for "collecting the necessary information for the General Classes of Records and Personal Information Bank indexes." (page 2) The position description for the Information, Access and Privacy Officer position does not mention those indexes.

**Figure 6 – Aspirational RIM Responsibilities<sup>22</sup>**

Position	Aspirational Responsibility	Ergo Comments
<b>Information, Access and Privacy Officer</b>	<ul style="list-style-type: none"><li>• Leads privacy impact assessments and privacy audits related to Departmental or Branch programs, procedures and systems, among other things</li></ul>	<ul style="list-style-type: none"><li>• Only one privacy impact assessment has been completed (in 2015 for HonkMobile)</li><li>• Privacy impact assessments are not required by the existing MFIPPA Policy and Procedure</li><li>• No privacy audits have been completed to date</li></ul>
	<ul style="list-style-type: none"><li>• Leads initiatives which enhance routine access to information and records retained by the City, where no privacy or confidentiality considerations are present (e.g. City's FOI</li></ul>	<ul style="list-style-type: none"><li>• City Clerk Services is striving to implement routine access (disclosure) and the existing MFIPPA Policy and Procedure differentiates between Request (Formal) and Request</li></ul>

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<sup>22</sup> Information in the 'Aspirational Responsibility' column is from the position description for the Information, Access and Privacy Officer position and the position description for the Records and Information Analyst.

Position	Aspirational Responsibility	Ergo Comments
	activities web page), working closely with senior staff in various City branches	(Informal); however, a formal Routine Access Program has not yet been developed or implemented
	<ul style="list-style-type: none"> <li>Leads internal training, communications, and public educational initiatives related to information access and privacy and best practice records management</li> </ul>	<ul style="list-style-type: none"> <li>We did not receive for review any internal, training, communications, or documentation pertaining to public educational initiatives related to information access and privacy or best practice records management</li> </ul>
<b>Records and Information Analyst</b>	<ul style="list-style-type: none"> <li>Co-ordinates the City's Forms Program, ensuring that corporate forms support the efficient delivery of City services</li> <li>Assists in the development and implementation of policies, procedures, and standards to support the City's Forms Program</li> <li>Provides guidance and training to City staff on established standards and procedures governing the corporate Forms Program</li> <li>Collaborates with City staff to develop and author forms which support business activities while complying with applicable legislation and corporate standards</li> <li>Maintains an accurate inventory of forms utilized throughout the organization</li> </ul>	<ul style="list-style-type: none"> <li>The Forms Program includes paper forms (i.e. forms to be completed by hand) and electronic forms (i.e. forms to be completed electronically such as a form on the City's website)</li> <li>The renaming of the Forms Committee as the Online Forms Committee is misleading, causing one to think that the committee's mandate includes only forms used online (i.e. on the City's website or its intranet)</li> <li>The Forms Standards and Forms Procedures date from 1997 (except for the revised form numbering codes issued in June 2000); therefore, both documents pre-date the requirements of the Accessibility for Ontarians with Disabilities Act, 2005</li> <li>We found no evidence of Forms Program training for City employees</li> </ul>
	<ul style="list-style-type: none"> <li>Maintains, in collaboration with City staff, the City's Index of Personal Information Banks</li> </ul>	<ul style="list-style-type: none"> <li>The rudimentary, partial, and likely out of date index of forms is not publicly available and does not satisfy the legislated requirements of a Personal Information Bank Index</li> </ul>
	<ul style="list-style-type: none"> <li>Conducts privacy audits on existing Departmental or Branch systems, programs and</li> </ul>	<ul style="list-style-type: none"> <li>No privacy audits have been completed to date</li> </ul>

Position	Aspirational Responsibility	Ergo Comments
	procedures to identify risks and enhance the security of personal information	
<b>Records and Information Analyst</b>	<ul style="list-style-type: none"> <li>Assists in the development of corporate standards, policies, and processes supporting the City's Access and Privacy Program</li> </ul>	<ul style="list-style-type: none"> <li>The Information, Access and Privacy Officer will participate in preparing the revised draft MFIPPA Policy to be presented to Council in 2020</li> </ul>
	<ul style="list-style-type: none"> <li>Conducts privacy impact assessments on new or modified Department or Branch programs and procedures</li> </ul>	<ul style="list-style-type: none"> <li>Only one privacy impact assessment has been completed (in 2015 for HonkMobile)</li> <li>Privacy impact assessments are not required by the existing MFIPPA Policy and Procedure</li> </ul>
	<ul style="list-style-type: none"> <li>Leads or participates in RIM projects to develop and implement business and technical strategies to improve information management processes and to meet legislative and corporate requirements</li> <li>Gathers and reviews business requirements, and assists in integrating business requirements into RIM projects and systems to meet corporate RIM policies and standards</li> <li>Plans, organizes, and carries out projects including estimating and planning of specific tasks and provides direction, guidance and RIM support to staff, ensuring tasks are assigned reasonable deadlines, and ensuring adherence to defined schedules</li> </ul>	<ul style="list-style-type: none"> <li>With the exception of both Analysts being members of the I&amp;RM Strategic Plan Project Committee, we found no evidence of these types of projects having been completed in the past</li> </ul>
	<ul style="list-style-type: none"> <li>Supports corporate RIM activities by acquiring in-depth knowledge of unique information databases and systems (including legacy systems) in collaboration with ITS staff to support ongoing maintenance and long-term migration strategies</li> </ul>	<ul style="list-style-type: none"> <li>We found no evidence of this knowledge having been acquired</li> <li>We found no evidence of long-term migration strategies for structured data</li> </ul>



Position	Aspirational Responsibility	Ergo Comments
<b>Records and Information Analyst</b>	<ul style="list-style-type: none"> <li>Monitors and directs the work of students and other part-time project personnel, as required</li> </ul>	<ul style="list-style-type: none"> <li>The City has augmented its RIM Program staff complement in the past by engaging interns or co-op students (from Durham College and Sir Sanford Fleming College)</li> </ul>
	<ul style="list-style-type: none"> <li>Conducts audits of Departmental / Branch RIM programs, and reviews and evaluates audit results with the Manager, Records and Information Systems, Departmental / Branch management, Departmental / Branch Records Representatives, and other staff as appropriate</li> </ul>	<ul style="list-style-type: none"> <li>We found no evidence of audits of all of the I&amp;RM practices in a department / branch having been completed; however, reviews have been completed in which lists of files in Versatile were compared to the files in a department / branch to identify files that should be transferred to Records Retention or which should be destroyed because their retention periods had been completed (such audits were completed for Fire Services in 2013 and Community Services in 2016)</li> </ul>
	<ul style="list-style-type: none"> <li>Identifies issues with information collection, storage, organization, protection, retrieval, use, and disposition, reports on findings where they affect corporate RIM policies, and makes recommendations where appropriate</li> </ul>	<ul style="list-style-type: none"> <li>As of the writing of this report, the Records Retention Schedule is the only approved corporate RIM policy at the City</li> </ul>
	<ul style="list-style-type: none"> <li>Conducts in-depth analysis of business functions / activities to support the establishment of new record series, defining records ownership, archival, vital and personal bank status, and retention and disposition values</li> </ul>	<ul style="list-style-type: none"> <li>City does not have an Archives Program</li> <li>A Vital Records Program does not exist</li> <li>City does not have a Personal Information Bank Index as defined in MFIPPA (the rudimentary, partial, and likely out of date index of forms is not publicly available and does not satisfy the legislated requirements of a Personal Information Bank Index)</li> </ul>
	<ul style="list-style-type: none"> <li>Reviews and analyzes existing business and document processes and designs and recommends improvements to streamline</li> </ul>	<ul style="list-style-type: none"> <li>A review of the folders in a network drive in Community Services was completed and a</li> </ul>

Position	Aspirational Responsibility	Ergo Comments
	operations and create efficiencies in record and information handling practices	folder structure was established to ensure electronic records would be saved correctly
	<ul style="list-style-type: none"> <li>Conducts research on new legislation affecting recordkeeping activities associated with City functions, consults with management and other key staff to develop strategies to maintain legislative compliance, and assists in the implementation of best practices</li> </ul>	<ul style="list-style-type: none"> <li>We found no evidence of this activity</li> </ul>
<b>Records and Information Analyst</b>	<ul style="list-style-type: none"> <li>Co-ordinates activities related to RIM performance measures, and compiles and interprets data as directed to evaluate compliance with corporate RIM standards</li> </ul>	<ul style="list-style-type: none"> <li>We found no evidence of RIM performance measures</li> <li>We found no evidence of corporate RIM standards</li> </ul>
	<ul style="list-style-type: none"> <li>Assesses all City records, including those of archival value and of highly confidential, personal, and client-privileged nature, identifies records of archival value for transfer to the City Archives, and identifies vital records necessary to support business continuity or disaster recovery initiatives</li> </ul>	<ul style="list-style-type: none"> <li>City does not have an Archives Program or City Archives</li> <li>A Vital Records Program does not exist</li> </ul>
	<ul style="list-style-type: none"> <li>Prepares reports and presentations, and analyzes options and impacts, including statistical summaries where available, to assist with decision-making</li> </ul>	<ul style="list-style-type: none"> <li>We found no evidence of this activity</li> </ul>
	<ul style="list-style-type: none"> <li>Designs, develops, and implements manual and automated RIM systems that comply with corporate policies and standards</li> <li>Sets up and leads pilot projects to develop, test, and evaluate system functionality, consults with end users and develops user acceptance criteria; co-ordinates and conducts testing of</li> </ul>	<ul style="list-style-type: none"> <li>We found no evidence of this activity</li> </ul>

Position	Aspirational Responsibility	Ergo Comments
	RIM functionality for Department / Branch sign off	

## 5.4 RIM Program Services

According to Corporate Services Committee Report CORP-14-63 (page 1), “The City's Corporate Records Management Program functions to manage corporate information in an accessible, accurate and cost-effective manner”. Corporate Services Committee Report CORP-13-146-CM describes the RIM Program as follows (pages 3-4):

“In accordance with Section 254 of the *Municipal Act, 2001* the City's records management program was developed to ensure records are maintained in a secure and accessible manner by governing the creation, use and disposition of records created and received in the course of City business. The main purposes of the City's records management program are as follows:

- To effectively efficiently manage information created and received by the organization in the course of business;
- To facilitate the efficient storage and retrieval of information in support of an effective and cost-efficient workforce;
- To ensure compliance with legislation and other legal requirements;
- To protect the organization's legal rights and financial interests; and,
- To preserve institutional knowledge and information of significance to the organization and broader community.”

It is understood that the ‘organization’ referenced above means City departments / branches; however, it is not clear whether ‘organization’ also includes any City agencies, boards, commissions, or related entities. RIM Program staff identified the Oshawa Senior Community Centres (OSCC) as one entity for which clarity is required regarding RIM responsibility. OSCC is a not-for-profit charitable organization which receives funding from a variety of sources including an annual grant voted by Council. The OSCC also uses some City services (IT, payroll, and purchasing). While it does not use RIM Program services directly, RIM Program staff are aware that some OSCC records are kept by City departments / branches (e.g. employee records with HR and membership records with Recreation and Culture). The City recently received two FOI requests for OSCC records.

When asked to describe the current role of the RIM Program, RIM Program employees said that the RIM Program manages corporate records and information, and they enumerated the following list of services:

- Provide, upon request, guidance and advice to assist departments / branches to manage records.

- Administer Versatile, including the provision of training for Branch Records Representative and employees who are granted search only Versatile access.
- Generate annual file folder labels for departments / branches from Versatile.
- Manage the City's inactive paper records (i.e. the storage, retrieval, and destruction of inactive paper records in on- and off-site Records Retention).
- Update the Records Retention Schedule in response to department / branch requests and secure Council approval.
- Manage the City's Forms Program for forms on the public website.
- Manage the City's MFIPPA Program, particularly the processing of FOI requests, the release of video surveillance to police agencies, and preparing responses to IPC appeals.
- Manage the City's Privacy Program, including the investigation of privacy complaints and any privacy breaches.

RIM Program staff would like to be more involved in assisting departments / branches to manage electronic records, ideally by providing an enterprise content management (ECM) system or similar technology. Alternatively, they could assist departments / branches to set-up and better manage network drives (particularly shared drives) by establishing folder structures and naming conventions, providing instruction on the application of the Records Retention Schedule, etc. and they could assist employees to better manage e-mails. Because an ever-increasing volume of the City's records are born digital, improvements in managing electronic records would result in better organized records, the timely destruction of valueless records, and greater facility in responding to FOI requests which would, hopefully, lead to a reduction in IPC appeals.

RIM Program staff have rarely been invited to sit on the Project Committee (or similar committee) for the implementation of any new or upgraded IT system or for a corporate initiative involving or affecting the City's records (e.g. the Intranet Redevelopment Project). As of the writing of this report, the Interim City Clerk's request for the Information, Access and Privacy Officer be added to the CityView Project Committee had not been acted on.

Due to the staffing challenges described earlier in this report, the Records and Information Analysts rarely have time to conduct records improvement projects in departments / branches. One notable records improvement project occurred a couple of years ago when a Records and Information Analyst spent a considerable amount of time at Strategic and Business Services to assist in organizing paper records (including entering files into Versatile) and e-mail accounts shortly after the Consolidated Operations Depot opened. That project also included the delivery of Versatile training.

RIM Program services are provided to departments / branches free of charge (i.e. there are no internal chargebacks).

## **5.5 RIM Policy, Procedures, Guides, and Forms**

This section describes the City's current RIM policies, procedures, guides, and forms with the following exception: See Section 6.8 for the Records Retention By-law and the Records Retention Schedule.

### **5.5.1 RIM Policies**

This sub-section discusses RIM Policy, the City's Municipal Freedom of Information and Protection of Privacy Policy and Procedure, and two draft policies (Corporate Archives Policy and Litigation Hold Policy).

#### **RIM Policy**

Unlike other municipalities with which we have worked, the City does not have a policy (typically called a RIM Policy) to govern the management of its information and records assets. A RIM Policy typically describes the objectives, purpose, and scope of a RIM Program, prescribes corporate (i.e. RIM Program) versus department / branch accountabilities for the lifecycle management of records, and assigns RIM responsibilities to different levels of staff (e.g. Commissioners, middle management, employees, RIM Liaisons or Departmental Representatives, etc.). A RIM Policy also typically defines key terms such as 'record' and 'transitory record'. In the absence of a RIM Policy, understanding of these matters at the City is non-existent or unclear and open to interpretation. Further, the City lacks the necessary management-approved framework to communicate and enforce clear roles and specific responsibilities for managing records.

#### **Municipal Freedom of Information and Protection of Privacy Policy and Procedure**

The City has a 1997 Council-approved Municipal Freedom of Information and Protection of Privacy Policy and Procedure. In addition to providing a high-level overview of the four sections of the Act (MFIPPA) and describing the Act's purposes (i.e. to provide a right of access to information under the City's control and both protect the privacy right of individuals with respect to their personal information in the City's control and provide them with a right of access to that information), the MFIPPA Policy and Procedure also assigns responsibilities to the Head (City Clerk), FOI Co-ordinator (now the Information, Access and Privacy Officer), City Solicitor, FOI Department Representatives, and all other City employees. The MFIPPA Policy and Procedure also:

- a) Describes offences and liability under the Act
- b) Describes the access procedures (fourteen steps)
- c) Describes the role of the FOI Committee for ensuring “compliance with the Act” and for ensuring “the requirements of the Act are supported by the entire organization.” (page 17) The Committee is also responsible for providing an “up-to-date inventory of record and personal information collections” and “a coordinated system of dealing with requests for information” (page 17). According to the MFIPPA Policy and Procedure, the FOI Committee is to “meet quarterly to review precedents, issues, legislation amendments, and applications of Sections 6 to 16 [of the Act]” and “discuss specific applications for records, as required.” (page 17) We are not aware whether the FOI Committee was formed and we found no evidence that any such committee had met in the recent past.

Appendices provide a delegation of responsibilities matrix (Appendix A), fee schedule (Appendix F), template for notice of fee estimate (Appendix G), template for notice of time extension (Appendix H), template for index of records (Appendix J), and a description of mandatory and discretionary exemptions under the Act (Appendix I). The version of the MFIPPA Policy and Procedure that we reviewed is incomplete given that it does not include Appendices B through E; however, RIM Program staff advised the following:

- Appendix B (as noted on page 7 of the policy) would have been a copy of the Act.
- Appendix C (as noted on page 7 of the policy) would have been an older version of the FOI Request Form used today.
- Appendix D (as noted on page 8 of the policy) would have been a manual branch tracking form, the precursor to the Access database tracking form used today.
- Appendix E (as noted on page 8) would have been a transmittal form of some sort.

The MFIPPA Policy and Procedure does not address frivolous requests and, because it was written in the late 1990’s, it does not address newer technologies in which City records may reside such as instant messages and social media content. The Policy and Procedure does not address privacy in terms of the collection of personal information, use and disclosure of personal information, retention of personal information, right of access to and correction of personal information, personal information banks, privacy audits, privacy impact assessments (PIAs), or privacy breach management.

Note: City Clerk Services anticipates seeking Council approval for a new MFIPPA Policy in 2020.

### Corporate Archives Policy

The City drafted a Corporate Archives Policy in 2016. Because the policy has not been approved and resources have not been allocated to implementing a Corporate Archives Program (as a component of the RIM Program), the policy must be viewed as aspirational, setting out the goal to expand the RIM Program in the future to better manage the City's archival records.

The Corporate Archives Policy describes the mandate and scope of the proposed City of Oshawa Archives as follows (page 1):

- Mandate: "The City of Oshawa Archives exists as a component of the Corporate Records Management program and documents the activities and development of the City of Oshawa from its incorporation to present day. The program exists to identify, preserve, and make available records possessing enduring historical and/or cultural value to the City of Oshawa."
- Scope: "The City of Oshawa Archives is solely concerned with archival material belonging to the Corporation of the City of Oshawa, regardless of physical medium or form, from its incorporation to present day. This includes records received, created, and/or used by staff and members of Council in the course of performing their assigned duties. Currently, the City of Oshawa does not intend to receive contributions of archival material from the general public. Individuals or organizations wishing to donate materials to the City of Oshawa will be directed to an appropriate community partner."

It also sets out eight goals for the Corporate Archives Program (page 1):

1. Seamlessly integrate the Archives Program into the existing Corporate Records Management Program;
2. Identify and appraise records of current and potential archival value based on the Records Retention Schedule;
3. Arrange, describe, and preserve these materials according to archival best practices;
4. Ensure that the collection of and access to personal information is in accordance with the Municipal Freedom of Information and Protection of Privacy Act.;
5. Provide continuity and protection in the event of a disaster;
6. Ensure that archival functions are incorporated into existing and future technology applications and that policies address issues surrounding technological obsolescence;



7. Create an understanding amongst City employees of what constitutes an archival record; and,
8. Provide access and reference services to the public, unless restricted by legal or privacy requirements, and promote the archives through outreach activities.

The recordkeeping and archival principles upon which the Archives Program will be based are described as follows (page 2): “The program aims to take a holistic, proactive approach and integrate records management and archival activities. Involving archival appraisal at the beginning of or prior to records creation will better ensure the authenticity and long-term accessibility of these significant documents, particularly with respect to electronic records. The City of Oshawa archives will follow internationally accepted archival standards for the arrangement, description, care and conservation of archival records.”

The Corporate Archives Policy assigns responsibilities to both RIM Program staff and Departmental Records Liaisons<sup>23</sup> as follows (page 2):

- a) RIM Program staff are responsible for:
  - Developing, coordinating, and operating the Archives Program;
  - Ensuring a seamless transfer of records from their active to inactive stage;
  - The appraisal, arrangement, description, care and conservation of archival records;
  - Educating staff on what constitutes an archival record and raising awareness of the collection through outreach efforts;
  - Arranging access to archival records and providing reference services, while maintaining compliance with the Municipal Freedom of Information and Protection of Privacy Act; and,
  - Monitoring and evaluating performance of the archives component of the records management program.
- b) The Departmental Records Liaison is responsible for:
  - Sharing aspects of the City’s Archives Program with departmental staff;
  - Working with RIM Program staff to ensure departmental records are maintained and transferred in accordance with the program; and,
  - Notifying RIM Program staff of any changes to records creation or use within the department.

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<sup>23</sup> ‘Departmental Record Liaison’ is not defined in the policy or in any other documentation we reviewed.

It is curious that the policy does not define 'archival record' or 'enduring value'; however, the policy states that records of archival value will be identified in the Records Retention Schedule.

### Litigation Hold Policy

This policy was prepared by a Records and Information Analyst with input from the previous City Solicitor. The policy (and the Preservation Notice Template attached thereto) is intended to be used to identify, gather, and preserve the data, information, or records (the policy uses the term 'discoverable material relevant to a claim or defense') to be put on hold (i.e. approved retention and destruction of the discoverable material is to be suspended) due to foreseeable or pending litigation. We note that some organizations approach holds of this type more broadly, including not only litigation but also governmental investigation, quasi-judicial hearings (e.g. a human rights complaint), audits, and FOI requests (particularly wide-ranging FOI requests)<sup>24</sup>.

The policy states that Legal Services is to be notified when a potential claim is identified; however, the policy does not state whose responsibility it is to notify Legal Services. The policy does not assign any responsibility to Legal Services for identifying a potential claim.

Legal Services is responsible for determining whether a litigation hold should be implemented. The policy provides the following examples of triggers for a litigation hold: the filing of a lawsuit, an expression of intent or threats to sue, or the occurrence of an event (or a series of events) that may result in legal action.

The policy describes the following litigation hold process:

- a) Identify the scope of the discoverable material relevant to the claim or defense that is to be preserved. The scope of what is to be collected is to be established prior to contacting the departments / branches.
- b) Issue a Preservation Notice (Attachment 1 to the policy) to the branch(es) that keep the records and to RIM staff. The sources of the discoverable material must be identified prior to preparing the Preservation Notice (e.g. file cabinets in common areas and offices, e-mails, documents saved on one's computer, and files in 'Records Retention'). Custodians of the discoverable material must also be identified and responsibility for preserving the discoverable material needs to be assigned.

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<sup>24</sup> These organizations typically refer to the hold as a 'destruction hold' or a 'preservation order' to indicate that the hold may be for a purpose other than litigation or a legal matter.

- c) After the relevant records are collected, inventory, index, and secure the records in a locked space accessible only to those individuals with direct involvement in the litigation. This responsibility is assigned to RIM Program staff.
- d) Conduct regular updates to the hold. This responsibility is assigned to Legal Services.
- e) Once a hold has been lifted (rescinded), return the records to their original location. At this time, the approved retention period for the records will resume. Unlike some other organizations with which we have worked, the City's Litigation Hold Policy does not require the issuance of a written notice to lift the hold. It is best practice to issue such a notice to have a complete audit trail of a litigation hold.

When placing a litigation hold, the Preservation Notice Template is completed to describe the claim, describe the relevant records, and instruct the recipient on the record formats / locations to be searched for records "in any way related to the issues" in the statement of claim. The recipient is also asked to review each paragraph in the statement of claim (provided with the Preservation Notice) and provide, by a specified deadline, written comments respecting each paragraph (i.e. whether the recipient agrees with the statement, has no knowledge of the statement, or denies the statement (including the reason for denying it)). We note that the Preservation Notice Template addresses the placing of a hold following receipt of a statement of claim (i.e. the filing of a lawsuit). The City should either revise the Preservation Notice to account for anticipated, foreseeable, or threatened litigation or create a second Preservation Notice Template for those circumstances.

Although the Litigation Hold Policy hasn't been approved, RIM staff have used it (and the Preservation Notice Template).

### **5.5.2 RIM Program Procedures, Guides, and Forms**

A draft Corporate Records Management Program Manual was prepared in 2008. Because the manual remains in draft form after more than 10 years and its content may not reflect current practice, we felt it was inappropriate to comment on or assess the information in the manual.

Unlike other municipalities with which we have worked, the City has relatively few RIM procedures, guides, and forms which do not pertain to FOI or privacy. As shown in Figure 7, the existing RIM procedures and guides pertain to e-mail management, FOI requests, privacy breaches, staff departure, the transfer of records to 'Records Retention', and using Versatile.

**Figure 7 - RIM Program Procedures, Guides, and Forms**

Procedure Name	Description
Application for Access / Correction to Records	<p>Form to be completed by an individual who is requesting access to general records, access to own personal information, or correction of own personal information. The form captures the requester's contact information and a description of the request. A requester is also asked to specify the format in which s/he would like to receive general records or own personal information (i.e. paper, CD-ROM, or USB).</p> <p>Requester is required to submit a completed form (and the \$5.00 application fee) to Service Oshawa for collection and processing by the Information, Access and Privacy Officer.</p>
Creating a File	Procedure for creating a file in Versatile
E-mail Management Guidelines for City Staff <sup>25</sup>	Six-page guideline intended to assist staff in understanding their responsibilities for managing e-mail and to provide best practices with respect to e-mail records. The guideline discusses the difference between e-mail records that should be kept and transitory e-mail records (i.e. e-mails that only need to be kept for immediate information purposes), how long e-mail records should be kept, and where e-mail records should be kept. It also provides best practices for effective e-mail use and FAQs.
FOI Branch Request	<p>Form is issued by the Information, Access and Privacy Officer to inform a branch of an access request. It is also used by a Department Representative to document the search time, page volume, and computer program development time required to respond to the request. A Department Representative is required to return the completed form and all requested materials (in PDF format) to the Information, Access and Privacy Officer by the deadline stated on the form.</p> <p>Note: If a records search will result in a search time of greater than three hours or 200+ pages, the Department Representative is required to calculate an estimate (search time, page volume, and computer program development time) and return the form to the Information, Access and Privacy</p>

<sup>25</sup> It does not appear that these guidelines were distributed to City staff.

Procedure Name	Description
	Officer. The Officer will compile all estimated fees and notify the Representative whether to continue with the search or put it on hold until further notice.
Law Enforcement Request for Video Surveillance Footage	<p>Form to be completed by a law enforcement agency seeking disclosure of video surveillance footage captured by the City in accordance with MFIPPA. The form captures the requester's contact information, a description of the request, and additional specifications (i.e. number of copies and preferred format, whether DVD or original file format).</p> <p>Requester is required to submit a completed form to Service Oshawa for collection and processing by the Information, Access and Privacy Officer.</p>
MFIPPA Access Procedure	<p>Access procedures are included in the Municipal Freedom of Information and Protection of Privacy Policy and Procedure. The fourteen steps in the access procedures are:</p> <ul style="list-style-type: none"> <li>• Step 1 Receipt of Request</li> <li>• Step 2 Is the request complete?</li> <li>• Step 3 Request Assessment</li> <li>• Step 4 Custody and Control</li> <li>• Step 5 Fee Estimate</li> <li>• Step 6 Time Extension</li> <li>• Step 7 Preliminary Decision</li> <li>• Step 8 Method of Access</li> <li>• Step 9 Decision Review</li> <li>• Step 10 Third Party Involvement</li> <li>• Step 11 Notice of Decision</li> <li>• Step 12 Notice of Appeal</li> <li>• Step 13 Confirmation of Appeal</li> <li>• Step 14 Order</li> </ul>

Procedure Name	Description
Preparing Files for Transfer to Corporate Retention	<p>Procedures for packing files to be transferred to Records Retention. Includes Versatile screen shots to instruct the reader in generating a list of files to be transferred, including files to be added to a partially full box already in Records Retention which has the same destruction date as the files being transferred.</p> <p>Note: Unlike other RIM Programs with which we are familiar, a department / branch is not required to complete a Records Transfer Form for each records shipment. RIM Program staff also report that boxes without any department / branch identifier are sometimes delivered to City Clerk Services with the expectation that RIM Program staff will process the records for Records Retention. There is very limited space in City Clerk Services to store those shipments or previously arranged shipments of records for review prior to their acceptance into Records Retention. RIM Program staff constraints have also sometimes required the deferral of shipments, meaning that they must remain in departments / branches until an Analyst is available to accept and review them.</p>
Privacy Breach Protocol <sup>26</sup>	<p>Protocol outlining the steps to be followed when an alleged privacy breach is reported. The steps are: identify and alert, contain, notify, investigate, and report and follow-up.</p>
Request a File or Box Pickup	<p>Procedure for requesting the pickup (retrieval) of a file or box from 'Records Retention'. The Records and Information Analysts process the requests, either retrieving the requested record from on-site storage or arranging for the requested record to be retrieved from off-site storage.</p> <p>Note: If a requested file is stored off-site, an Analyst will have the warehouse retrieve the box in which the file is kept. The Analyst will remove the requested file from the box and the requested file will be delivered to the requester. The Analyst will return the box to the warehouse because the RIM Program does not have a space in which to store such boxes pending the return of borrowed files. If/when the file is returned, an Analyst will have the warehouse retrieve the box again and the Analyst will refile the file. The Analyst will then have the box returned to the warehouse.</p>

<sup>26</sup> The protocol was presented at a June 16, 2014 Corporate Services Committee meeting with the recommendation that it be presented to Council for approval. Council approved the protocol on June 23, 2014.

Procedure Name	Description
	<p>If a requested file is stored on-site, an Analyst will retrieve the file from the box in which it is stored and have the requested file delivered to the requester. The box will remain in its storage location in Records Retention Room # 1 or Room # 2. If/when the file is returned, an Analyst will refile the file.</p>
<p>Staff Departure Procedure (Records)</p>	<p>Prepared with input from the previous City Solicitor, this procedure is intended to “establish a formal process that ensures that records and other information created or received by the City’s former employees is reviewed, retained and accessible in accordance with the City’s records retention and legislative obligations. The procedure . . . shall be employed after the departure of each officer, employee, elected official or volunteer employed by, or performing services on behalf of the organization.” (page 1) The procedure applies to paper records and to electronically storage information and records in the employee’s account (i.e. “the personal drive (F:), email (oshawa.ca) account, or other computer/system accounts provided to the individual as a result of their employment with the City, including computers and other electronic devices.”) (page 1)</p> <p>RIM staff are available to assist Managers with the records reviews; however, because the procedure has not been approved, because RIM staff do not receive a copy of the Staff Change Checklists submitted to ITS, and because ITS does not inform RIM staff of employee departures, RIM staff do not know when an employee has left the organization. RIM staff have used the procedure in response to a Manager’s request for assistance and the procedure was used to assist the outgoing Councillors after the 2018 election.</p> <p>Note: It is unknown whether the Manager, Records and Information Systems circulated this procedure to Managers. The procedure was not referenced by any Manager who attended the focus groups.</p>
<p>Versatile User Guide - Records Rep</p>	<p>Thirty-five-page guide containing the same information as in the Versatile User Guide - Search listed below plus the following additional information: procedure for creating a file (same procedure</p>

Procedure Name	Description
	as the Creating a File procedure listed above) and creating file folder labels, either manually or automatically when a file is created.
Versatile User Guide - Search	Twenty-eight page guide that describes how to search for records in Versatile using quick search (search in files and boxes simultaneously and get a quick overview of the records in the database), global search (search in files and boxes simultaneously and add additional search criteria such as keywords and the status of the records (i.e. active files or inactive files)), or searching for a file or box directly. Search tips are also provided. The guide also includes the procedure for requesting the pickup (retrieval) of a file identified in a global search, checking out from the files or box search screen, generating a Branch File Plan report (a list of all record series currently used by a department), generating non-department specific reports (e.g. Boxing Files by Destruction Date Report which lists retrieved files with their destruction dates), generating box reports such as Box Report with Record Series (list of retrieved boxes sorted by record series), and printing or saving a report or sending a report by e-mail. The guide also includes the Request a File or Box Pickup procedure listed above.

Focus group participants were encouraged to provide us with a copy of any formal RIM procedures or processes developed by departments / branches. We received from HR a copy of the folder structure to be used on the H: drive for each recruitment file and we received from Purchasing Services a list of the documents to be filed in each section of a green contract file (paper files). Some focus group participants noted that their department / branch had developed procedures or processes (e.g. naming conventions for selected or all records, references to filing records contained in procedures for specific work tasks, etc.); however, they did not provide us with copies of those documents.



## 5.6 RIM Program Training and Communications

We have the following observations about the training currently provided by the RIM Program.

- a) With the exception of the Privacy and Freedom of Information ... What You Need to Know presentation used when training Customer Service Representatives (Service Oshawa), we did not receive any training materials to review. We understand that RIM Program staff use the procedures listed in Section 5.5.2 when giving Versatile training.
- b) Prior to his/her first day of employment, HR sends each new employee a package of information which includes several City policies for review and signoff; the RIM Program does not contribute any policies (or other documentation) to the package. RIM Program staff would like to provide information for the new hire package or, preferably, establish and periodically offer a formal RIM training program for new hires. The information in the new hire package or the formal training program would include RIM, FOI, and privacy.
- c) HR also hosts a Welcome Summit for employees twice per year. The Welcome Summit usually includes a welcome from the Mayor and presentations from the City's senior leaders and HR. The RIM Program does not contribute any information to those presentations.
- d) RIM Program staff do not provide training on a regular / routine basis due to workloads. They have occasionally provided training at the request of a department / branch and training was a component of the few records improvement projects completed by the Analysts over the years. The Analysts currently provide one-on-one information sessions for new Branch Records Representatives<sup>27</sup>, particularly to familiarize them with using Versatile, and also provide training to employees who are granted search only access in Versatile. RIM Program staff would like to establish a formal training program including RIM, FOI and privacy and offer the training periodically throughout the year.
- e) We are aware of ad hoc, MFIPPA training by RIM Program staff such as a presentation at one semi-annual meeting of Commissioners and Directors, a presentation at a CLT meeting, a presentation to Recreation and Culture staff after a privacy breach, training for Customer Service Representatives, and the inclusion

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<sup>27</sup> The RIM Program receives a copy of the Staff Change Checklist that departments / branches submit to ITS. The Records and Information Analysts use the Checklists to identify new Branch Records Representatives and new employees who are to be given search only access to Versatile and to identify employees who need Versatile training.

of MFIPPA training in the Council orientation provided by City Clerk Services after each municipal election.

Some focus group participants said they have received Versatile training and/or MFIPPA training from RIM Program staff. When asked if they had received any training or guidance in managing the records they create / receive and use in their jobs, 50.5% (124 employees)<sup>28</sup> said they had received such training or guidance; however, only 26% of those respondents received the training or guidance from RIM Program staff. Most received the training or guidance from a co-worker (62.1%) or their immediate supervisor (61.3%).

Several focus group participants and I&RM Survey respondents identified training when asked, “If you could change one thing about how records are managed in your department / branch, what would it be? Why?”. 23 (31%) of the I&RM Survey respondents who answered the question, “Do you have any suggestions for improving how the City manages records (paper or electronic) or how the City manages e-mails?” identified training. As with the focus group participants and the survey respondents who identified training as an improvement for their department / branch, several of the survey respondents said that mandatory training would improve how the City manages records.

I&RM Survey respondents were asked who they go to most often for help or advice when they have a question about how best to manage records. Figure 8 summarizes the responses to this question.

**Figure 8 – Sources of RIM Help or Advice**  
(n=215)

Statement	Number of Responses	%
<b>A co-worker</b>	75	35%
<b>The employee’s supervisor</b>	74	34%
<b>Corporate RIM Program<sup>29</sup></b>	36	17%
<b>IT Help Desk</b>	7	3%
<b>Other (please specify)</b>	23	11%

<sup>28</sup> The response percentages exceed 100% because respondents were asked to ‘select all that apply’ when identifying the source of the training or guidance they received.

<sup>29</sup> Ergo included in this category the four ‘other’ responses which stated ‘Clerks’, ‘Clerks Department’, or ‘City Clerk’s Office’ because Ergo assumes those respondents equate RIM with that branch. Ergo also included in this category the two ‘other’ responses which listed a RIM Program employee by name.

Respondents were not asked to explain why they go to a particular person / department to obtain help or advice when they have a question about how best to manage records. It is, however, very noteworthy that only 17% of the respondents go to the Corporate RIM Program most often for this help or advice.

We have the following observations about RIM Program communications: We did not receive any communications to review apart from the Mass Shred Memo referenced in Section 6.8.2.

## **5.7 RIM Program Compliance Monitoring and Auditing**

Until approximately 2014, RIM Program staff conducted audits which involved comparing a branch's list of files in Versatile to the files found in the branch. These audits are not currently conducted due to RIM Program staffing constraints.

## **5.8 Branch Records Representatives and FOI Representatives**

The RIM Program has formed a network of Branch Records Representatives, typically Administrative Assistants and File Clerks who are responsible for managing paper records in departments / branches. RIM Program staff train the Branch Records Representatives in using Versatile and in transferring records to storage in 'Records Retention'. There is frequent turnover in these positions and RIM is not always notified when a staff change has occurred; therefore, RIM Program staff are challenged in keeping their list of Branch Records Representatives up-to-date and ensuring they are all trained.

Unlike other municipalities with which we have worked, it does not appear that RIM Program staff convene meetings of the Branch Records Representatives.

The RIM Program has also identified a group of employees (FOI Representatives) who are responsible for co-ordinating FOI request responses within their departments and liaising with the Information, Access and Privacy Officer. Some FOI Representatives are Directors / Managers while others are administrative employees. In some branches, (e.g. Municipal Law Enforcement and Licensing Services), several employees in the same position are collectively the FOI Representative. As with the Branch Records Representatives, there is frequent turnover and RIM is not always notified when a staff change has occurred; therefore, RIM Program staff are challenged in keeping their list of FOI Representatives up to date.

The two lists are not identical, although in some departments / branches an employee is both a Branch Records Representative and a FOI Representative.

## **6. Physical and Unstructured Electronic Information**

This section describes the City's current practices for managing paper and unstructured electronic records.

### **6.1 Creation, Capture, and Declaration**

Some focus group participants reported that their departments / branches have begun to create / capture some records electronically instead of in paper format as in the past (e.g. Purchasing Services receives quotations and RFP responses electronically). Some focus group participants also reported that their departments / branches are planning to or have begun to scan existing paper files to create images that will be used as the official records. Focus group discussions revealed that employees are uncertain of the legal validity of scanned records, particularly those bearing a signature, and whether paper records can (or should) be destroyed after scanning.

Regarding the capture and declaration of records, several focus group participants said it is not always clearly understood which records should be created and who is responsible for ensuring their addition to the City's recordkeeping systems. Knowing who is responsible for capturing a record is particularly challenging for project teams and collaborative work involving several employees. Questions also arise in determining whether a record is 'official' or 'transitory'.

The Terms of Reference for the City's website state "While an effort is made to post only accurate information, the City does not guarantee that the information, software, products and services included on its online sites is always current or correct. In the case of a difference between the version presented online and the version in the City's records, the City's records shall be assumed to be correct."

The ownership and management of City records is addressed (or not addressed) in City policies as follows.

#### Code of Conduct

The definition of 'City assets / Property' in the Code of Conduct (Policy AG 10.80) includes the City's information and records as follows: "City Assets / Property: Includes all property of the City including equipment, financial assets, land, vehicles, material, documents whether in hard or digital/electronic form, inventories, tools, electronic equipment, electronic mail, internet services, information and work time." (page 2). The Code of Conduct requires an employee, upon termination of employment, to "return to the City all

correspondence, documents and all other property belonging to the Corporation, which may be in the employee's possession or control. This includes property made or prepared by the employee and relating in any way to the affairs of the Corporation. With permission, employees may retain samples of their work if such work was in the public domain." (page 8)

### Computer and Internet User Corporate Policy

The Computer and Internet User Corporate Policy (Policy AG 10.99) states "users should be aware that the data they create on the corporate systems remains the property of the Corporation of the City of Oshawa." (page 3) The following statements in the policy further reinforce the City's ownership of data, e-mails, and other computer files:

- a) "The electronic mail system is City property and intended for City business. The system is not to be used for a user's personal gain or to support or advocate non-City related business or purposes. All data and other electronic messages within this system are the property of the City of Oshawa." (page 6)
- b) "The City owns the rights to all data and files in any computer, network or other information system used in the City and to all data and files sent or received using any company system or using the City's access to any computer network to the extent that such rights are not superseded by applicable laws relating to intellectual property." (page 7)

### Mobile Communication Device Criteria and Guidelines

The purpose of the Mobile Communication Device Criteria and Guidelines (Policy & Procedure 075-12) is to "establish a uniform set of standards for identifying City positions which require the access of Mobile Communication Device (M.C.D) hardware technology, having regard for the administrative efficiencies of the hardware, while containing and minimizing costs to the Corporation." The document states that a M.C.D provided by the City is "assigned to the employee's position as shown in the organization chart and not to the employee" (page 2); however, it allows an employee who is moving to different position within the City that qualifies for a M.C.D. to "take their device with them, subject to the approval of the appropriate Department Head and if cost effective to do so." The document does not state what is to be done with the corporate data on the device when the employee transfers to a different position.

### Use of Personal Devices for Work Purposes Policy

Unlike similar policies we have reviewed at other organizations (including municipalities), the Use of Personal Devices for Work Purposes Policy (Policy AG 10.100) does not assert the City's ownership of the records created / received and managed by City employees on the personal devices they use for work purposes.

Also unlike other similar policies we have reviewed, this policy does not require the removal of corporate data from a personal device upon any change of the device used, termination of employment or withdrawal from the user agreement allowing the employee to use his / her personal device for work purposes, or when the employee plans to sell or otherwise transfer ownership of the device. The only reference in the policy to the removal of any data occurs as follows: "The User . . . Understands that, by attaching his/her device to City electronic communication services, the City may wipe all, or a portion of, the device clean in certain circumstances to secure protected information, and may require the installation of security software on the device that would allow enforcement of information security standards. The User understands that this may allow access or visibility to information used or transmitted on or by the device." (pages 1-2). The policy also authorizes ITS to remotely wipe a personal device that is broken and/or lost.

For approximately the last two years, the City has been partitioning the data on a personal device used for work purposes (i.e. keep work-related data separate from the employee's personal data). Data may not be partitioned on older personal devices used for work purposes.

#### **6.1.1 Forms Management**

Forms management is "The function that establishes standards for the creation, design, analysis, revision, procurement, and warehousing of all forms within an organization, regardless of format or medium."<sup>30</sup> According to the Forms Procedure, the goals of the City's Forms Management Program are to streamline workflow, maximize electronic opportunities, standardize design, reduce waste, and centralize the management and control of form creation, design, revisions, and disposition. The current status of the City's Forms Management Program is described below.

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<sup>30</sup> ARMA International, Glossary of Records Management and Information Governance Terms, 5<sup>th</sup> edition.

- a) Forms Database: The RIM Program maintains a forms database which tracks all forms regardless of media and assigns a form number to each form. Ergo did not view the Forms Database.
- b) Forms Procedure: Revised in September 1997, this five page document describes the “process for managing the creation, design, revision, use and disposition of forms” (page 1) and assigns roles and responsibilities as follows: Corporate Forms Co-ordinator (a Corporate Services Department employee which is presumably one of the Records and Information Analysts), Department Forms Co-ordinators (an employee or group within each department), and Form Requesters (often the user or the representative of the process necessitating the form). The Forms Procedure also describes the process for submitting a Request for Form Creation / Revision<sup>31</sup>, forms analysis, the design of a draft form, the review and approval of a draft form, and print requisition (for forms to be completed in hard copy).
- c) Forms Standards: Revised in September 1997<sup>32</sup>, this eleven-page document provides design standards for corporate forms (both internal and external) and departmental forms<sup>33</sup>. The standards address the style and appearance of printed data (typography) in terms of fonts, form titles, corporate image, headings, instructions, captions, data alignment, and form numbering. The standards also address rules weights and visual aids in terms of screens, ding bats, space, vertical space, horizontal space, box size, margins, tick boxes, and space savings. Forms construction is also addressed.
- d) Online Forms Committee: The City has had a Forms Committee led by City Clerk Services since the 1990’s. The committee was recently renamed the Online Forms Committee. Ergo did not receive for review a mandate statement / charter describing the committee’s responsibilities or its membership. The RIM Program is in the process of updating the governance model for forms, including the determination of the department / branch employees who will be authorized to create forms for review and approval by the RIM Program.

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<sup>31</sup> The Forms Procedure states that the Request for Form Creation / Revision is provided in Appendix A of the procedure; however, the version of the procedure that Ergo reviewed did not contain an Appendix A.

<sup>32</sup> The document includes the revised form numbering codes issued in June 2000.

<sup>33</sup> The Forms Standards state that a ‘departmental form’ is used by only one department to aid in an administrative process. Conversely, the Forms Standards state that a ‘corporate form’ may be internal (i.e. used by more than one department) or external (i.e. may be used by the public or organizations outside the corporation).

## 6.2 Classification, Search, and Retrieval

The City does not have a Records Classification Scheme. A Records Classification Scheme provides standardization in the way records are named and organized. Records can be classified in different ways:

- By what they're about (the traditional subject / topic approach as in a public library), or
- By who creates them or who keeps them (a department-based approach), or
- By the work processes that are performed to fulfill organizational mandates and goals (a function-based approach).

A function-based Records Classification Scheme is based on a top-down view of an organization's services and operations. It answers the question, "Why are records created and used?" because it classifies records based on work processes, not by subjects or department names. A function-based Records Classification Scheme has the added benefit of being relatively stable over time. While subjects and department names change, what a department / branch does (i.e. its activities) remain fairly constant. Similarly, the functions performed by an organization remain fairly stable over time.

Function-based records classification is endorsed by the ISO 15489-1:2016 standard to more readily respond to accountability obligations and manage records efficiently and effectively. It is also the preferred classification approach of the Canadian federal government and many provincial governments (including Ontario). Some municipalities (including municipalities in Ontario) are replacing (or have replaced) their Records Classification Schemes with function-based schemes.

Challenges in classifying, searching for, and retrieving records are discussed in the sub-sections below. In addition to those challenges, a common theme emerged when focus group participants discussed records classification, search, and retrieval in general: the lack of a single source of truth for many aspects of the City's operations (e.g. a project, etc.) because records are often kept in both paper and electronic formats and in multiple storage locations and according to different methods of classification / organization.

When attempting to locate records, including records for a FOI request, it is often necessary to search (or ask other employees to search) multiple locations (see Figure 9) and multiple instances of the same location type (e.g. several employees may have relevant e-mails in their respective mailboxes), each of which may be organized differently. The searches are often time-consuming to complete and their completion is often delayed due to other, higher level priorities. There is also a significant risk that the



complete record will not be found (assuming the applicable records were created / received and kept in the first place) or that the accuracy and completeness of the retrieved records will be questioned. The retrieved records may also contain inappropriate content (e.g. rambling thoughts, a mix of business and personal communication in an e-mail message, or confidential information). Paper records, particularly those completed in the field (i.e. not at a desk), may be difficult to read (poor handwriting), insufficiently detailed, or incomplete (such as when boxes are left blank on a form). These risks are of particular concern when records are required for a FOI request or a legal matter, especially when the relevant records are from several years ago.

It is also possible that not all potential storage locations will be known depending on the type of records being sought and the tenure/experience of the employee who is searching for the records. This means that potentially relevant locations may not be searched, again increasing the risk that the complete record will not be found. For these reasons, several focus group participants reported that they rely on a key employee (usually a longer tenured employee or a designated administrative employee) as their “go to” person when searching for information.

**Figure 9 – Searching Multiple Locations**

Record Format	Location
<b>Paper records</b>	<ul style="list-style-type: none"><li>• Employee’s desk (the records may be in a box)</li><li>• Central storage area in a department / branch</li><li>• Records Retention (on- and off-site)</li></ul>
<b>Electronic records</b>	<ul style="list-style-type: none"><li>• Employee’s personal drive (F:)</li><li>• Shared drive(s)</li><li>• Intranet</li><li>• Employee’s e-mail mailbox</li><li>• Employee’s e-mail .pst file (there may be several)</li><li>• Structured system</li></ul>
<b>Microfiche (if any)</b>	<ul style="list-style-type: none"><li>• Central location in a department / branch</li></ul>

When asked, “If you could change one thing about how records are managed in your department / branch, what would it be? And why?”, 45 (30%) of the I&RM Survey respondents who answered that question identified classification / organization and retrieval improvements such as:

- Standardized naming with clear direction on where to file / save documents.
- Developing naming practices for unstructured electronic records.
- Eliminating duplicate recordkeeping.

Similarly, 18 (24%) of the I&RM Survey respondents who answered the question, “Do you have any suggestions for improving how the City manages records (paper or electronic) or how the City manages e-mails?” identified classification / organization and retrieval improvements.

### 6.2.1 Paper Records

The 39% of I&RM Survey respondents who experience challenges in managing paper records<sup>34</sup> were asked to identify their top three challenges in managing those records. Figure 10 illustrates their prioritization of the challenges which relate to paper records classification, search, and retrieval<sup>35</sup>.

**Figure 10 – Classification, Search and Retrieval Challenges: Paper Records**  
(n=35 to 45 depending on the challenge)

Challenge	Number of Responses	Challenge Priority		
		Ranked # 1 Challenge	Ranked # 2 Challenge	Ranked # 3 Challenge
<b>Organizing records (classification)</b>	45	27%	38%	35%
<b>Retrieving (or locating) records</b>	45	33.5%	31%	35.5%
<b>Duplication and version control</b>	47	38.5%	42.5%	19%
<b>Knowing where to file/store a record</b>	35	34.5%	37%	28.5%

Figure 10 demonstrates that many of the survey respondents who experience challenges in managing paper records are experiencing challenges with duplication and version control (54.5%), classification and retrieval (tied at 52% each), and knowing where to file/store a paper record (41%).

<sup>34</sup> 78% of respondents answered the survey question, “Are you experiencing any challenges in managing paper records?”.

<sup>35</sup> 99% of the respondents who experience challenges in managing paper records provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing paper records. 1 = the most challenging and 3 = the least challenging”.

### **6.2.2 Unstructured Electronic Records**

The Computer and Internet User Corporate Policy (Policy Ag 10.99)<sup>36</sup> “applies to any individual who has access to City owned/leased computers, communication devices, electronic mail, systems, networks, intranet and internet access” (page 1); therefore, that policy governs access to and use of electronic files / records which are discussed below.

Very few records focus group participants reported the development of electronic file naming procedures by their department / branch. In fact, many focus group participants identified the development and use of electronic file naming procedures, particularly for naming and version control, as the one thing they would like to see changed about how records are managed in their department / branch. Conversely, 32% of I&RM Survey respondents reported the development of such procedures<sup>37</sup> with 83% of those respondents reporting that they consistently use them<sup>38</sup>.

I&RM Survey respondents were asked to identify the method they most often use to search for an electronic record in a shared drive. 82.5% of respondents answered this question, with most reporting that they browse the folder / sub-folder structure (44%) or perform a keyword search (43.5%). A small number (5%) ask a co-worker. 47% of the respondents who use an ‘other’ method report using FileLocator Lite.

Many focus group participants identified challenges when searching for and retrieving electronic records, particularly electronic records in shared network drives. Ad hoc folder structures, the lack of folder consistency across the drives, and the absence of naming conventions for electronic records (including the lack of a corporate version control protocol) were mentioned several times at each focus group.

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<sup>36</sup> The purpose of this policy is to “provide clear rules and guidelines for the appropriate use of The Corporation of the City of Oshawa (hereby referred to as “the City”) provided computers, electronic communication devices, systems, networks as well as, internet/intranet access.” (page 1). The policy applies “whether or not that access is during normal working hours and whether such access is from the City’s premises or elsewhere.” (page 1)

<sup>37</sup> The I&RM Survey gave the following examples of electronic records naming procedures: how to name a record, a standard (e.g. YY-MM-DD) for expressing a date in an electronic record’s filename, a process for tracking the versions of an electronic record (e.g. draft 01, draft 02, etc.), and a process for identifying a final/approved electronic record.

<sup>38</sup> 81% of the respondents who said their department / branch had developed electronic file naming conventions responded to this question.

The 34% of I&RM Survey respondents who experience challenges in managing electronic records<sup>39</sup> were asked to identify their top three challenges in managing those records. Figure 11 illustrates their prioritization of the challenges which relate to electronic records classification, search, and retrieval<sup>40</sup>.

**Figure 11 – Classification, Search and Retrieval Challenges: Electronic Records**

Challenge	Number of Responses	Challenge Priority		
		Ranked # 1 Challenge	Ranked # 2 Challenge	Ranked # 3 Challenge
<b>Inconsistent naming practices</b>	56	50%	36%	14%
<b>Retrieving (or locating) records</b>	49	28%	41%	31%
<b>Duplication and version control</b>	46	22%	39%	39%
<b>Knowing where to file/store a record</b>	29	41.5%	24%	34.5%

Figure 11 demonstrates that many of the survey respondents who experience challenges in managing electronic records are experiencing challenges with regard to inconsistent naming practices (74%), retrieval (64.5%), duplication and version control (60.5%), and knowing where to file / store an electronic record (38%).

A few of the focus group participants said their department / branch had invested time to develop a folder structure for a shared drive, reorganize the files into the new structure, rename files for greater clarity, and delete duplicate records. Almost all of those focus group participants reported that the new structure is no longer used or is not used consistently.

### 6.2.3 E-mails

The Computer and Internet User Corporate Policy (Policy Ag 10.99) “applies to any individual who has access to City owned/leased computers, communication devices, electronic mail, systems, networks, intranet and internet access” (page 1); therefore, that policy governs access to and use of e-mail which is discussed below.

<sup>39</sup> 78% of respondents answered the survey question, “Are you experiencing any challenges in managing electronic records?”.

<sup>40</sup> 100% of the respondents who experience challenges in managing electronic records provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing electronic records. 1 = the most challenging and 3 = the least challenging”.

Focus group participants reported that e-mail folder structures are ad hoc and highly individual. While that does not usually pose a challenge when an employee searches for messages in his / her mailbox, ad hoc structures are very challenging to navigate when searching the .pst file of a former employee.

The 33% of I&RM Survey respondents who experience challenges in managing e-mails<sup>41</sup> were asked to identify their top three challenges in managing those records. Figure 12 illustrates their prioritization of the challenges which relate to e-mail classification, search, and retrieval<sup>42</sup>.

**Figure 12 – Classification, Search and Retrieval Challenges: E-mails**

Challenge	Number of Responses	Challenge Priority		
		Ranked # 1 Challenge	Ranked # 2 Challenge	Ranked # 3 Challenge
Organizing messages (classification)	41	39%	29%	32%
Retrieving (or locating) messages	34	29.5%	44%	26.5%
Duplication	15	13%	53%	33%

Figure 12 demonstrates that some of the survey respondents who experience challenges in managing e-mails are experiencing challenges with regard to message classification (58%), retrieval (48%), and duplication (21%).

#### **6.2.4 Time Spent Searching for Information**

Figure 13 summarizes the amount of time - on average - that I&RM Survey respondents spend each workday searching for information in various formats / storage locations. Most reported that they spend 15 minutes or less each workday searching for information in the formats / storage locations that they use.

<sup>41</sup> 78% of respondents answered the survey question, “Are you experiencing any challenges in managing e-mails?”.

<sup>42</sup> 97% of the respondents who experience challenges in managing e-mails provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing e-mails. 1 = the most challenging and 3 = the least challenging”.

**Figure 13 – Average Amount of Time Per Workday Spent Searching for Information**  
(n=235)

Format / Storage Location of the Information	Average Amount of Time Per Workday					
	15 Minutes or Less	15 – 30 Minutes	30 – 45 Minutes	45 – 60 Minutes	60 or More Minutes	N/A (Not Used)
Paper records in office areas	64%	17%	4%	3%	1%	11%
Paper records in storage	44%	8.5%	2.5%	2%	1%	42%
The employee's personal network drive (F:)	68%	14%	4%	1%	3%	10%
A shared network drive to which the employee has access	47%	29%	12%	4%	6.5%	1.5%
An e-mail in the employee's e-mail account	51%	28%	10%	4.5%	5%	1.5%

### 6.2.5 Access to Records for Decision-making

Having access to the records one needs to make decisions depends on having the necessary information to allow retrieval of the records (e.g. knowing what the records are called and where they are stored) and having the necessary security rights / privileges to be able to physically access the records.

I&RM Survey respondents were asked whether they have access to the records they regularly need to make decisions in their work and 82% of the survey respondents answered that question. As shown in Figure 14, 96% of those respondents said they 'always' or 'usually' have access to the records they regularly need to make decisions in their work.

**Figure 14 – Access to Records for Decision-making**  
(n=235)

Response	Number of Responses	%
Yes, always	94	40%
Yes, usually	131	56%
No	10	4%

The respondents were also asked to give examples of the records they require to make decisions in their work and to which they don't (or sometimes don't) have access. 31% of respondents answered this question. Figure 15 lists the record types they cited most often.

**Figure 15 – Lack of Access to Records for Decision-making**  
(n=88)

Record Type	Number of Responses	% <sup>43</sup>
Agreements	7	8%
Archived files/records in retention	7	8%
Council reports, Council decisions, past reports and motions, or historical decisions	7	8%
(Historical) invoices	6	7%
Policies/procedures	5	5.5%
By-laws	4	4.5%
(Old) site plans	4	4.5%
Confidential (Council) reports	3	3.5%
No response (respondent stated 'n/a')	12	13.5%
Other	43	52%

### 6.3 Collaboration, Workflow, and Sharing

Many focus group participants and 79% of I&RM Survey respondents send attachments to co-workers via e-mail. As shown in Figure 16, the survey respondents who send attachments via e-mail do so most often to share information (94% of them send e-mail attachments for that purpose 'most often' or 'often') or to share documents for collaboration (87% of them send e-mail attachments for that purpose 'most often' or 'often'). Very few send attachments to co-workers via e-mail to enable co-workers to access information when working remotely.

**Figure 16 – Frequency of E-Mail Attachment Use by Purpose**

Reason for Sending an Attachment via E-mail	Number of Responses	Frequency of Use		
		Most Often	Often	Least Often
To share information	190	65%	29%	6%
To distribute documents for collaboration purposes (e.g. circulate a draft report for feedback)	188	23.5%	63.5%	13%
To allow a co-worker to access information when s/he is working remotely	208	5%	12.5%	82.5%

<sup>43</sup> The response percentages exceed 100% because some respondents identified more than one record type.

Distributing a document to all collaborators as an e-mail attachment and receiving revised versions of the document by return e-mail is a common collaboration method, particularly when collaborating with employees who cannot access the same shared drive. However, using e-mail to collaborate is inefficient because the leader of the collaboration must reconcile many different submissions into the next iteration of the document and then circulate that version for review and endorsement / approval. That process often spawns one (or more) additional iterations and re-circulations.

Some focus group participants expressed a preference for sending a co-worker a link to a document instead of providing it as an e-mail attachment, citing this practice as one way to avoid creating duplicate documents and to reduce e-mail storage volume. However, they also identified two challenges with this practice: sometimes a co-worker cannot access the link due to security access restrictions and the link will break if the document's storage location (file path) changes.

Several focus group participants and I&RM Survey respondents often receive very large files such as drawings, photos, and videos via e-mail, primarily from external parties such as consultants and taxpayers.

17% of I&RM survey respondents<sup>44</sup> use cloud-based file storage or file transfer / sharing applications for work-related purposes. As shown in Figure 17, they use 2big4email and Dropbox most often.

**Figure 17 – Use of Cloud-based File Storage or File Transfer / Sharing Applications**  
(n=38)

File Storage or File Transfer / Sharing Application	% <sup>45</sup>
Box	0%
Dropbox	58%
Google Drive	18.5%
Microsoft OneDrive	10.5%
2big4email	66%
Other (please specify) <sup>46</sup>	16%

<sup>44</sup> 79% of respondents answered the survey question, “Do you use any cloud-based file storage or file transfer/sharing application(s) (e.g. Dropbox) for work-related purposes?”.

<sup>45</sup> The response percentages exceed 100% because respondents were asked to ‘select all that apply’ when identifying the cloud-based file storage or file transfer / sharing application(s) they use for work-related purposes.

<sup>46</sup> 67% use WeTransfer and 33% use a FTP site.



The reasons why I&RM Survey respondents use cloud-based file storage or file transfer / sharing applications are summarized in Figure 18. The most common reason is to distribute a file which is too large to transmit via the City's e-mail system followed by collaborating on documents with external parties (e.g. consultants).

**Figure 18 – Reasons for Using Cloud-based File Storage or File Transfer / Sharing Applications**  
(n=38)

Response	% <sup>47</sup>
To distribute files which are too large to transmit via the City's e-mail system	87%
To collaborate on documents with external parties (e.g. consultants)	53%
To be able to access files / e-mails when working remotely	16%
To collaborate on documents with co-workers	13%
To allow co-workers to access files / e-mails when working remotely	8%
Other (please specify)	8%

## 6.4 Storage

This section discusses the storage of paper records and electronic records.

### 6.4.1 Paper Records

Each department / branch is responsible for the on-site, in department / branch storage of its active paper records. The Records and Information Analysts use Versatile to create file entries and generate annual folder labels for selected record series in each department / branch. At the point of file creation, departments / branches are encouraged to create Versatile entries and generate folder labels for the additional paper files they create each year.

The 39% of I&RM Survey respondents who experience challenges in managing paper records<sup>48</sup> were asked to identify their top three challenges in managing those records. Figure 19 illustrates their prioritization of the challenge of having insufficient storage space

<sup>47</sup> The response percentages exceed 100% because respondents were asked to 'select all that apply' when indicating why they use cloud-based file storage or file transfer / sharing applications for work-related purposes.

<sup>48</sup> 78% of respondents answered the survey question, "Are you experiencing any challenges in managing paper records?".

for paper records<sup>49</sup>. 42% of those respondents ranked ‘insufficient storage space’ as one of their top three paper records management challenges.

**Figure 19 – Storage Space Challenges: Paper Records**

Challenge	Number of Responses	Challenge Priority		
		# 1 Challenge	# 2 Challenge	# 3 Challenge
Insufficient storage space	36	47.5%	25%	27.5%

Figure 19 illustrates that 42% of the survey respondents who experience at least one challenge in managing paper records are experiencing the challenge of having insufficient space in which to store those records.

Prior to accepting a box of records into storage (aka ‘Records Retention’), a Records and Information Analyst will check to ensure all file folders are labelled, the records in the box have the same destruction date (but are not necessarily of the same record series), and the department / branch submitting the records for storage is the Responsible Branch as stated in the Records Retention Schedule. The Analyst will remove any records for which the department / branch is not responsible (e.g. copies of Council reports if the department / branch is not City Clerk Services). It is a time-consuming process for an Analyst to complete this review.

As of June 2019, the City stored 4,785 boxes of inactive paper records. 62.5% (2,988 boxes) were stored on-site in ‘Records Retention’. The Records and Information Analysts try to keep more frequently accessed records on-site and some departments / branches (e.g. HR) prefer to have their inactive records kept on-site.

Records Retention Room 1 is located in the parking garage beneath City Hall and Records Retention Room 2 is located on the ground floor of City Hall near the Moderated C Wing Committee Room. These rooms are inappropriate for paper records storage. They are even less appropriate for storing the City’s small collection of archival records. We observed the following during our August Records Retention tour. Our observations apply to both rooms unless otherwise indicated:

- Overhead water pipes.

<sup>49</sup> 99% of the respondents who are experiencing challenges in managing paper records provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing paper records. 1 = the most challenging and 3 = the least challenging”.

- Lack of temperature and humidity control.
- No water sensors to detect water leaks or floods, a feature which is particularly crucial given that RIM Program staff may not need to access a room for several days.
- Minimal sprinkler heads and what appears to be a wet-pipe fire suppression system, meaning that the water-filled pipes pose an additional potential source of water damage.
- High humidity causes labels to fall off of the boxes.
- Dead-end aisles are a health and safety risk, particularly in the event of fire.
- Wi-fi access is poor, preventing RIM Program staff from accessing the Versatile system<sup>50</sup> or other computer applications (e.g. e-mail) when in the rooms.
- Relatively narrow aisles, particularly in Records Retention Room 1.
- Smell of automobile exhaust in Records Retention Room 1.
- No phone and intermittent cell phone coverage in Records Retention Room 2, resulting in a health and safety risk when an employee is working alone.
- Exposed rebar on walls in Records Retention Room 2.

In addition, there are IT cables in the ceiling and a sewer under the floor of Records Retention Room 2. Because only RIM Program staff have a key to the room (a good security precaution), a Records and Information Analyst must escort and supervise individuals while they take water samples from the sewer or work on the IT cables, the latter work often taking a fair bit of time to complete.

We also observed that boxes are marked with identifying information such as department / branch name, record series names, and dates. For security reasons, it is RIM best practice to not mark the outside of a box with information other than a box number, a barcode (if used), and the shelf location (e.g. aisle, bay, shelf, box) to facilitate the re-shelving a box after use.

The City's recent annual off-site records storage costs are summarized in Figure 20. These costs are for records storage, records retrievals and returns, and collection of boxes to be added to storage.

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<sup>50</sup> In the past, an Analyst could access Versatile from Records Retention Room 1; however, it was determined that it was not cost-effective to pay for this additional Versatile licence given the poor wi-fi service in the room.

**Figure 20 – Off-Site Records Storage Costs**

Year	Cost
April 5, 2016 to December 31, 2016	\$12,338.73
January 1, 2017 to December 31, 2017	\$16,041.93
January 1, 2018 to December 31, 2018	\$17,821.15
January 1, 2019 to June 28, 2019	\$9,362.40

We did not visit the local, third party warehouse at which the City stores inactive records; however, RIM staff report that boxes retrieved from the warehouse are often dirty and / or damaged. A Records and Information Analyst who has attended the warehouse to supervise the mass destruction of records by the commercial shredding service under contract with the City reports that warehouse security is lax, with the warehouse not requiring her to wear an identification badge or be escorted while on the premises. Warehouse employees have not challenged her when she travels throughout the warehouse. The Records and Information Analysts also report that retrievals are slow (two days to deliver a requested box to the City) and customer service is not always responsive (e.g. at the time we conducted a focus group with the RIM Program employees, an Analyst had been waiting for one month for the warehouse to perform a shelf check).

Unlike other organizations (including municipalities)<sup>51</sup> with whom we have worked and who store records off-site with a third party, the local warehouse used by the City is not a commercial record centre (i.e. a purpose-built facility for records storage). Instead, it is a warehouse in which a variety of goods, household / office contents, and business records are stored. The City's current contract with the warehouse will expire on March 31, 2020.

#### **6.4.2 Unstructured Electronic Records**

The Computer and Internet User Corporate Policy (Policy Ag 10.99) “applies to any individual who has access to City owned/leased computers, communication devices, electronic mail, systems, networks, intranet and internet access”; therefore, that policy governs access to and use of the electronic files / records discussed below.

That policy also describes the use of network storage as follows: “Each [network] file service will be assigned a maximum disk size allocation (quota). It will be the responsibility of the users and/or administrator of the file service to keep the information

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<sup>51</sup> For example, the Region of Durham uses Access Corporation. For more information, visit <https://www.accesscorp.com/offsite-storage/> Note: This information is provided for information purposes only. It is not an endorsement.

current, clean up the file structures, and purge old information to remain within the allocated quota. “ (Appendix I)

Appendix I describes the use of local hard drives (C: drives) as follows: “Any information that is stored on the hard disk of the local workstation is accessible by anyone who gains access to the workstation by whatever means (work duties, theft, etc.). Information should not be stored on C drives. The network does not back up local hard disks.”

Instead, the Computer and Internet User Corporate Policy directs employees to “Store all files in the appropriate network location” (page 4). Appendix I of the policy describes the network file services (drives) to which each network user (employee) will have access<sup>52</sup> as summarized in Figure 21<sup>53</sup>. In addition to the drives listed in Figure 21, the policy states that “Other network file services will have access as needed to provide users with the ability to share files across departments based on software application or business function requirements.”

Discussions at the focus groups and responses to the I&RM Survey demonstrate that the intended uses of the network drives, particularly personal drives (F:) versus shared drives such as G: and H: drives, are not widely known or not consistently implemented where known.

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<sup>52</sup> Appendix I also states “ITS may grant access to other users, groups as required by City policy or direction.”

<sup>53</sup> In addition to the drives listed in Figure 23, City Clerk Services advised that a shared drive (network drive T:) is used for uploading Council and Council Committee material to the website.

**Figure 21 – Network Drives**

<b>Network Drive Letter<sup>54</sup></b>	<b>Network Drive Name</b>	<b>Description and Intended Use</b>
<b>F:</b>	Personal Network File Service	<p>Each user will have their own secure data area. These areas are accessed solely through their user login and password.</p> <p>This file service should be used to store confidential data files that are not shared with other users.</p>
<b>G:</b>	Department Network File Service	<p>Each department will have a file service to allow users only within the department to share files.</p>
<b>H:</b>	Branch Network File Service	<p>Each branch will have a file service to allow users only within the branch to share files. Although not defined as branches, the Mayor's Office, The City Manager's Office, and Economic Development will have independent network file allocations.</p>
<b>I:</b>	Department Reference Network File Service	<p>The Corporate Services, Operational Services and Development Services Departments will have departmental reference file services.</p> <p>These services are strictly READ ONLY areas with administrators assigned to each service with Read, Write, Execute and Delete privileges. Users outside the department will not have access to this file service.</p> <p>This file service can be used for departmental reference information such as budget documents, department strategies, customer service information, etc.</p> <p>It is suggested that the administrators maintain an index document in the root directory of the file service. This index would list the file name and content description for each file or directory on the file service and would allow users to find reference information quickly.</p>

<sup>54</sup> The mapped drive letter for drives other than F: (personal network drive) is different for each employee. ITS reports that it is a challenge to set-up and administer access rights to the many network drives.

Network Drive Letter <sup>54</sup>	Network Drive Name	Description and Intended Use
<b>J:</b>	City of Oshawa Reference Network File Service	<p>All users in the corporation will have READ ONLY privilege to this file service.</p> <p>One or two administrators for this service will have access to have Read, Write, Execute and Delete privileges.</p> <p>The City of Oshawa Reference network service is available for reference information such as union contracts, forms, United Way campaign information, social club notices and more.</p> <p>It is suggested that the administrators maintain an index document in the root directory of the file service. This index would list the file name and content description for each file or directory on the file service and would allow users to find reference information quickly.</p>
<b>R:</b>	Not stated	<p>Typically used for interbranch/department applications.</p> <p>Permissions are defined on a case-by-case basis and may be changed as necessary.</p>
<b>S:</b>	Not stated	<p>Typically used for interbranch/department file shares.</p> <p>Permissions are defined on a case-by-case basis and may be changed as necessary.</p>

The City is storing just over 5.2 M electronic records in 10.7 TB of network drive storage as illustrated in Figure 22.

**Figure 22 – Network Drive Storage Volume**

Network Drive Type	Measurement		
	Number of Drives	Volume (TB)	Number of Items (Files)
Personal (F: drive)	826	3.2	1,818,123
Branch	47	4.5	2,648,093
Corporate	15	3	814,513
<b>Total</b>	<b>888</b>	<b>10.7</b>	<b>5,280,729</b>

A review of the largest fifteen network drives of each type reveals that Development Services employees account for five of the largest fifteen personal drives followed by Community Services employees with four of the largest fifteen personal drives. Corporate Services accounts for five of the largest fifteen branch drives followed by Community Services and External Agencies (tied), each with four of the largest fifteen branch drives. Development Services accounts for five of the fifteen largest corporate drives followed closely by Corporate Services with four of the fifteen largest corporate drives.

The date when an electronic record on the network was last modified ('Last Modified Date')<sup>55</sup> is a good indicator of current and relevant information. Stale information which has not been modified for some time can be a potential candidate for archive<sup>56</sup>, deletion, or migration to lower tier storage. Ergo cautions, however, that the determination of if/when to delete electronic records or move them to alternative storage should be made using an approved Records Retention Schedule because 'Last Modified Date' is not a reliable indicator of a record's value or importance to the City; therefore, 'Last Modified Date' does not (and should not) determine the retention period of an electronic record.

As shown in Figure 23, most electronic records on the network were 'last modified' more than 7 years ago (42% for personal drives and 38% for each of branch and corporate drives).

<sup>55</sup> The 'Last Modified Date' of an electronic record changes when the file is modified (i.e. something is added to or removed from the file). The 'Last Modified Date' does not change if an employee opens a file but does not alter it.

<sup>56</sup> 'Archive' is used in the IT context to mean the movement of information that is no longer actively used to a separate storage device for further retention. This information is not necessarily 'archival' in the context discussed in Section 6.9 of this report.



**Figure 23 – Last Modified Dates**

Date Last Modified	Number of Electronic Records by Network Drive Type		
	Personal	Branch	Corporate
Last 1-7 Days	3,430	8,848	2,477
Last 1-4 Weeks	6,155	17,993	4,698
Last 1-6 Months	49,206	121,067	32,570
Last 6-12 Months	95,555	141,160	30,120
Last 1-2 Years	284,051	280,255	68,914
Last 2-5 Years	383,319	686,670	234,457
Last 5-7 Years	224,747	370,999	132,265
> Last 7 Years	771,652	1,017,599	308,846
Unknown <sup>57</sup>	8	3,502	166
<b>Total Number of Files</b>	<b>1,818,123</b>	<b>2,648,093</b>	<b>814,513</b>

As indicated in Figure 23, 65.5% of documents / files / records are stored in shared (branch or corporate) network drives with most of those files being stored in branch shared drives. The I&RM Survey indicated a similarly frequent use of shared drives. Figure 24 reports the findings of the I&RM Survey in which respondents were asked whether they store most of the electronic records they create in a personal network drive (F:), a shared network drive, or another location.

**Figure 24 – Storage Location of Electronic Files / Records**  
(n=228)

Response	Number of Responses	%
Shared network drive	163	71.5%
Personal network drive (F:)	52	23%
Other location (please specify) <sup>58</sup>	13	5.5%

Respondents who store most of the electronic records they create in a shared network drive were asked to explain why they do so. 91% of those respondents provided an explanation<sup>59</sup>, with the most frequently cited explanations being:

<sup>57</sup> The term used by ITS to categorize corrupt or nonsensical data identified during the network scan.

<sup>58</sup> The C: drive or desktop was cited as the 'other' location by 23% of the respondents who store most of the electronic records they create in an 'other' location. C: drives and desktops are not backed up.

<sup>59</sup> Some respondents provided 1+ reasons for storing most of the electronic records they create in a shared network drive.

- To allow other employees to access the records (78%).
- To collaborate with other employees (9%).
- Because the employee was told to store the records there (5.5%).

Respondents who store most of the electronic records they create in a personal network drive were asked to explain why they do so. 77% of those respondents provided an explanation<sup>60</sup>, with the most frequently cited explanations being:

- The records are easy to locate or access from that location (25%).
- The records are for personal use or are not required by other employees (25%).
- The records are personal or confidential or require protection for privacy reasons (15%).
- The records are usually drafts (10%).

The 34% of I&RM Survey respondents who experience challenges in managing electronic records<sup>61</sup> were asked to identify their top three challenges in managing those records. Figure 25 illustrates their prioritization of the challenge of having insufficient electronic records storage space<sup>62</sup>.

**Figure 25 – Storage Space Challenges: Electronic Records**

Challenge	Number of Responses	Challenge Priority		
		# 1 Challenge	# 2 Challenge	# 3 Challenge
Insufficient storage space	17	15%	31%	54%

We reviewed the file types stored on network drives. Of the file types present on all types of network drives (personal, branch, and corporate), .jpg files are the most common. Figure 26 lists the top five file types resident on all types of network drives.

<sup>60</sup> Some respondents provided 1+ reasons for storing most of the electronic records they create in a personal network drive.

<sup>61</sup> 78% of respondents answered the survey question, “Are you experiencing any challenges in managing electronic records?”.

<sup>62</sup> 100% of the respondents who experience challenges in managing electronic records provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing electronic records. 1 = the most challenging and 3 = the least challenging”.

**Figure 26 – Top Five File Types on Network Drives**

File Type Extension	File Type Name / Description	Volume (TB)
<b>.jpg</b>	A lossy graphics file (.jpg is used interchangeably with .jpeg which stands for Joint Photographic Experts Group)	2.5
<b>.pdf</b>	Portable Document Format	1.1
<b>.mp4</b>	A file format created by the Moving Picture Experts Group (MPEG) as a multi-media container format designed to store audiovisual data (.mp4 is largely replacing earlier multi-media file formats)	0.6
<b>.tif</b>	An image file format for high-quality graphics (.tif files are also called .tiff which stands for Tagged Image Format File)	0.4
<b>.zip</b>	An archive file format that supports lossless data compression; a .zip file may contain one or more files or directories that have been compressed	0.2

It is interesting to note that .pst files<sup>63</sup> constitute the largest volume of file types on personal network drives (1 TB), .jpg files constitute the largest volume of file types on branch drives (1.4 TB), and .mpg<sup>64</sup> files constitute the largest volume of file types on corporate network drives (0.8TB).

#### **6.4.3 E-mail**

ITS reports the City has 1,410 e-mail mailboxes<sup>65</sup> which consume just over 3 TB of storage on the network. A review of the size of the fifteen largest City e-mail accounts reveals accounts ranging in size from 13 GB to 17 GB with most of those accounts

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<sup>63</sup> A Personal Storage Table (.pst) is an open proprietary file format used to store copies of messages, calendar events, and other items within Microsoft software such as Microsoft Exchange Client, Windows Messaging, and Microsoft Outlook.

<sup>64</sup> A MPG file is a common video file that uses a digital video format standardized by the Moving Picture Experts Group (MPEG). It stores video, audio, and metadata interleaved together. MPG files are often used for creating movies that are distributed on the Internet.

<sup>65</sup> This includes the e-mail accounts assigned to individual employees, shared e-mail accounts (e.g. [helpdesk@oshawa.ca](mailto:helpdesk@oshawa.ca)) which are accessed by multiple individuals and/or systems to send and/or receive messages for function-specific purposes, resource e-mail accounts which are used to manage calendar entries for meeting rooms, etc., and mailboxes for Oshawa Public Library employees.

belonging to Corporate Services employees (6) followed by Community Services employees (4), Development Services (3), and Office of the City Manager (2).

The Computer and Internet User Corporate Policy (Policy Ag 10.99) “applies to any individual who has access to City owned/leased computers, communication devices, electronic mail, systems, networks, intranet and internet access”; therefore, that policy governs access to and use of e-mails as discussed below.

Very few focus group participants said they regularly run out of e-mail storage. When an employee does run out of e-mail storage space, s/he can request a storage increase from ITS. In the meantime, the employee will be unable to send e-mails until s/he reduces the volume of stored messages. (The employee will, however, continue to receive e-mails) This results in ad hoc, arbitrary, and often frantic activity to quickly identify e-mails that can be deleted (e.g. oldest messages, messages with large attachments, etc.).

Figure 27 illustrates the prioritization of the challenge of having insufficient storage space for e-mails<sup>66</sup>, as ranked by the 33% of I&RM Survey respondents who experience challenges in managing e-mails<sup>67</sup>.

**Figure 27 – Storage Space Challenges: E-mails**

Challenge	Number of Responses	Challenge Priority		
		# 1 Challenge	# 2 Challenge	# 3 Challenge
Insufficient storage space	29	27.5%	27.5%	45%

Figure 27 illustrates that 41% of the survey respondents who experience at least one challenge in managing e-mails have insufficient space in which to store those records. The E-mail Management Guidelines for City Staff state “Outlook should not be used for storage, as it prevents other users from accessing City records that they may need for their work” (page 4) and identify two options for storing e-mail records: “printing and filing or saving as a PDF file on the appropriate department’s shared drive.” (page 4) The guidelines advise staff that “Regardless of format, these records must be saved

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<sup>66</sup> 97% of the respondents who experience challenges in managing e-mails provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing e-mails. 1 = the most challenging and 3 = the least challenging”.

<sup>67</sup> 78% of respondents answered the survey question, “Are you experiencing any challenges in managing e-mails?”.

and maintained in a format that is usable and retrievable now and throughout their lifecycle (creation- use- disposition).” (page 4) Instructions are provided for implementing both options:

- a) Storing in Hard Copy: Print the e-mails (with attachments) and file them according to the Branch File Plan<sup>68</sup> and ensure recipient and sender information (including blind copy recipients) and header and footer information are included in the printed copy because “This metadata is critical to ensuring the authenticity of the record and preserving the context in which it was created.” (page 4)
- b) Storing Electronically: Save in PDF format in the established folder structure on the applicable shared drive. Use a file name that “will be easily understood by others or that conforms to the conventions used within your branch” (page 4) and consider including a date in the title.

The guidelines also compare the pros and cons of each option (see Figure 28), directing staff to “consult with their branch to determine the best option for their area.” (page 5)

**Figure 28 – Pros and Cons of E-mail Storage Options<sup>69</sup>**

Option	Pros	Cons
<b>Storing in Hard Copy</b>	<ul style="list-style-type: none"><li>• We already have a well-established paper filing method</li><li>• Physical medium is relatively stable; less concern over long-term preservation of records</li></ul>	<ul style="list-style-type: none"><li>• More time-consuming to search for the records and within the record (e.g. by keywords)</li><li>• Can take up significant space, depending on the volume of e-mails sent / received</li></ul>
<b>Storing Electronically</b>	<ul style="list-style-type: none"><li>• More easily searchable (however, this can be greatly affected by the metadata provided when saving the record; remember, more information saved is</li></ul>	<ul style="list-style-type: none"><li>• Some time involved in training and establishing naming conventions, where to store, etc.</li><li>• Requires consideration of migration strategies as formats evolve over time and development of new</li></ul>

<sup>68</sup> Branch File Plan refers to the record series in the Records Retention Schedule that are used by the department / branch.

<sup>69</sup> As reproduced from E-mail Management Guidelines for City Staff, page 5.

Option	Pros	Cons
	<p>more information to sift through)</p> <ul style="list-style-type: none"> <li>Multiple users can consult at one time</li> </ul>	process in collaboration with RIM staff

The guidelines fail to recognize that removing e-mails from the e-mail system breaks the audit trail and may result in the authenticity of the PDF'd or printed version of an e-mail being questioned in the future.

The I&RM Survey also revealed that 55% of the employees who experience at least one challenge in managing e-mails have insufficient time to read and respond to an ever-increasing volume of messages as shown in Figure 29.

**Figure 29 – RIM Challenge: Processing E-mails**

Challenge	Number of Responses	Challenge Priority		
		# 1 Challenge	# 2 Challenge	# 3 Challenge
<b>Insufficient time to read and respond to an ever-increasing volume of messages</b>	39	59%	26%	15%

## 6.5 Security

Several City policies address the confidentiality and security of City information and records as follows.

### Code of Conduct

The Code of Conduct (Policy AG 10.80) defines 'confidential information' as "Includes information of any customer, supplier or business that works with or for the City; items under litigation, personal matters, including Personal Information; items under negotiations; information supplied in support of a license or other applications etc., where such information is not part of the public domain; and information designated as confidential by City Council." (page 2) The Code of Conduct also provides the following examples of confidential information: "Examples of confidential information may include, personal information regarding residents or employees, City real estate transactions, internal communications, reports or information not available to the general public." (page 5)

The Code of Conduct specifies the following requirements with respect to confidential information (page 5):

- Every employee is to safeguard confidential information and release confidential information only to those authorized to receive such information.
- Employees are to protect confidential information from unauthorized disclosure in accordance with the Code of Conduct and MFIPPA.
- An employee may also be bound by confidentiality requirements established by their department or professional affiliation.
- Employee-initiated communication with elected officials is to always occur through appropriate workplace channels.
- An employee who is uncertain whether certain information is confidential is to consult his/her supervisor or manager prior to disclosing the information.
- Employees are advised that caution and discretion in handling confidential information extends to disclosing information within the corporation and externally.

Employees are also prohibited from using or disclosing in any personal external activity the proprietary or confidential information or data they have acquired through employment with the City (page 7).

The Code of Conduct also addresses the security of City property, which includes information and records, as follows: “City property is to be used by an employee solely to perform the duties and responsibilities of their job or for community activities that have been preapproved by management. In addition, employees must ensure that any property (including cash, cheques, documents, inventories and equipment) in their care as part of their job duties is properly secured and protected at all times.” (page 7).

The Code of Conduct describes ‘fraud’, generally, as encompassing “any array of irregularities and illegal acts and characterized by intentional deception.” (page 9). Several of the examples of dishonest or fraudulent activities listed in the policy mention documents, information, or records:

- Forgery or alteration of documents (cheques, promissory notes, time sheets, independent contractor agreements, purchase orders, etc.).
- Misrepresentation of information by an individual.
- Misrepresentation of information on documents.
- Unauthorized use, disappearance, or destruction of City property, equipment, materials or records.

### Computer and Internet User Corporate Policy

The Computer and Internet User Corporate Policy (Policy AG 10.99) states “Users shall abide by the City’s Confidentiality, Code of Conduct and/or Legislation at all times when dealing with all City data/information, ensuring such data/information is not made public” (page 4) and requires users to “Maintain the integrity and privacy of information stored on computer systems, network devices, and telephone.” (page 4)

That policy also addresses the security of electronically stored information as follows:

- “Transport of City data outside the City’s network (i.e. files saved on USB “key”) is forbidden unless the data is encrypted.” (page 3)
- “City data is not to be removed from City systems or accessed from outside the corporate network without the knowledge of the data owner.” (page 3)
- “In the event permission is given to access the City data/systems from outside the corporate network or using third party systems, it is the responsibility of the individual doing so to protect the data from disclosure to unauthorized persons.” (page 3)
- Employees are prohibited from “Providing City information, including but not limited to orthographic, inventory or other information to 3<sup>rd</sup> parties without direction from ITS or the appropriate data owner.” (page 8)

The policy also states, “Use of non-City services via “cloud” or non-corporate systems to store or transfer City data is forbidden.” (page 4) It is interesting to note, however, that 17% of I&RM Survey respondents<sup>70</sup> use cloud-based file storage or file transfer / sharing applications such as Dropbox, Google Drive, and 2big4email for work-related purposes as discussed in Section 6.3 of this report.

### Use of Personal Devices for Work Purposes Policy

The Use of Personal Devices for Work Purposes Policy (Policy AG 10.100) prohibits an employee from using “any personal device(s) to disclose City of Oshawa information inappropriately, including that which is confidential or deemed not public.” (page 1) The policy also requires an employee who is authorized to use his/her personal device for work purposes to use that device “for City business purposes, in the same way as they would a City provided device.” (page 1)

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<sup>70</sup> 79% of respondents answered the survey question, “Do you use any cloud-based file storage or file transfer / sharing application(s) (e.g. Dropbox) for work-related purposes?”.



We provide our records security observations below.

Several focus group participants and some I&RM Survey respondents identified the challenge of being unable to access the drive of another department / branch because of security rights / privileges, either to retrieve information or to share it with others. When this occurs, employees usually resort to e-mailing the files to each other (usually only for a small number of files) or placing the files on a drive accessible to others. In addition to being time-consuming, this practice contributes to records duplication because the files are usually copied, not moved. Placing files on a shared drive is not, of course, an option if the information needs to be kept confidential.

The Computer and Internet User Corporate Policy specifies the process by which a Manager / Supervisor is to inform ITS of new or changed access requirements. A Manager / Supervisor is required to (page 4):

- a) Submit a completed Staff Change Checklist prior to an employee hire, termination, or transfer. 10 business days notification is required for a new hire.
- b) Submit a completed Staff Change Checklist to notify ITS to terminate the network / system access of an employee who is on leave of absence (including short term disability (sick), long term disability, and approved personal leaves such as maternity leave, etc.) for greater than 30 days.
- c) Advise ITS when access is to be suspended immediately upon termination or suspension of an employee, contractor, student or other individual with access to City data.

The unapproved Staff Departure Procedure (Records) developed by the RIM Program requires the Manager<sup>71</sup> of an employee<sup>72</sup> who has terminated his / her employment with the City to complete the following tasks for the electronic information in the custody of the employee at the time of his / her termination (page 2):

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<sup>71</sup> The procedure defines the 'Manager' as "1. the individual to whom the former employee directly reported, or 2. where the immediate managerial or supervisory position is vacant, the individual occupying the next managerial or supervisory position within the City's management hierarchy, or 3. an experienced member of staff who is familiar with the business activities or work completed by the departed employee; or, 4. in the absence of a supervisory role, the City Clerk, or their designate." (pages 1 - 2)

<sup>72</sup> The procedure defines an 'employee' as any full-time, part-time and temporary employees, or volunteers, the Mayor and contractual legislative staff employed by the Office of the Mayor, or Councillors elected to City Council" (page 1).

- a) Within 45 days of ITS providing access to the former employee's account, "review the content of the Account<sup>73</sup> to ensure that all Records are saved or filed to an appropriate Repository, or otherwise protected from destruction, including Records that may be required due to ongoing freedom of information requests, litigation or insurance claims".
- b) Notify ITS when the review has been completed and all relevant records have been saved to the appropriate repository so ITS can "delete the Account and purge any information remaining on the City's information technology systems."

The Manager is also required to complete the following tasks for the physical documents in the custody of the employee at the time of his / her termination (pages 2 - 3):

- a) Upon the employee's departure, "secure all documents within the Employee's immediate workspace, including any working files maintained by the Employee".
- b) Within 45 days, review the documents and "ensure that all Records are filed in the appropriate Records Repository, or otherwise protected from destruction, including Records that may be required due to ongoing freedom of information requests, litigation or insurance claims".
- c) Collect and forward to HR any "personal documents<sup>74</sup> encountered during the review", with HR being responsible for co-ordinating the delivery of those documents to the former employee.
- d) Securely destroy "Any remaining documents which are not Records or personal documents".

I&RM Survey respondents were asked to identify their top three challenges in managing paper records, electronic records, and e-mails. Keeping records secure was identified in the survey as a potential challenge (along with other potential challenges) for paper records and electronic records. As shown in Figure 30, very few survey respondents experience challenges in keeping records secure.

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<sup>73</sup> The procedure defines the 'Account' as "the personal drive (F:), email (oshawa.ca) account, or other computer/system accounts provided to the individual as a result of their employment with the City, including computers and other electronic devices" (page 1).

<sup>74</sup> The procedure does not define 'personal documents'.

**Figure 30 – Records Security Challenges**

Challenge	Record Type	Number of Responses	Challenge Priority		
			# 1 Challenge	# 2 Challenge	# 3 Challenge
Keeping records secure <sup>75</sup>	Paper	14	21.5%	14%	64.5%
Keeping records secure <sup>76</sup>	Electronic	7	14.5%	14.5%	71%

The City has not developed an information security classification. See Section 7.1.2.1 for more information.

## 6.6 Freedom of Information and Privacy

This section discusses the City's FOI and privacy practices. Note: See Section 5.5.1 for information about the City's 1997 Municipal Freedom of Information and Protection of Privacy Policy and Procedure.

### 6.6.1 Freedom of Information

The 'head' of an institution is responsible for decisions made under MFIPPA by the institution and for overseeing the administration of that Act within the institution. At the City of Oshawa, the City Clerk is the Head of the Institution for these purposes. Historically, the City has required a requester to complete and submit a formal FOI request when seeking access to City records under MFIPPA. City Clerk Services is in the process of establishing a process to make selected information, where appropriate, available via routine disclosure instead. The implementation of routine disclosure will reduce the volume of formal FOI requests processed by the City.

<sup>75</sup> 39% of I&RM Survey respondents experience challenges in managing paper records. 99% of the respondents who experience challenges in managing paper records provided at least one response to the question, "Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing paper records. 1 = the most challenging and 3 = the least challenging". Only 16% of those respondents ranked 'keeping records secure' as one of their top three paper records management challenges.

<sup>76</sup> 34% of I&RM Survey respondents experience challenges in managing electronic records. 100% of the respondents who experience challenges in managing electronic records provided at least one response to the question, "Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing electronic records. 1 = the most challenging and 3 = the least challenging". Only 9% of those respondents ranked 'keeping records secure' as one of their top three electronic records management challenges.

On behalf of the City Clerk, the Information, Access and Privacy Officer receives (and clarifies if/as necessary) the FOI requests submitted in writing under MFIPPA, manages the overall process of responding to those requests, and makes recommendations to the City Clerk regarding the release of records in accordance with MFIPPA. The Records and Informational Analysts assist the Officer in those duties.

The Information, Access and Privacy Officer prepares a FOI Branch Request for the department(s) / branch(es) which likely have records responsive to the request. The department(s) / branch(es) are required to search for responsive records and provide the completed FOI Branch Request and the any responsive records to the Officer within 10 business days.

The RIM Program has established a network of individuals (Department Representatives) to whom FOI Branch Requests are sent. Some of the individuals are Commissioners, Directors, or other management employees and they delegate to subordinates the search for responsive records and completion of the FOI Branch Request. When that occurs, the Information, Access and Privacy Officer usually does not know to whom this work has been assigned and may receive multiple submissions of records for one FOI request over several days from different employees instead of a consolidated package from a single point of contact. Some of the Department Representatives are administrative employees whose duties change every six months, resulting in the need to retrain staff.

The recipient of a FOI Branch Request is expected to complete a thorough search for responsive records and provide those records to the Information, Access and Privacy Officer. Records are to be provided in complete, unaltered form and preferably in electronic format (Adobe PDF). The recipient is also expected to record the search time and page volume, and any computer program development time on the FOI Branch Request. Unlike some other municipalities with which we are familiar, the recipient is not required to document the name and position title of each employee who conducted a search or the location(s) that were searched. Further, the employee(s) who conducted a search are not required to attest in writing to the accuracy or thoroughness of their searches. Presumably such an attestation would be obtained if/when necessary should there be an appeal to the IPC. While the FOI Request Form does not have a section to this effect, the recipient would presumably document on the form if responsive records do not exist or if responsive records once existed but have been destroyed or have gone missing.

When searching for records it is often necessary to search multiple paper and electronic repositories. There is also the risk that a record was not created, was not kept, or

cannot be found because of how it was named or where it was stored. Locating all responsive records in electronic format can be particularly challenging given the lack of naming conventions and the ways in which records are organized, both within a department / branch and across the City. The latter poses a particular challenge when multiple departments / branches may have records responsive to a request. Additional challenges in responding to formal FOI requests were identified in conversations with the City Solicitor, the Information, Access and Privacy Officer, and the Records and Information Analyst who processed FOI requests from 2013 to May 2019 and who continues to assist the Officer in processing those requests. The additional challenges are:

- a) Employees are not always certain what constitutes a record (e.g. there is not common understanding that a text message is a record).
- b) Lack of direction on 'transitory records' means that multiple employees may keep copies of draft documents at various stages in their development, with the Information, Access and Privacy Officer having to spend considerable time reviewing the documents and attempting to weed out duplicates.
- c) Lack of records standardization and training across the City, resulting in disparate ad hoc processes for managing records.
- d) Records in e-mail accounts may be inaccessible to the searcher(s).
- e) The way in which many employees write e-mails (e.g. addressing multiple topics in one e-mail message, including personal information, inadvertently communicating legal opinions, etc.) requires the City to redact content prior to releasing the messages where their release is permitted under MFIPPA; however, requesters are often dissatisfied by the extent of the redactions.
- f) Responsive records are sometimes found after the City has given a decision on a FOI request.
- g) The images of older building drawings / plans on microfiche have been reduced in size to the point that useable / legible records cannot be produced and many microfiched drawings / plans are of poor quality (e.g. skewed pages, missing pages, etc.). There are also gaps in the City's collection of building drawings / plans because there is no follow up on missing drawings / plans and a developer is not required to submit a full set of drawings for all models in a subdivision.
- h) Occasionally electronic records are not useable because they are stored on obsolete or deteriorated media.
- i) It may not be possible to access a password-protected file, particularly if the employee who set the password can't remember the password or is no longer employed by the City.

- j) Photos taken by employees on personal devices are not always uploaded to storage on the City's network; however, those photos may be responsive to a FOI request.
- k) Proof of records destruction (particularly electronic records) may not exist.

While the Information, Access and Privacy Officer, generally, receives responsive records by the deadline stated on the FOI Request Form, challenges sometimes arise. Occasionally employees will refuse to provide records to the Officer, erroneously claiming that the records belong to the employee or that the Officer cannot see the records because they are sensitive / confidential. The Officer may also receive redacted records, again because the department / branch claims the records are sensitive / confidential. When these situations arise and the Officer cannot resolve them, the Officer will escalate the matter to the City Clerk for further escalation to department / branch management and Legal Services if necessary.

The Information, Access and Privacy Officer also deals with requests to correct personal information (correction requests) and appeals to the IPC. When there is an appeal, the Information, Access and Privacy Officer must prepare a response with input from Legal Services. It is time-consuming to prepare a response and there are often competing deadlines for response to appeals and responses to formal FOI requests.

The City's volume of 2014 - 2019 (to October 2, 2019) FOI activity is shown in Figure 31. As shown below, the number of FOI requests increased 90% over the past five years.

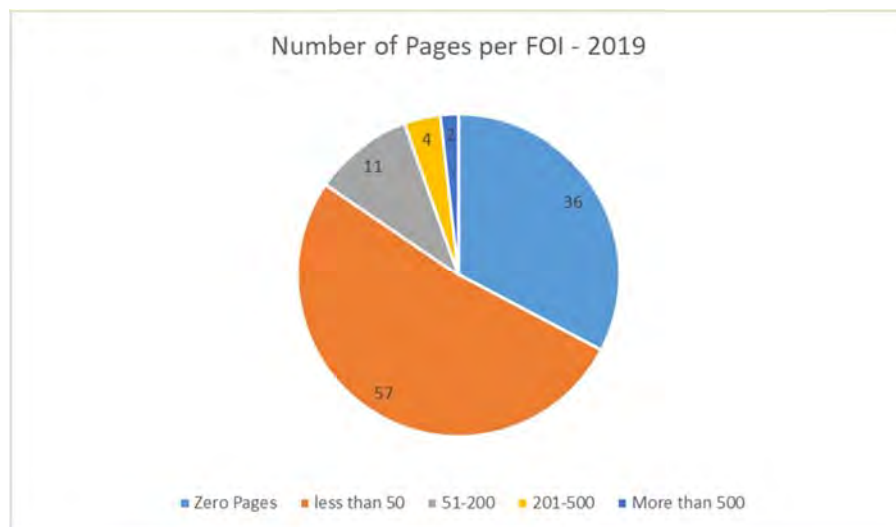
**Figure 31 – FOI Activity 2014 - 2019**

<b>Year</b>	<b>Number of Formal FOI Requests</b>	<b>Number of IPC Appeals</b>
<b>2014</b>	139	3
<b>2015</b>	177	4
<b>2016</b>	189	5
<b>2017</b>	214	4
<b>2018</b>	270	9
<b>2019 (to October 2, 2019)</b>	162	14

Note: As of October 2, 2019, there were 16 active IPC appeals. That number includes some appeals which are still open from 2015 - 2019.

The number of pages that must be reviewed for formal FOI requests has been increasing and staff have also noticed an increase in the number of pages released in response to FOI requests. Figure 32 shows the number of pages released for 2019 FOI requests. City Clerk Services reports that one of the responses contained 11,539 pages and another contained 1,652 pages.

**Figure 32 - Number of Pages Per Formal FOI Request**<sup>77</sup>  
(January to July 2019)



It is important to note that while no pages were released for 36 requests, searches still had to be conducted and any responsive records still had to be reviewed. City Clerk Services reports that records were found in many cases but were not released due to privacy legislation or ongoing investigations.

### **6.6.2 Privacy**

We provide below our observations on how privacy is addressed in the City policies and other documents that we reviewed.

#### **Code of Conduct**

The Code of Conduct (Policy AG 10.80) defines 'personal information' in the same way as MFIPPA. (See Appendix 2 for the definition)

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<sup>77</sup> Attachment to the Potential Adjustment Description and Justification for the proposed new Records Co-ordinator position as part of the 2020 operating budget process, page 1.

## Computer and Internet User Corporate Policy

The Computer and Internet User Corporate Policy (Policy Ag 10.99) specifies conditions for the “Brief and occasional personal use” (page 1)<sup>78</sup> of the City’s computers, communication devices, e-mail system, and intranet and use of the City’s computers and communications devices to access the Internet for personal use<sup>79</sup>. The policy cautions employees, however, that “Personal use is a choice that involves the sacrifice of personal privacy. The City has the right to access information when: (a) conducting system maintenance, repair, management; (b) to meet legal requirement to produce records, including engaging in e-discovery; (c) to ensure continuity of work processes (i.e. employee departure, sick/vacation leave, work stoppage); (d) to improve business processes and manage productivity; and (e) to prevent misconduct and ensure compliance with the law.” (page 2).

The policy also states:

- Although a file(s) may be deleted, users should be aware that it might be stored on system logs and within deleted files in the system that may not be readily seen. This may be accessed by the City in the course of an investigation (or otherwise).” (page 2).
- City “management cannot guarantee the confidentiality of information stored on any network device belonging to the City.” (page 3)
- “Users of City equipment should assume that whatever they do, type, enter, send, receive or viewed on City electronic information systems can be electronically stored and is subject to inspection, monitoring, evaluation and City use at any time.” (page 3)
- Users “who access City systems and Internet access to send create or receive files or other data that would be otherwise subject to any kind of confidentiality of disclosure privilege thereby waive whatever right they may have to assert such confidentiality or privilege from disclosure.” (page 3)

The City’s right to access, monitor, or inspect electronically stored information on the City’s equipment or City-provided Internet access is further reinforced by the following statements in the policy (page 7):

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<sup>78</sup> Such use excludes the “Sending or receiving large “personal files” (e.g. MP3 video, image files)” (page 8).

<sup>79</sup> This provision conflicts with the following prohibition in the policy: “Users shall ...Not use City systems, phones or Internet access for personal use.” (page 4)



- “The City reserves the right to monitor electronic mail messages (including personal / private / instant messaging systems) and their content, as well as any and all use by users of the Internet and computer equipment used to create, view or access e-mail and Internet content.”
- “Users must be aware that the electronic mail messages sent and received using the City’s equipment or City provided Internet access, including web-based messaging systems used with such systems or access, are not private and are subject to viewing, downloading, inspection, release by City officials.”
- “The City has the right to inspect all files stored in private areas of the network or on individual computers, or storage media in order to ensure compliance of the City policies and federal and provincial laws.”

Consequently, the policy cautions that “The most secure and confidential means of sending / receiving personal communications and storing personal file(s) is to use a personal device and communication system unconnected to the City of Oshawa network” (page 2) and “Users who wish to maintain their right to confidentiality, a disclosure privilege for personal information, must send or receive such information using some means other than City systems, or City provided Internet access.” (page 3)

The policy also gives the City “the right to inspect, access, view, copy and/or delete any and all documents, records and information produced, transmitted or stored on any of its computer systems, including all messages sent, received or stored on the corporate e-mail system and the City’s Internet and Intranet services and to disclose them to any party (inside or outside the organization) it deems appropriate.” (page 3) When requested by the City, an employee is also required to “divulge any password that has been used to password protect a file or information on any of the City’s computer systems.” (page 3)

### Good Practices for the Use of Photos and Videos

Corporate Communications developed the Good Practices for the Use of Photos and Videos to provide “good practices with respect to the use of photos and images on City-owned and managed property, print media, digital media, Internet, social media sites, media releases and broadcasts.” When taking photos, City staff are encouraged to obtain, where possible, the express consent of the person(s) photographed and document the consent using the City’s Name and Image Consent and Release forms (children and adults). The document also provides the following best practices:

- a) Guidance regarding when consent is required for photos taken by City staff at City events which occur in public places (e.g. Canada Day) and for photos taken

by City staff of individuals performing at public City events (e.g. Fiesta Parade participants).

- b) Recommendation that City staff, members of Advisory Committees to Council, Councillors, CLT, and elected or appointed officials such as MPPs and the Lieutenant Governor who appear in photos taken by City staff complete the City's Name and Image Consent and Release form once.
- c) Recommendation that "The City's website, promotional material and event signage should provide notice that some photographers (staff and/or contracted professionals) will be taking photos on behalf of the City at the event" (page 1). A recommended statement of notice is also provided.
- d) Best practices regarding consent for the use of photos provided to the City by other organizations such as Durham District School Board.
- e) Best practices for the City's use of images, including the use of images taken from the Internet.

#### Social Media Accounts Governance and Guidelines Manual

The Social Media Accounts Governance and Guidelines Manual directs authorized employees who manage a branch social media accounts to direct a user to contact Service Oshawa for "more complex responses or privacy concerns, or inquiries in languages other than English" (page 11). Members of the public are directed to refer privacy concerns to Service Oshawa and not to the Information, Access & Privacy Officer.

#### Privacy Breaches and Privacy Complaints

Figure 33 lists the City's volume of 2015 - 2019 privacy breach and privacy complaint activity.

**Figure 33 – Privacy Breach and Privacy Complaint Activity 2015 - 2019**

Year	Number of Privacy Breaches	Number of Privacy Complaints
2015	3	0
2016	3	0
2017	0	0
2018	2	0
2019 (to July)	3	1

Examples of privacy breaches at the City include:

- 2015: The accidental release of approximately 1,000 e-mail addresses of individuals who authorized the City to contact them and also participated in a 2015 fitness program or registered for aquatics such as swim lessons in 2015.
- 2015: Letters detailing the tax information of up to eighteen individuals who are part of the City's pre-authorized payment plan (PAP) for their taxes may have had their notice double-stuffed inside someone else's due to a malfunctioning machine in the City's Print Shop.

As discussed in Section 5.3.2, an Information, Access and Privacy Officer position was established in late 2018 to provide a dedicated resource for processing the City's ever-increasing volume of formal FOI requests and to establish a Privacy Program. The City's first Information, Access and Privacy Officer was hired in May 2019. Figure 34 lists some of the typical elements of a Privacy Program and the status of those elements at the City to date.

**Figure 34 – Status of Privacy Program Elements**

<b>Privacy Program Element</b>	<b>Status</b>
<b>MFIPPA Policy and Procedure</b>	The existing Policy and Procedure was approved by Council in 1997. City Clerk Services anticipates submitting a draft policy to Council for approval in 2020 (this policy will replace the current policy)
<b>Notice of Collection on City Forms</b>	Information, Access and Privacy Officer identified the need for a more standard notice of collection on all City forms and a better way to track existing forms
<b>Personal Information Bank Index</b>	The rudimentary, partial, and likely out of date index of forms is not publicly available and does not satisfy the legislated requirements of a Personal Information Bank Index
<b>Privacy Audits</b>	<ul style="list-style-type: none"> <li>• Privacy audits are not addressed in the existing MFIPPA Policy and Procedure</li> <li>• A Privacy Audit Template and Procedure has not been prepared</li> <li>• Privacy audits are not conducted at this time</li> </ul>
<b>Privacy Breach Protocol</b>	<ul style="list-style-type: none"> <li>• Presented to Corporate Services Committee on June 16, 2014 and approved by Council on June 23, 2014</li> </ul>
<b>Privacy Impact Assessments</b>	<ul style="list-style-type: none"> <li>• PIA completion is not addressed in the existing MFIPPA Policy and Procedure</li> <li>• A PIA Template and Procedure have not been prepared</li> <li>• One PIA was completed prior to the Officer's hiring</li> </ul>

Privacy Program Element	Status
	<ul style="list-style-type: none"><li>• No additional PIAs have been completed to date</li></ul>
<b>Privacy Policy</b>	<ul style="list-style-type: none"><li>• A standalone Privacy Policy has not been prepared</li><li>• The existing MFIPPA Policy and Procedure makes few references to privacy (e.g. it states that one of the purposes of MFIPPA is to “protect the privacy of individuals with respect to personal information about themselves held by institutions and to provide individuals with a right of access to that information” (page 1) and Part II of MFIPPA pertains to the protection of personal privacy)</li></ul>
<b>Privacy Training</b>	Records and Information Management Analysts report that some privacy training was given in the past and that all past and current Customer Service Representatives (Service Oshawa) have receiving FOI and privacy training

## 6.7 Business Continuity

This section discusses vital records and the backup and recovery of electronically stored information.

### 6.7.1 Vital Records

‘Vital records’ are essential to the continuation or resumption of City business in the event of a disaster. They allow the City to fulfill its obligations to taxpayers, employees, other levels of government, and outside interested parties. The City has not identified its vital records; therefore, the City’s vital records may not be protected<sup>80</sup> with the exception of vital records in electronic format which are already being backed up as part of the business continuity service provided by ITS.

The City does not have a disaster recovery plan for physical records. Part of an organization’s overall disaster recovery planning, a disaster recovery plan for records

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<sup>80</sup> For example, City Clerk Services stores signed paper agreements (typically agreements signed by the Mayor and the City Clerk) and the City’s official signed paper by-laws in a ‘vault’ within the branch. Although the door to the ‘vault’ has a lock, it does not appear that this room affords any greater protection to paper records than any other file room at City Hall. The vault and the file cabinets in the vault are not fire-resistant. Since the 1960’s, a second signed paper copy of each by-law is also kept in Records Retention Room 1; however, that practice provides no guarantee of protection because a disaster at City Hall (e.g. a fire) could potentially affect both the vault in City Clerk Services and Records Retention Room 1.

would document the actions to be taken to recover damaged or threatened records immediately following a disaster (e.g. measures to be taken in an attempt to rehabilitate records damaged by water).

### **6.7.2 Backup and Recovery of Electronically Stored Information**

The Computer and Internet User Corporate Policy (Policy AG 10.99) states “All network file services will be automatically backed up on a nightly basis, excepting weekends.” (Appendix I)

ITS is responsible for backing up approximately 300 network servers. Figure 35 summarizes ITS’ current backup schedule and the retention period of each backup type. Monthly full backups are being kept indefinitely until this project is complete.

**Figure 35 – Retention Periods of Server Backups**

<b>Backup Type</b>	<b>Retention Period</b>
<b>Incremental, nightly</b>	<b>30 days</b>
<b>Full, monthly</b>	<b>Indefinitely (previously 12 months)</b>

The backup tapes are stored in a fire-resistant vault at an offsite location.

Data on the City’s network is also mirrored in real time.

## **6.8 Retention and Disposition**

This section discusses the Records Retention By-law (By-law 45-2002, as amended Office Consolidation revised June 23, 2016) and the Records Retention Schedule (Schedule A of By-law 45-2002, as amended Office Consolidation August 3, 2016). It also provides our observations on the City’s current practices for and challenges in retaining and disposing of information and records.

### **6.8.1 The Records Retention By-law and Records Retention Schedule**

We have the following observations about the Records Retention By-law and the Records Retention Schedule.

## The Records Retention By-law

- a) The two-page Records Retention By-law is considered “an integral part of this program [the RIM Program] by classifying and establishing the length of retention for all records in the City's custody.”<sup>81</sup>
- b) Unlike other municipalities with which we have worked, the By-law does not contain any definitions (e.g. definition of the term ‘record’).
- c) The By-law refers to the City’s ‘documents’, ‘records’, and ‘papers’. While those terms are not defined, it appears that the By-law applies only to City records in physical (paper) format and, as per observation h) below, to microfilmed records.
- d) The purpose of the by-law is “to provide periods of retention for and to provide for the destruction of various documents of the Corporation of the City of Oshawa” (page 1), meaning that the City is to use only one disposition method at the end of a record’s approved retention period (i.e. destruction). That is contrary to the permanent retention periods approved for some records, whether based on the records’ archival value or not, and also contrary to RIM best practice which says records should be ‘disposed of’ at the end of their approved retention period with ‘destruction’ being just one possible disposition method.
- e) The Records Retention By-law does not define ‘Corporation of the City of Oshawa’; therefore, it is not clear whether ‘corporation’ means only the City’s departments / branches (as appears to be the case given the text in the ‘Responsible Branches’ column of the Records Retention Schedule) or whether it also includes the agencies, boards, commissions and other entities under the City’s jurisdiction. As stated in Section 4.1.1 of this report, s. 255(3) of the Municipal Act, 2001 states that a municipality “may establish retention periods during which the records of the municipality and local boards of the municipality must be retained and preserved”. RIM Program staff confirmed that the current Records Retention By-law pertains only to the City’s departments / branches and, therefore, only the records of the City’s departments / branches are listed in the Records Retention Schedule.
- f) Although revised on June 23, 2016, the following provision excerpted from the (then version of the) Municipal Act is obsolete because auditor approval is no longer required: “WHEREAS Section 116(1)(b) of The Municipal Act, R.S.O. 1990, c. M.45, (the “Act”) as amended, provides that a municipality shall not destroy any of its receipts, vouchers, instruments, rolls or other documents, records and papers except in accordance with a by-law, approved by the auditor of the municipality, establishing schedules of retention periods during which the

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<sup>81</sup> Corporate Services Committee Report (CORP-14-63) re: amending the Records Retention By-law 45-2002, page 1.

receipts, vouchers, instruments, rolls or other documents, records and papers must be kept by the municipality;" (page 1).

- g) The By-law explains how the retention periods in the Years in Retention column of the Records Retention Schedule (Schedule A of the By-law) are to be interpreted, i.e. "That the documents identified in the Record Class column of Schedule "A" be retained for periods identified in the Years in Retention column of Schedule "A" and that the periods identified shall begin to run on the 1st day of January next following the creation of the document to which it refers in the Record Class. " (page 1)
- h) The By-law permits microfilming of records, i.e. "Documents, records and papers, where permitted by statutory regulations, may be microfilmed and become subject to retention and destruction as stipulated in this by-law." (page 1)
- i) The By-law specifies a process for notifying departments / branches of scheduled records destructions and provides for the deferral of scheduled records destructions, i.e. "At least 30 days prior to the destruction of any branch record, the City Clerk shall provide the branch head with a list of the records due for destruction. The list shall indicate the earliest date after which the records will be destroyed and provide notice that any or all records may be reviewed on request. With the consent of the City Clerk certain records due for destruction may be retained for a longer period of time subject to a reasonable rationale for such extension." (page 1) It is not clear, however, whether department / branch approval is required before records scheduled for destruction are actually destroyed<sup>82</sup>.
- j) The following provision is curious in that the retention periods in an approved Records Retention Schedule should take into consideration applicable legislated records retention requirements and those requirements should be periodically reviewed and the Retention Schedule updated accordingly to ensure compliance with legislated records retention requirements: "In the event of any conflict between this by-law and any statute or regulation of the Government of Canada or the Government of the Province of Ontario or other government or agency having jurisdiction, such statute or regulation shall prevail. If changes in the Act

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<sup>82</sup> RIM Program staff interpret this to mean that records can be destroyed without branch sign-off 30 days after the list has been provided to the branch. This interpretation is stated in the annual Mass Shred Memo which is sent to Branch Directors with their corresponding record lists: "Amendments made to Paragraph 4 of the Records Retention By-Law by By-law 113-2012, provide for the disposal of records due for destruction 30 days after the list of records due for destruction is provided to the branch head . . . Please note that if we do not receive a response boxes will still be destroyed without a sign off from the Branch as set out in the retention by-law."

or other factors require the retention of any documents or records beyond the period stipulated in this by-law, then such documents or records shall be retained according to such requirements.” (page 1)

### The Records Retention Schedule

The Records Retention Schedule is a sixty-seven-page document containing 529 record series grouped in categories as listed in Figure 36.

**Figure 36 - Records Retention Schedule Categories and Record Series**

<b>Alphabetical Code</b>	<b>Category Name</b>	<b>Number of Record Series in the Function</b>
<b>A</b>	Administration	114
<b>B</b>	Development	74
<b>C</b>	Finance	97
<b>D</b>	Legal	70
<b>E</b>	Municipal Works	101
<b>F</b>	Community Services	73

Within each category, a four-digit alphanumeric code divides records and business activities into record series. While series numbers are reused (e.g. there is a series 2000 under each of the six categories), the inclusion of a category’s alphabetical code prior to the series number results in unique Series IDs (i.e. A-2000, B-2000, C-2000, D-2000, E-2000, and F-2000). The following data is provided for each record series: Series ID, Series Title / Scope Note, Responsible Branches<sup>83</sup>, and Retention (divided into Active and Total) as shown in the example in Figure 37.

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<sup>83</sup> Corporate Services Committee Report (CORP-13-146-CM) states that the ‘Responsible Branch’ designation assigns “overall responsibility for the protection and retention of records. This reduces the need for other areas of the organization to maintain duplicate records, thereby reducing storage costs.” (page 5)



**Figure 37 - Record Series Example**

Series ID	Series Title / Scope Note	Responsible Branches	Active	Total
B-3100	<b>Official Plan Amendments</b> Includes records relating to applications to amend the Official Plan is required (sic). As well, any other development applications necessary to execute the amendment are included in this file. Excludes original signed Official Plan approved by Council. See D-2100. T = Final approval or denial	Planning Services Engineering Services	T+5	T+50

As shown above, the Series Title / Scope Note field includes, where applicable, cross-references to other series and the definition of any 'event' which must be completed / terminated before a retention period begins to run (e.g. final approval or denial of an application is required before the 5 year Active or 50 year Total retention period would begin to run for the series in Figure 37).

We have the following observations<sup>84</sup> about the Records Retention Schedule:

- Instead of repealing the Records Retention Schedule (and the By-law) each time an amendment is required, RIM Program staff prepare an amendment and an accompanying report to the Corporate Services Committee in which the amendments are summarized.
- No instructions on using the Records Retention Schedule are provided.
- No explanation of the difference between 'Active' and 'Total' Retention<sup>85</sup> is provided.
- No definition of 'Originating Branch' is provided.

<sup>84</sup> The scope of this report does not include the review and validation of the record series, Responsible Branches designations, or Retention in the Records Retention Schedule; therefore, our observations address only the high-level content and the structure / format of the Retention Schedule.

<sup>85</sup> Although not explained in the Records Retention Schedule, the 'Active' period of retention would occur in the Responsible Branch(es) and the balance of the retention period (i.e. the 'Total' retention less the 'Active' retention) would occur in on- or off-site in Records Retention.

- e) A Table of Contents (preferably hyperlinked) and an index (again, preferably hyperlinked) are not provided; therefore, the user must scroll to find a specific category or series or use the 'find' function in Adobe Acrobat.
- f) Category scope notes are not provided.
- g) The provision of a 'general' record series<sup>86</sup> within each category increases the likelihood that employees will use that series as a catchall, thus eliminating the need to determine and use a more specific record series.
- h) It is RIM best practice to cite applicable legislation governing a record series' retention. The Retention Schedule does not include any citations and we found no evidence that legislated retention requirements were researched (or are being updated / maintained).
- i) Unlike other municipalities with which we are familiar, the RIM Program does not periodically review and update the Records Retention Schedule. Revisions are made and approved by Council) in response to department / branch requests.

### **6.8.2 Records Retention Observations**

I&RM Survey respondents were asked to identify their top three challenges in managing paper records, electronic records, and e-mails. Knowing how long to keep records was listed as a potential challenge (along with other potential challenges) for those record types. Figure 38 illustrates that records retention is not a significant challenge.

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<sup>86</sup> For example, Scope Notes for the A-1000 Administration - General records series state "Includes general inter-departmental correspondence and records relating to Administration which cannot be classified elsewhere. Use only if no other heading is applicable."

**Figure 38 – Records Retention Challenges**

Challenge	Record Type	Number of Responses	Challenge Priority		
			Ranked # 1 Challenge	Ranked # 2 Challenge	Ranked # 3 Challenge
Knowing how long to keep records (retention) <sup>87</sup>	<b>Paper</b>	18	22%	39%	39%
Knowing how long to keep records (retention) <sup>88</sup>	<b>Electronic</b>	13	38.5%	23%	38.5%
Knowing how long to keep messages <sup>89</sup> (retention) records secure	<b>E-mail</b>	26	31%	27%	42%

Our data collection identified a couple of records retention challenges.

- a) Focus group discussions revealed that many employees are challenged in knowing which e-mails to keep and where best to store them (i.e. in the e-mail system, on a network drive, or print and file a paper copy).

<sup>87</sup> 39% of I&RM Survey respondents experience challenges in managing paper records. 99% of the respondents who experience challenges in managing paper records provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing paper records. 1 = the most challenging and 3 = the least challenging”. Only 21% of those respondents ranked ‘knowing how long to keep records (retention)’ as one of their top three paper records management challenges.

<sup>88</sup> 34% of I&RM Survey respondents experience challenges in managing electronic records. 100% of the respondents who experience challenges in managing electronic records provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing electronic records. 1 = the most challenging and 3 = the least challenging”. Only 17% of those respondents ranked ‘knowing how long to keep records (retention)’ as one of their top three electronic records management challenges.

<sup>89</sup> 33% of I&RM Survey respondents experience challenges in managing e-mails. 97% of the respondents who experience challenges in managing e-mails provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing e-mails. 1 = the most challenging and 3 = the least challenging”. 37% of those respondents ranked ‘knowing how long to keep messages (retention)’ as one of their top three e-mail management challenges.

- b) Some focus group participants said the retention periods do not meet the needs of departments / branches, e.g. there is concern that the retention periods in the Retention Schedule conflict with legislation and requirements set by the Professional Engineers of Ontario for infrastructure-related records
- c) The Staff Departure (Records) Procedure has not been approved or rolled-out to departments / branches, although the Records and Information Analysts will use it if a Manager requests assistance in dealing with the records of a departed employee.

It is encouraging that employee awareness of the Records Retention Schedule is relatively high: many focus group participants are aware of it (although they may not (always) use it) and 76% of I&RM Survey respondents said they are aware of it<sup>90</sup>. 61.5% of the survey respondents who are aware of the Retention Schedule said they use it to determine if/when to destroy / delete some (or all) of the records for which they are responsible. Figure 39 summarizes their Retention Schedule use by record type.

**Figure 39 – Records Retention Schedule Use by Record Type**  
(n=107)<sup>91</sup>

Record Type	Yes	No
Paper records	97%	3%
Electronic records	59%	41%
E-mail messages	35%	65%

These Retention Schedule use frequencies are suspiciously high. It is difficult to believe that almost all paper records created / received by these respondents are kept in accordance with the Retention Schedule. It is also difficult to believe that more than half of these respondents apply the Retention Schedule to the electronic records they create / receive given that no focus group participants said they do so.

The I&RM Survey respondents who use the Records Retention Schedule were also asked to indicate their level of agreement with statements regarding Retention Schedule ease of use and training as summarized in Figure 40<sup>92</sup>.

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<sup>90</sup> 79% of respondents answered the survey question, “Are you aware that the City has a Records Retention Schedule (a Council by-law) which specifies how long records should be kept?”.

<sup>91</sup> Only 63% of the respondents who use the Retention Schedule to determine if / when to destroy / delete some (or all) of the records for which they are responsible specified the type(s) of records they keep according to the periods in the Retention Schedule.

<sup>92</sup> 98% of the respondents who use the Records Retention Schedule answered these questions.

**Figure 40 – Records Retention Schedule User Satisfaction**

(n=103)

Statement	Agree or Strongly Agree	Disagree or Strongly Disagree
It is easy to use the Records Retention Schedule to determine when I can destroy / delete a record	70%	30%
I don't always know if / when the specified event occurred when an event is required before calculating retention	74%	26%
I received adequate training in how to use the Records Retention Schedule	36%	64%

The 38% of survey respondents who are aware of the Records Retention Schedule but do not use it were asked why they don't use it. Figure 41 lists their reasons for not keeping records according to the Retention Schedule<sup>93</sup>.

**Figure 41 – Reasons for Not Using the Records Retention Schedule**

(n=65)

Reason	%
It's not my responsibility	38.5%
I don't know how to use the Records Retention Schedule	23%
The records I create / receive aren't listed in the Records Retention Schedule	12%
The Records Retention Schedule is confusing	3%
I don't have time to use the Records Retention Schedule to determine how long to keep records	3%
Other (please specify) <sup>94</sup>	20%

It is very concerning that more than one third of the respondents do not believe it is their responsibility to keep records according to the Records Retention Schedule.

<sup>93</sup> 98.5% of the survey respondents who are aware of the Retention Schedule but do not use it responded to this question.

<sup>94</sup> Three of the 'other' responses are particularly noteworthy because they demonstrate non-compliance with the Records Retention Schedule. Those responses are: 1) The information I'm storing needs to be kept forever; 2) The retention by-law conflicts with other legislative requirements wrt (sic) records related to infrastructure; and 3) We keep our permit records indefinitely, contrary to the record retention by-law.

### 6.8.3 Records Disposition Observations

The Computer and Internet User Corporate Policy (Policy AG 10.99) states “It is the responsibility of each user to manage their email effectively. This includes the deletion of non-corporate records on a regular basis. Each user mailbox is assigned a quota. When nearing their assigned limit, a warning message will be sent to the user. No new messages may be sent from a mailbox, which exceeds its quota.” (page 7) The policy does not, however, define “non-corporate records”.

The I&RM Survey respondents who are not aware of the Records Retention Schedule (54 employees) and survey respondents who are aware of it but don’t use it (66 employees) were asked to explain how they decide when to destroy / delete a record. Figure 42 summarizes their records destruction/deletion decisions<sup>95</sup>.

**Figure 42 – Records Destruction/Deletion Decisions by Non-Users**  
(n=118)

Reason	%
<b>N/A - I never destroy / delete records for which I’m responsible</b>	40%
<b>I destroy / delete records that I don’t expect to need in the future</b>	35%
<b>I destroy paper records that I know I can access in electronic format</b>	29%
<b>I destroy / delete drafts and keep final versions of records</b>	25.5%
<b>I follow retention rules established by my department/branch</b>	16%
<b>I delete the earlier messages in a thread (or chain) of e-mails, keeping only the final message in the thread / chain</b>	14.5%
<b>I destroy / delete records when I run out of storage space</b>	9%
<b>I delete electronic records and/or e-mails after printing a hard copy to file</b>	4%
<b>Other (please specify)<sup>96</sup></b>	11%

As discussed in Section 6.8.1, the Records Retention By-law requires the RIM Program to annually notify departments / branches of the scheduled destruction of records in its custody / control (i.e. records managed by the RIM Program in Records Retention).

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<sup>95</sup> 98% of these respondents answered the survey question, “Please indicate how you decide when to destroy/delete a record (select all that apply).”

<sup>96</sup> Some of the particularly noteworthy ‘other’ responses are: 1) The records I create do not require retention; 2) Supervisor informs me to do so; 3) I don’t - admin staff person on our floor is in charge of records management; and 4) I delete all e-mail older than a few weeks as it wrecks Outlook and the vast majority are unneeded systems alerts.

Typically, in November of each year, the RIM Program sends a Mass Shred Memo to each Branch Director with a Versatile-generated report listing boxes of records which are eligible for destruction as of December 31<sup>st</sup> of that year. A Director has 30 days to review the listing and identify any records that “must be retained as a result of a continuing legal, legislative or business requirement.” If an extended period of retention is required, a Director is to “detail the record(s) to be retained, the legal or legislative reference which requires their continued retention, or the business activity which will be adversely affected by the disposal of the records, and the extended time period which will be applied to the records.” The City Clerk adjudicates requests to retain records beyond their scheduled destruction date. Should a Director not respond to the Mass Shred Memo within 30 days, the RIM Program will destroy the records without branch sign-off as per the provisions of the Records Retention By-law.

While the goal is to begin destroying in January of each year the records scheduled for destruction as of December 31<sup>st</sup> in the prior year, completion of the annual destruction has sometimes been delayed due to RIM Program staff vacancies and high FOI request volumes. For example, records scheduled for destruction as of December 31, 2018 were destroyed in April 2019.

The annual destruction is a time-consuming process which usually requires 2-3 months to complete. Tasks include: a Records and Information Analyst running the department / branch records destruction reports and circulating them to the departments / branches for review, responding to department / branch questions about the reports, attempting to gather any files which have been checked out from boxes listed on the reports and refiling the returned files, processing any holds which are required (i.e. removing and setting aside in new boxes any records which are not to be destroyed), scheduling and witnessing the destruction of records (both on- and off-site), and updating Versatile to document the records which were destroyed or put on hold.

Shredding consoles are provided throughout City Hall and at other City facilities. We did not note any signs in the City Hall offices we visited that informed employees of the intended use(s) of the shredding consoles. Recycling bins are also provided; however, we did not find any signs informing staff whether any record types could be recycled (e.g. surplus copies of a report which had been released publicly). The RIM Program does not monitor or audit use of the shredding consoles or recycling bins.

It is not known whether crosscut (or particle) shredding is required under the City's contract with a shredding service. It is also not known whether any shredders used by individual departments / branches are crosscut (or particle) shredders. Crosscut (or

particle) shredding is a more secure destruction method for protecting privacy and confidentiality than the more common strip shredding.

The City is in the final year (May 1, 2019 to April 30, 2020) of a five-year contract with a commercial shredding service. That contract includes shredding services console and tote pickup (at City Hall and other City facilities), shredding services for the mass shredding of boxed records, and shredding services for the destruction of records in Records Retention (including inactive records stored at the third-party warehouse). The City requires that the box and its contents be shredded and that RIM Program staff witness the shredding.

While RIM Program staff are generally satisfied with the shredding service, they are frustrated that - despite prior arrangements - it is often necessary to reschedule a shredding booking because the shredding service dispatches the wrong type of truck (i.e. the truck cannot shred both a box and its contents). RIM Program staff also report that the shredding service failed to show up at the off-site warehouse as scheduled earlier this year.

## **6.9 Archival Records**

Below is a description of our understanding of the status of the City's efforts to date to identify and preserve its archival records. Note: See Section 5.5.1 for information about the draft Corporate Archives Policy.

### Archives qualifications and experience

All current RIM Program employees have completed archives training at the college or university level.

### Archival appraisal

Archival appraisal is one of the most challenging of archival functions. Any assessment of archival value should be done by a professionally trained archivist and the appraisal decisions documented in an organization's Records Retention Schedule. Some record series in the existing Records Retention Schedule have a 'P = permanent' retention period or a 'S = selected records retained' retention period. It is not known whether those retention periods are intended to preserve archival records and if so, whether a professionally trained archivist proposed them.



A brief review of the current Records Retention Schedule reveals that some record series of potential archival value are scheduled for destruction at the end of their approved retention period, e.g.

- Policies and Procedures (Series ID A-1010), including Council-approved policies, are to be kept for T+6<sup>97</sup>.
- Strategic Plans (Series ID A-1600) for branches are to be kept for CR+6<sup>98</sup>.
- Public Relations - General (Series ID A-3100), including records relating to the organization and management of public and special events, tours, delegations, and hospitality functions, are to be kept for CR+6.
- Urban Design (Series ID B-1220) records, including general concepts of planning the urban environment such as urban intensification and streetscapes, are to be kept for CR+6.

While series such as these may not merit archival retention in their entirety, many should, at a minimum, be designated for selective retention.

Records of potential archival value remain with the creating department / branch or in Records Retention until destroyed. An “archival” disposition option in the Records Retention Schedule would ensure that records of archival value would be transferred to the Archives sooner, thus minimizing the risk of loss or damage.

Appraising born digital records is a challenging and complex matter that involves a number of factors. Given the ever-increasing volume of born digital records produced by the City (some of which are potentially archival), the City must begin to address the acquisition and ongoing preservation and use of digital formats. Not to do so risks losing a significant body of archival records.

### Accessioning

It is essential that an Archives establish physical and intellectual control over new acquisitions in a timely manner. This is done through a process known as accessioning, and the information is recorded in an accession register. In the absence of an Archives Program, the City does not have an accession register. Minimal descriptive information is captured in Versatile about the archival records stored by the RIM Program in Retention Room # 1.

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<sup>97</sup> T+6 means termination of event + 6 years.

<sup>98</sup> CR+6 means current year + 6 years.

## Arrangement and description

As noted above, the accessioning process gives an Archives rudimentary control over new acquisitions as they come in. However, an accession register alone is not sufficient. An Archives must have more robust control over its holdings both for its internal good management and to make the records available for use by staff or the public. Arrangement and description are interdependent archival functions that together achieve this control.

Archival arrangement is the process of intellectually and/or physically organizing records in accordance with the archival principles of provenance and original order, and into levels of arrangement such as the fonds, the series, the file, and the item. For example, the archival records created by City Clerk Services will be kept together as a fonds, which will consist of series containing records that document various functions of the department. The series in turn will consist of files, which in turn will contain items.

Description is the process of establishing intellectual control over archival material by creating finding aids or other access tools that identify the content, context, and structure of the archival material. These finding aids, indexes, lists, and other access tools serve as surrogates for the records themselves so that staff or researchers can easily locate the relevant material without needlessly handling the contents of ten boxes to find the one box or file they need. Description starts at the top level (the fonds level), followed by the series level, and so on, and is done in accordance with the established international standard<sup>99</sup> on which the current Canadian standard (Rules for Archival Description)<sup>100</sup> is based. Taken together, arrangement and description are the means of bringing archival material under intellectual and physical control and making it accessible.

Arrangement and description are complex processes. Without a coherent and comprehensive descriptive system, the City risks losing control over its ability to locate and retrieve its archival records.

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<sup>99</sup> ISAD(G): General International Standard Archival Description, 2<sup>nd</sup> edition  
[www.ica.org/en/isadg-general-international-standard-archival-description-second-edition](http://www.ica.org/en/isadg-general-international-standard-archival-description-second-edition)

<sup>100</sup> Rules for Archival Description, rev., 2008.  
[http://archivescanada.ca/uploads/files/Publications/RADComplete\\_July2008.pdf](http://archivescanada.ca/uploads/files/Publications/RADComplete_July2008.pdf)

### Storage of archival records

There is no single designated space for the storage of archival records. There are no special environmental controls to maintain stable temperature and humidity in any of the City storage areas in which archival records are kept today.

The RIM Program houses a small collection of archival records (primarily birth, death, and marriage records in ledgers or bound books) in Retention Room # 1. These records are stored on open shelving without any protective coverings or enclosures (e.g. Hollinger boxes)<sup>101</sup>. As discussed in Section 6.4.1, Retention Room # 1 (like Records Retention Room # 2) is inappropriate for records storage. It is particularly inappropriate for the storage of archival records given the overhead water pipes and lack of temperature and humidity controls. Burial permits are stored in the 'vault' in City Clerk Services.

Various departments / branches keep records that should, ideally, be kept in an archives (e.g. City Clerk Services keeps original, signed and bound Council minutes). Information was not available regarding the location, storage conditions, extent, or types of any other archival records stored with creating departments / branches.

With the ever-growing volume of born digital records, it is likely that a sizeable volume of the City's electronic records may have archival value; however, any such archival records continue to be stored in the same fashion as the City's electronic records that do not have archival value.

### Loan or donation agreements

Archival institutions acquire, preserve, and make available for research records of enduring value. We determined<sup>102</sup> that the City transferred 80 metres of City records to

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<sup>101</sup> Hollinger is a brand name. Examples of boxes or enclosures commonly used to store archival records may be viewed here <https://www.hollingermetaleedge.com/modules/store/index.html?dept=565> This example is provided for information purposes only. It is not a product endorsement.

<sup>102</sup> We obtained this information from the Archives of Ontario's Archives Descriptive Database [http://ao.minisisinc.com/scripts/mwimain.dll?get&file=\[ARCHON\]search.htm](http://ao.minisisinc.com/scripts/mwimain.dll?get&file=[ARCHON]search.htm). The database entry for the City of Oshawa fonds (Fonds F 1844) states "These records were transferred to the Archives of Ontario by the Oshawa City Council in 1982." According to RIM Program staff, the database entry for fonds F 1844 is out of date and these records are no longer housed by the Archives of Ontario.

the Archives of Ontario in 1982. The Archives of Ontario describes the City of Oshawa fonds as follows:

Dates of Creation	1850-1965
Physical Description	80 metres of textual records
Scope and Content	This fonds consists of the official records of Oshawa, including Council Minutes, 1850-1965; By-laws, 1850-1965; Council Committee Minutes, 1934-1965; Board and Commission Minutes, 1959-1965; Assessment and Collectors Rolls, 1853-1965; Cash Books, 1898-1963; Ledgers, 1881-1961; Journals, 1904-1968; and Common School Trustees Records, 1851-1877.

It is not known whether this transfer was subject to a formal agreement of loan or donation.

The City has not loaned or donated any of its archival records to a local museum or archives.

### Digital Preservation

The RIM Program does not store any born digital records and has not acquired any archival records in born digital formats. Regardless, the matter of digital preservation is one of the most pressing issues facing archives today. Ensuring that born digital records maintain their integrity and remain authentic, reliable, and useable over time has become more challenging due to rapid technological change. Given the volume of born digital records of potential value, the City must address this “digital tsunami” in its Archives Program planning.

The National Archives (United Kingdom) describes digital continuity as follows<sup>103</sup>: “Digital continuity is the ability to use digital information in the way that you need, for as long as you need. If you do not actively work to ensure digital continuity, your information can easily become unusable. Digital continuity is about making sure that your information is complete, available and therefore usable for your business needs. Your information is usable if you can: a) find it when you need it, b) open it as you need

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<sup>103</sup> The National Archives (United Kingdom)  
<http://www.nationalarchives.gov.uk/information-management/manage-information/policy-process/digital-continuity/what-is-digital-continuity/>

it, c) work with it in the way you need to, d) understand what it is and what it is about, and e) trust that it is what it says it is.”

In the absence of proactive digital continuity measures, many of the City’s electronic records are (or will be with the passage of time)<sup>104</sup> at significant risk of becoming inaccessible due to software, hardware, and/or storage media obsolescence, and data corruption. This means the records will either cease to exist or the City will be unable to access and use them. The need for digital continuity is particularly acute for archival records to ensure the corporate memory is preserved; however, digital continuity is also required to safeguard non-archival records with long-term retention periods (decades) to ensure the records will be available to staff when needed and to comply with the RRS.

## 6.10 Mobile Computing

The 33% of I&RM Survey respondents who experience challenges in managing e-mails<sup>105</sup> were asked to identify their top three challenges in managing those records. Figure 43 illustrates their prioritization of the challenge of not being able to access e-mails when working remotely<sup>106</sup>.

**Figure 43 – Remote Access Challenges: E-mails**

Challenge	Number of Responses	Challenge Priority		
		# 1 Challenge	# 2 Challenge	# 3 Challenge
Inability to access e-mails when working remotely	9	0%	55.5%	44.5%

<sup>104</sup> I&RM Survey respondents were asked to identify their top three challenges in managing electronic records. Only 8% of the respondents who experience challenges in managing electronic records ranked ‘The electronic record was inaccessible due to software version changes, software discontinuation, or storage format changes’ as one of the top three challenges they are experiencing in managing electronic records. While this suggests that few survey respondents have encountered this challenge to date, the likelihood of electronic records becoming inaccessible increases with time.

<sup>105</sup> 78% of respondents answered the survey question, “Are you experiencing any challenges in managing e-mails?”.

<sup>106</sup> 97% of the respondents who experience challenges in managing e-mails provided at least one response to the question, “Please indicate the top 3 challenges (prioritized order - 1, 2, 3) you are experiencing in managing e-mails. 1 = the most challenging and 3 = the least challenging”.

Figure 43 illustrates that 13% of the survey respondents who experience at least one challenge in managing e-mails are experiencing the challenge of not being able to access e-mails when working remotely.

As shown in Figure 44, 22.5% of the I&RM Survey respondents who experience challenges in managing e-mails also experience difficulty in reading an e-mail attachment on a mobile device.

**Figure 44 – Mobile Device Challenges: E-mails**

Challenge	Number of Responses	Challenge Priority		
		# 1 Challenge	# 2 Challenge	# 3 Challenge
Difficulty in reading an e-mail attachment on a smartphone, tablet, or other device	16	12.5%	37.5%	50%

### 6.11 Intranet Content (iConnect)

The Computer and Internet User Corporate Policy (Policy Ag 10.99) “applies to any individual who has access to City owned/leased computers, communication devices, electronic mail, systems, networks, intranet and internet access”; therefore, that policy governs access to and use of the intranet which is discussed below.

It is not clear if record series Website - Internal (Series ID A-3531) scheduled for CR+6 years total retention is meant to contain the City’s public website content. The series’ Scope Note reads: “Records relating to the City's intranet and internet sites, including website review team.”

#### 6.11.1 Intranet Replacement Project

According to the request to single source contract approval for “the design, development, integration and implementation of a replacement City intranet”<sup>107</sup>, the current intranet site was developed in-house in the early 2000’s. Despite growth over the years, the site needed to be redesigned, ITS no longer had the webmaster skills available to enhance the site, and ITS’ mandate is to purchase commercial off the shelf (COTS) solutions instead of performing in-house development. Surveys and

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<sup>107</sup> Memo to Manager, Purchasing Services re: single source for intranet replacement, page 1.

facilitations with employees also identified the need to improve communication and collaboration<sup>108</sup> as described below.

‘Communication and collaboration’ was one of four corporate priorities identified by a Staff Advisory Committee and CLT from the results of the 2010 Employee Engagement Survey. Facilitation with various staff groups to improve communications identified several key goals such as “Improved or better internal communications between all levels of staff”, “Accurate information”, and “Collaboration”<sup>109</sup>.

External and internal communications, and specifically the need to improve the quality of internal communications, was one of the main themes of the feedback received at facilitations with staff in 2016 to obtain feedback on the City’s Strategic Plan. Some of the key messages on internal communication received from that feedback included “Clear, on-going line of communication with information on updates, changes, etc.”, “Make information accessible to all employees”, “Break down silos through interdepartmental and branch communication”, and share and communicate documents such as work / business plans and CLT meeting agendas and minutes<sup>110</sup>.

A 2016 survey of employees regarding internal communications and, specifically, the current intranet site provided input about the functionality and content of a redesigned intranet to help improve internal communications. Employees identified the following functionality and modules that would improve internal communication (pages 3-4):

- “Document and content search (there is no search capability on iConnect).
- Interactive forms.
- Better employee access and mobility.
- Areas where staff could comment, provide input and feedback and have current updates on their work group, key projects, etc.
- Shared learning areas.
- Department and branch specific pages that allows informal communication (e.g., Directors Blog).
- Page relevant information to notify content owner when updates are required.
- Secure area for management group.

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<sup>108</sup> ‘Collaboration’ refers to accessing information and sharing ideas (e.g. blogs, employee calendars, etc.). It does not mean collaboration in the context of ‘document collaboration’ (i.e. 1+ employees working together to prepare a document such as a report, preferably sharing and working on one copy of the document which is stored in a central location).

<sup>109</sup> Ibid, page 3.

<sup>110</sup> Ibid, page 3.

- Directory that includes profiles and proper organizational structure.
- Shareable calendars.
- Better integration with external Website.”

According to the request for single source contract approval, “The redesign of the City’s intranet will include a new look and feel, increased functionality and additional needed support for the system” (page 1) That request also highlights several benefits of the replacement site including the provision of staff access from remote or home computers and mobile devices and the ability of new employees to “access the intranet and important material relative to the City and their new job prior to their start date” (page 1). One benefit of particular relevance to this study is that managing both the intranet and the City’s public websites through the same solution (iCreate) will provide “one access/entry point for all Web-based content and allow the ability to share content seamlessly, eliminating the need to post information in two places in some situations.” (page 4)

The request for single source contract approval addresses the content on the replacement site and the existing site as follows (page 1):

- a) “eSolutions will facilitate workshops with staff to help organize the content into appropriate categories to develop the appropriate sitemap of the intranet, which provides a foundation for the layout of interior pages and allows for growth of new initiatives and meets communication requirements.”
- b) “The information currently contained on iConnect will be rewritten to meet new content standards and to ensure staff is getting the most current and valuable information in an accessible format.”

It is clear that the redesigned intranet site is intended to provide information (likely including records such as policies and training materials) and facilitate communication across the City. We did not, however, receive any documentation to review which described the intended relationship between the redesigned site and existing repositories of electronically stored information (and records), particularly the network file shares.

The Executive Director, Human Resource Services is the Executive Sponsor of the Intranet Replacement Project and Project Manager responsibility is shared between one HR and one ITS employee. No RIM employee is a member of the project’s Steering Team or Core Team.



Going forward, the RIM Program will review and track all forms on the intranet and ensure a form, when applicable, has a collection of personal information statement as required by MFIPPA.

Note: The replacement intranet was launched on September 23, 2019.

## 6.12 Public Website Content

The Council-approved Online Communications Policy provides “guidelines and criteria for the use of e-Communications including website content” (page 1)<sup>111</sup>. It also authorizes the use of RSS (really simple syndication) “As an online service, allowing web users to subscribe to the specific feed(s) that are of interest” (page 2); however, the City has set-up a double opt-in subscription service to receive news, etc. instead of using RSS.

The policy addresses privacy in relation to the website by requiring a privacy message regarding the collection of non-identifying information, the use of cookies, and the collection, use, and disclosure of personal information to be posted on the City’s website under ‘Terms of Use’ and requiring that message to be accessible from any webpage footer, including the homepage. The policy specifies the text to be included in the privacy message with the part of the message pertaining to the collection, use, and disclosure of personal information<sup>112</sup> being most relevant for this project.

The Terms of Use on the City’s website also address personal information in relation to the Connect Oshawa website. The Terms of Use explain that no personal information is

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<sup>111</sup> The policy lists the City’s website ([www.oshawa.ca](http://www.oshawa.ca)) as well as the following e-communications accessed from the website: e-newsletters ([www.oshawa.ca/enews](http://www.oshawa.ca/enews)) and the community events calendar ([www.oshawa.ca/events](http://www.oshawa.ca/events)).

<sup>112</sup> The privacy message states the following regarding the collection, use, and disclosure of personal information: “There may be instances where your personal information is required to provide you with information or services. Where your information is required, the amount collected will be limited to the minimum amount and type necessary to provide you with the information or service requested. This information will only be used for the purposes for which it was collected and will not be used to create an individual profile or combined with other information held by the City to create a new database of information. Where the collection occurs a notice will state the legal authority, purpose and the name, address and phone number of the individual who can answer questions regarding the collection. The personal information that you provide will be used, protected and disclosed only in accordance with the Municipal Freedom of Information and Protection of Privacy Act.” (page 7)

collected in order to view the Connect Oshawa website but that information (e-mail address, username / screen name, password, postal code, and date of birth) is required to set up a Connect Oshawa account which may be required to participate in the discussions, surveys, or engagement opportunities. The Terms of Use also advise, “Your use of Connect Oshawa may also result in the collection of additional personal information about you, including your opinions on a particular matter or any other personal details you choose to volunteer. Please remember that the information on Connect Oshawa is publicly accessible and any information you post or opinions you provide may be viewed by any other visitor to the Site.” The Terms of Use also includes a FAQ section which answers privacy-related questions such as “How will my personal information be used?” and “Will you sell or share my personal information?” The Terms of Use direct an individual requiring “More information on the Connect Oshawa privacy policy beyond what is noted below . . . [to contact] the City’s Freedom of Information and Privacy Coordinator at 905-436-3311 or by email.”<sup>113</sup>

The 2013 Online Communications Strategy identifies several website best practices:

- Accessibility (i.e. providing equal access to all individuals navigating the City’s website).
- Common look and navigation (i.e. the ability to find any information with three mouse clicks or less).
- Navigation structure and site architecture (simple, straightforward navigation structure based on the user perspective, making it easy for users to find key information).
- Search engine optimization (i.e. using metadata and meta tags to help the website rank high in search ratings).

The website content best practice described in the Strategy is particularly germane to this report, “Content must be easy-to-find, clear, accurate and up-to-date.” (page 4). The Strategy recognizes that “well-organized, high-value content will drive more traffic to the corporate website and increase user engagement in terms of e-Communication channels.” (page 4)

It is not clear if record series Website - External (Series ID A-3532) scheduled for CR+6 years total retention is meant to contain the City’s public website content. The series’ Scope Note reads: “Records relating to websites hosted by the City of Oshawa on behalf of local boards, committees and partner organizations.”

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<sup>113</sup> Clicking on ‘email’ launches one’s e-mail system to send a message to [clerks@oshawa.ca](mailto:clerks@oshawa.ca).

The City has two public websites: the main corporate, information-based site ([www.oshawa.ca](http://www.oshawa.ca)) and the online engagement platform ([www.connectoshawa.ca](http://www.connectoshawa.ca)). Our observations regarding the management of content on those sites are provided below.

#### The [www.oshawa.ca](http://www.oshawa.ca) Website

Approximately fifty department / branch employees are trained to upload and edit content. There is a two-step process for approval of content on any page: editor and publisher, with publisher approval, depending on subject, being assigned to Corporate Communications, Recreation Services, or Service Oshawa.

Corporate Communications approves requests for new pages. Corporate Communications tries to limit the creation of new pages by first looking to see if the proposed new page can be linked to an existing page, whether an existing page can be updated, or whether the proposed new page and an existing page can be merged.

The website's content management system produces a 'stale dated pages' report which lists any pages which have not been changed / updated in the past six months. Corporate Communications asks departments / branches are asked to review the list and review / edit and republish the stale dated pages if/as applicable.

Unlike other websites with which we are familiar, the deletion of content from a page or the deletion of a page (and any associated images) does not result in that content / page being 'unpublished' (i.e. no longer viewable on the site but still resident on the site); instead, the content / page is deleted and in the case of a deleted page, the page is removed from the sitemap. News postings are an exception - when they are no longer current, they are 'expired' (i.e. removed from view but remain on the site).

The content management system (iCreate) saves each page as a different version. Therefore, provided a page has not been deleted, the City could (if necessary) roll back in time to establish the content that was available on a certain date. If the required page has been deleted, the City may be able to obtain a copy from the hosting service's backup or the City could look to see if the deleted page was captured on the required date by the Internet Archive Wayback Machine <https://archive.org/web/>.

### The [www.connectoshawa.ca](http://www.connectoshawa.ca) Website

The content of a web page or a survey is approved by the department / branch responsible for the project and, when applicable, the RIM Program reviews the content or survey and adds the MFIPPA statement. Only Corporate Communications can add or remove content from the site.

The site for a community engagement project is live (i.e. available for comment) for a minimum of three weeks. At the end of that period, the site is removed from the homepage and the content for the project is archived and kept indefinitely.

Corporate Communications staff manually remove personal identifiers from reports prior to their release, whether internal or external release (e.g. giving a consultant a report of a survey conducted for a project the consultant is managing for the City). Because this is a manual process, there is the risk of human error.

### **6.13 Social Media Content**

The City has five corporate social media accounts (Facebook, Instagram, LinkedIn, Twitter, and YouTube).

Four branches also have social media accounts (Animal Services on Facebook, Economic Development Services on Twitter, Fire Services on Twitter, Recreation and Culture Services - culture on Facebook and Twitter, and Recreation and Culture Services - Recreation on Facebook and Twitter)<sup>114</sup>.

Corporate Communications is responsible for managing “the City’s corporate social media channels, including content and creative on Twitter, Facebook, Instagram, LinkedIn and YouTube” and providing “strategic direction and governance for the City’s audience-specific social media accounts”<sup>115</sup>

It is not clear if record series E-Communications & Social Media (Series ID A-3106) scheduled for CR+6 years total retention is meant to contain the City’s social media posts. The series’ Scope Note reads: “Includes records relating to electronic

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<sup>114</sup> The Oshawa Executive Airport also has a Twitter account.

<sup>115</sup> Corporate Services Committee Report (CORP-18-29) re: Communications Strategy 2018 - 2021 (pages 4 - 5).

communications and social media activities, including electronic newsletters and records relating to facebook, twitter and youtube.”

The City does not use social media archiving software (e.g. ArchiveSocial); therefore, the City would need to rely on a social media channel’s continued retention of the City’s social media content if the City was asked to provide evidence of a social media post or comment.

The City’s use of social media is governed by the policies and other documents described below.

#### Computer and Internet User Corporate Policy

The Computer and Internet User Corporate Policy (Policy AG 10.99) governs employees’ use of social media “whether using City property and/or personal computer systems”. (page 2)

It outlines conditions for the use of social media on behalf of the City as follows: “Only authorized employees (approved by the City Manager and/or Corporate Leadership Team representative) may use social media on behalf of the Corporation. Authorized staff making comments on behalf of the City must ensure that all information is factually correct, timely, relevant and consistent with the City’s key messages . . . Furthermore, authorized staff must follow the City of Oshawa e-communication Accounts Guidelines Manual, Online Communications Policy and adhere to the Employee Code of Conduct.” (page 5)

The policy also states “Users shall not engage in any social media that may harm or tarnish the image, reputation and/or good will of the City and/or any of its employees / Councilors. Users are also prohibited from making any discriminatory, disparaging, defamatory or harassing comments or otherwise engaging in any conduct prohibited by the City of Oshawa’s Respect in the Workplace - Harassment and Violence policy LR14.10 or Code of Conduct policy AG.1080.” (page 9) Employees are also prohibited from attributing “personal statement, opinions or beliefs to the City of Oshawa when engaging in social media. If a user expressing his/her beliefs and or opinions in social media site, the employee or representative of the City MAY NOT, expressly or implicitly, represent themselves as an employee or representative of the City. Users assume all risk associated with blogging.” (page 9)

The policy also states it is “inappropriate for staff to respond to City related matters from personal social media accounts.” (page 5) In addition, the policy prohibits “Postings by

users from a City of Oshawa email address to newsgroups or social media . . . unless posting is in the course of business duties and/or permitted by the Corporate Communications guidelines. “ (page 5)

### Online Communications Policy

The Council-approved Online Communications Policy provides “guidelines and criteria for the use of e-Communications including . . . Twitter, Facebook, YouTube” (page 1).<sup>116</sup> It also authorizes the use of RSS (really simple syndication) “As a turn-key method to deliver content (City news, emergency notifications, service updates, public notices, meetings and employment opportunities, and community events) to the City’s Twitter and Facebook accounts” (page 2).

The policy describes the City’s use of Twitter as follows: “The City’s Twitter profile shall state that the purpose of the account is to provide timely, relevant information, and encourage residents to contact Service Oshawa with their inquiries and comments. Followers shall be able to send comments, which shall be monitored and responded to by Corporate Communications, in collaboration with Service Oshawa, to ensure consistency in maintaining customer service standards and for records management.” (page 3) The description of the City’s use of Facebook includes the following: “Viewers shall be able to leave comments, which shall be monitored and responded to by Corporate Communications, in collaboration with Service Oshawa, to ensure consistency in maintaining customer service standards and for records management.” (page 3). It is not clear what is meant by ‘records management’ in either of those statements.

The policy requires title description tags and category fields to be completed for videos on the City’s branded YouTube channel to ensure video search-optimization. The policy also prohibits comments, comment voting, video responses, and rating on the City’s YouTube channel.

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<sup>116</sup> The policy lists the following City social media accounts (page 1): “OshawaCity” Twitter Account ([www.twitter.com/OshawaCity](http://www.twitter.com/OshawaCity)), “OshawaCity” Facebook Page ([www.facebook.com/OshawaCity](http://www.facebook.com/OshawaCity)), and “OshawaCity” YouTube Page ([www.youtube.com/OshawaCity](http://www.youtube.com/OshawaCity)); however, the Terms of Use on the City’s website refer to the City’s social media accounts as “including but not limited to Twitter, Facebook, YouTube, Instagram, and LinkedIn”.

The policy addresses privacy in relation to social media as follows: direct messages (DM) are to be used on Twitter “when messages require private information.” (page 3)

The policy gives the City “the right to not post or to delete content (including comments, community events and external links) that (page 2):

- include foul language or vulgarities;
- are offensive to an individual or an organization, rude in tone, or abusive;
- solicit/advertise/promote particular services, products, or political parties, advocacy groups or organizations;
- infringe on copyrights or trademarks;
- are spam; and/or
- are off topic, meaning that the comment does not focus on City of Oshawa events and the promotion of local tourism.”

The policy does not require the City to keep a record of the content it refuses to post or the content it deletes. When content is deleted<sup>117</sup>, Corporate Communications staff take a screenshot of the deleted content, note why the content was deleted, and store the deleted content and note in the branch’s shared drive. No retention period has yet been established for these records.

### Social Media Accounts Governance and Guidelines Manual

The Social Media Accounts Governance and Guidelines Manual “provides information on City of Oshawa employee responsibilities, account management, security and the process of posting to the City of Oshawa’s social media accounts. It also provides best practices and resources to assist in:

- developing annual social media account plans;
- developing content calendar and social media messages; and,
- compiling and analyzing analytics.” (page 1)

The Manual states that Facebook message and Twitter message content should contain a web link that directs users back to the City’s official website for in-depth information (or to the community partner’s official website for more details if the Twitter message is community partner news). (pages 27 and 30 of the Manual)

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<sup>117</sup> Facebook only allows a comment to be hidden, not deleted.

The Manual directs authorized employees to “Post messages on their respective Branch social media accounts using the Hootsuite Dashboard<sup>118</sup>.” (page 11) Hootsuite captures the City’s posts only. It does not capture the comments that others may make in response to those posts. To keep a record of the City’s posts, Corporate Communications can download each post with a date and time stamp.

The Manual also states: “As per the Website Terms of Use, the City reserves the right to respond and to report, remove or block comments, accounts, links and other content that:

- are not topically related to the particular message.
- are spam.
- include foul language or vulgarities.
- contain identifying personal information or where there are privacy concerns.
- are offensive to an individual or an organization, rude in tone, or abusive.
- solicit / advertise / promote particular services, products, or political individuals, political campaigns, advocacy groups or organizations.
- infringe on copyrights or trademarks” (pages 11 - 12).

The manual does not require the City to keep a copy of any comments it removes from its social media accounts.

## **6.14 Enterprise Content Management (ECM) Technology**

The current (2011) IT Strategic Plan<sup>119</sup> describes the City’s information management and document management environment as follows:

“Like many other organizations, Oshawa is swimming in information, much of it unstructured and stored in documents, emails, and other media. Many staff are overwhelmed by email volumes and find it challenging to be able to manage project collaboration and document access. Being able to access relevant, accurate, and up-to-date information in a timely fashion is critical to the effective operation of the City.

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<sup>118</sup> The Social Media Accounts Governance and Guidelines Manual describes a social media dashboard as “an organizational software tool that helps manage and maintain various social media accounts in one place (includes the ability to pre-program and respond to inquiries / mentions.” (page 12)

<sup>119</sup> The City is in the process of developing a new IT Strategic Plan, as discussed in Section 9.2.



Regulatory responsibilities also provide municipalities with a set of obligations. The Municipal Freedom of Information and Protection of Privacy Act requires that all municipalities maintain a Directory of Records and a Directory of Personal Information Banks.

Collectively, over the next 2-3 years, it will be important to address the information overload challenge, comply with legal obligations, more effectively access and share documents, and become a more collaborative organization.

The immediate need at the City is for document management. Document management includes both hard copy and electronic documents, including emails, text messages and other types of e-messaging. Drawing management also falls into this area – being able to manage, reference, and archive large scale drawings is also a key requirement.” (page 16)

When written in 2011, the IT Strategic Plan identified “Information and Document Management: developing better solutions for document management and collaboration” (page 2) as one of six key technology business needs at the City over the next three years. However, the Strategic Plan cautioned that “many document management projects fail or stall because of a poor understanding of the implications of undertaking such a project and everyone has a different view of what document management should deliver. It is important that any document management project is effectively scoped to ensure everyone is clear about the intended purpose and outcomes, and there is a clear distinction between Content Management, Records Management, Workflow Management & Document Management, all separate and distinct concepts, for which different solutions are available.” (page 16)

Consequently, the IT Strategic Plan recommended “establishing a program working group for information management and engaging an external consulting organization to assist in a broad assessment of information management needs, and the development of the detailed plan would be a priority. Further work could then be undertaken in specific areas, such as Enterprise Content Management or document management, specifically.” (page 19) The three-year (2011 - 2013) work plan in the Strategic Plan recommended the completion of a Document and Records Management Assessment and an Information Management Strategy / Plan in 2011 with document management implementation occurring in 2012 - 2013.

The Manager, Records Information Systems made a presentation to CLT in October 2016 on enterprise content management (ECM)<sup>120</sup> as a corporate-wide initiative. The presentation:

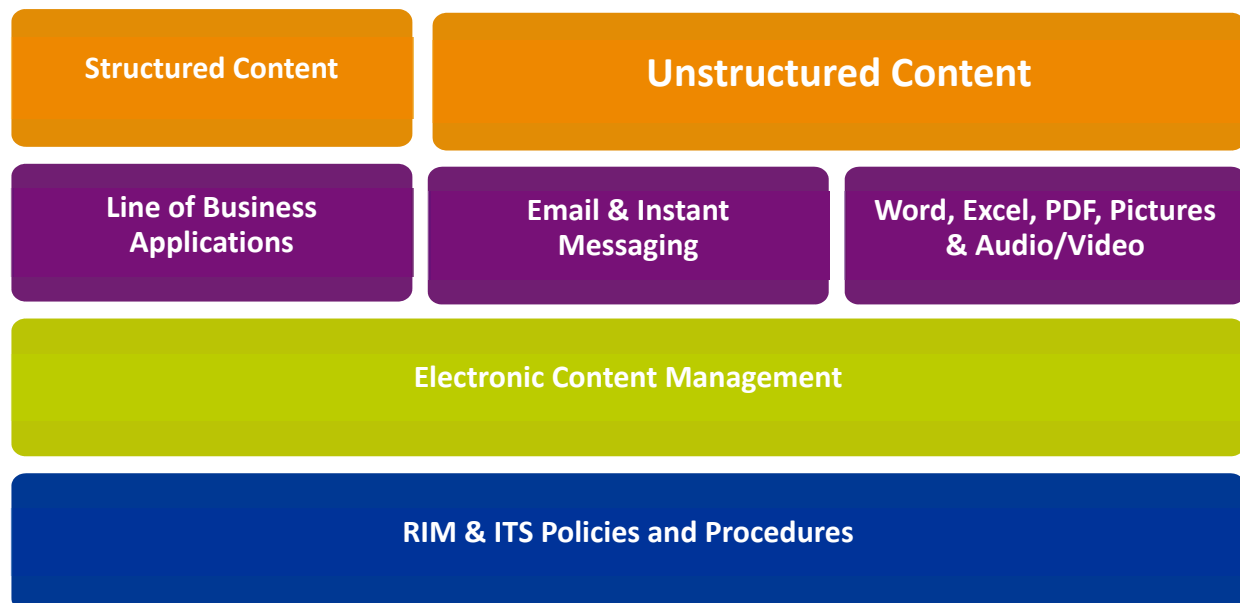
- a) Defines ECM as “The strategies, methods and tools used to capture, manage, store, preserve and deliver content and documents related to organizational processes. Basically, how we manage information and records throughout and across the organization.”
- b) Identifies ECM elements (capture, manage, store, preserve, and deliver content).
- c) Illustrates the ECM framework (see Figure 45).
- d) Lists key drivers for ECM implementation at the City (e.g. organizational demand, litigation and FOI requests, proliferation of unstructured content, and information silos).
- e) Describes the City’s current state in terms of paper and electronic records volume and growth.
- f) Identifies next steps (i.e. CLT approval for the development of an ECM Strategic Plan and corporate-wide implementation, report to Committee / Council, and engagement of a consultant to prepare an ECM Strategic Plan).

While we are unaware of the outcome of the presentation, we surmise that CLT received it for information only because the City has not developed an ECM Strategic Plan.

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<sup>120</sup> Historically, this technology was called EDRMS (enterprise document and records management system) which the National Archives of Australia defines as “an automated software application designed to assist ... with the creation, management, use, storage and disposal of information and records. An EDRMS may also automate business processes such as workflows and approvals and be integrated with other business systems.” <http://www.naa.gov.au/information-management/managing-information-and-records/systems/EDRMS/index.aspx> Today, the technology is known as ECM (enterprise content management) which Gartner defines as “Enterprise content management (**ECM**) is used to create, store, distribute, discover, archive and manage unstructured content (such as scanned documents, email, reports, medical images and office documents) and ultimately analyze usage to enable organizations to deliver relevant content to users where and when they need it.” <https://www.gartner.com/it-glossary/> Some vendors have begun to refer to this technology as CSP (content services platform).

**Figure 45 - ECM Framework**



At the instigation of the Manager, Records Information Systems, City Clerk Services used itself as a pilot for 'going paperless'. Since sometime in 2016, the branch has stored the following records in a shared drive: all born digital records it creates or receives (including e-mails converted to Adobe PDF) and PDF scans of all incoming paper records (the paper records are destroyed after scanning). The folder structure on the shared drive approximates the record series in the Records Retention Schedule. If an employee is uncertain where to file a document, the employee places it in a 'temporary' folder for one of the Analysts to classify later.

Employees report that it is time-consuming to scan all incoming paper records and business processes require some documents to be saved to four folders resulting in duplication and increasing the risk that a final / approved document will not be used if staff forgot to replace all copies of a document which was updated or revised. We are not aware that scanning specifications and procedures (e.g. resolution, quality assurance, etc.) were developed or that Legal Services was consulted regarding the pilot.

When asked, "If you could change one thing about how records are managed in your department / branch, what would it be? And why?", 26 (17%) of the I&RM Survey respondents who answered that question identified a reduction in or the elimination of paper records.

## 7. Structured Data and Systems

Not unlike many municipalities, the City uses a broad set of information tools and structured systems to support operations. These include corporate systems hosted by the City, cloud-based solutions supported by third party vendors as well as specific database solutions (including Microsoft Access databases) deployed and operated by individual Branches.

The Computer and Internet User Corporate Policy (Policy Ag 10.99)<sup>121</sup> “applies to any individual who has access to City owned/leased computers, communication devices, electronic mail, systems, networks, intranet and internet access”; therefore, that policy governs access to and use of the City’s structured data and systems.

This section discusses current practices for managing data in the City’s structured systems and Microsoft Access databases and compares those practices to the best practices in the CMMI Data Maturity Model.

### 7.1 Data Management Maturity

In order to maximize the overall usefulness of structured systems and create valuable information from the data contained therein, an organization must first understand where it is on the overall trajectory of data management maturity as a discipline. One common way to do this is to benchmark against an industry standard best practice. The Capability Maturity Model Integration (CMMI) Data Maturity Model (DMM) framework<sup>122</sup> is a commonly used reference model to do exactly that.

CMMI pioneered the use of capability maturity modeling, first with a focus on software development in the 1980’s, before expanding into other domains. The CMMI institute is now a central component of the Information Systems Audit and Control Association (ISACA) which is internationally recognized as a leader in creating standards round the governance of IT governance (COBIT), security, agile and quality assurance. After an extensive 3.5 years in development with hundreds of industry and partner organization

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<sup>121</sup> The purpose of this policy is to “provide clear rules and guidelines for the appropriate use of The Corporation of the City of Oshawa (hereby referred to as “the City”) provided computers, electronic communication devices, systems, networks as well as, internet/intranet access.” (page 1). The policy applies “whether or not that access is during normal working hours and whether such access is from the City’s premises or elsewhere.” (page 1)

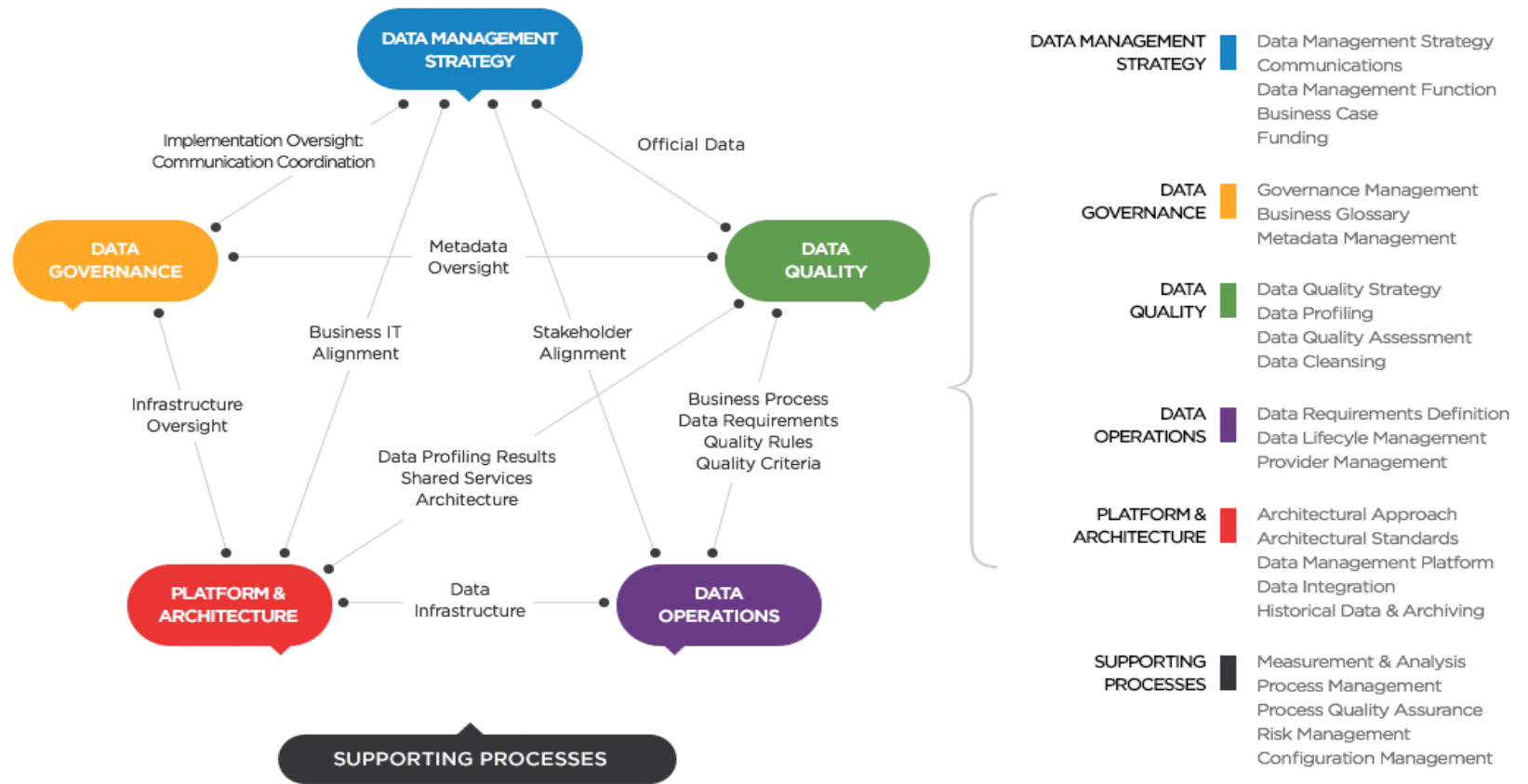
<sup>122</sup> The DMM is available for purchase from the CMMI Institute. Information about the DMM is available at <https://cmmiinstitute.com/data-management-maturity>

contributions, the DMM is now used in thousands of organizations around the world to help improve their data management practices. Formal training, certification and assessments on capability modeling like DMM are now widely available.

That said, the DMM is not prescriptive in terms of *how* an organization can increase its capabilities, nor is it specific to the use of certain information systems or technology (i.e. it is system agnostic). Instead, it is adaptable to each context in order to identify capabilities that are weak or non-existent and address strengths upon which an organization can build. This allows organizations to use the DMM as a guide to structure their thinking and practical planning on how to make and measure improvements that are aligned with capacity and resource availability.

The DMM identifies best practices in five areas, as shown below in Figure 46.

**Figure 46 - DMM Best Practices<sup>123</sup>**

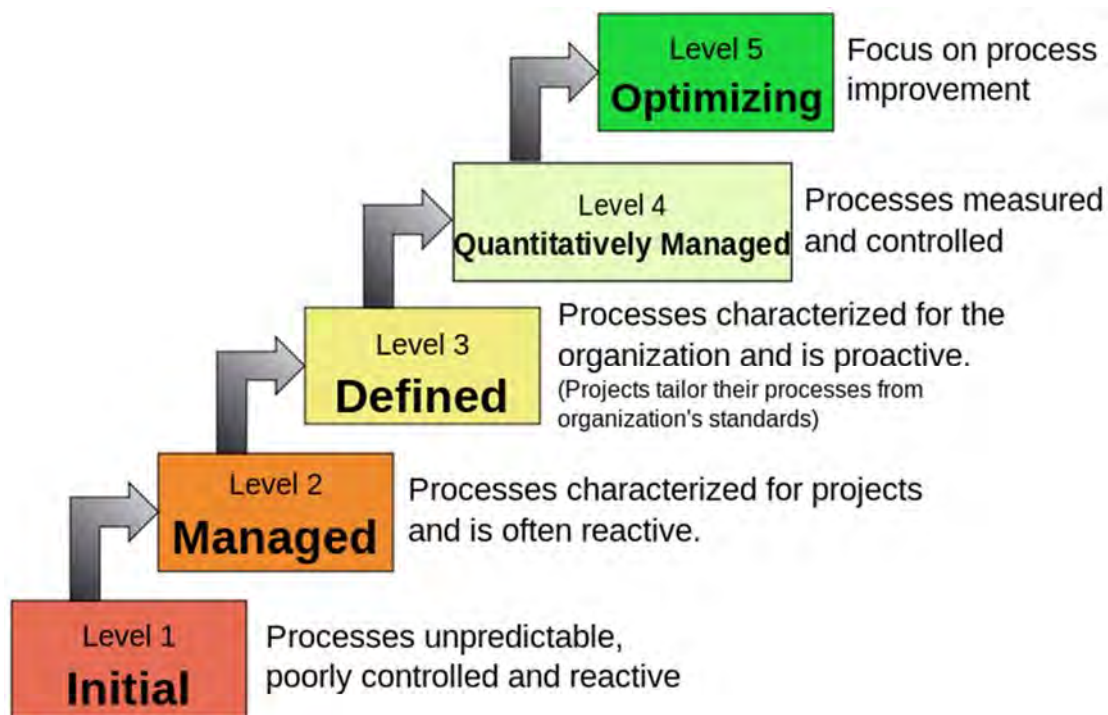


<sup>123</sup>

Researchgate.net [https://www.researchgate.net/figure/The-six-key-themes-of-CMMIs-Data-Management-Maturity-DMM-model-34\\_fig1\\_309792608](https://www.researchgate.net/figure/The-six-key-themes-of-CMMIs-Data-Management-Maturity-DMM-model-34_fig1_309792608)

Maturity' is a key concept within capabilities framework models and is similarly followed by DMM (Figure 47). Assessing a maturity level allows an organization to understand where it is and where it needs to go with respect to its strategic goals.

**Figure 47 – DMM Maturity Levels**<sup>124</sup>



Although not formally assessed through the I&RM Strategic Plan project, the City would rank low (level 0-1) in terms of an overall maturity according to the DMM because most of the City's data management practices are undocumented, informal and reactive. This doesn't mean that data management isn't occurring within the City - there is ongoing work that can be leveraged to improve the City's overall capability maturity with respect to data. But these are small areas currently unsupported to the level that would be necessary for them to illicit change at a corporate level. References to these current state opportunities are provided below under the relevant categories.

The following sub-sections provide an account of the City's current data management practices against the best practices of the DMM framework. This assessment is

<sup>124</sup>

[https://commons.wikimedia.org/wiki/File:Characteristics\\_of\\_Capability\\_Maturity\\_Model.svg](https://commons.wikimedia.org/wiki/File:Characteristics_of_Capability_Maturity_Model.svg)

organized in relation to the DMM categories. The best practice, as extracted from the DMM framework, is provided in italicized text at the beginning of each sub-section.

### **7.1.1 Data Strategy**

#### **7.1.1.1 *Strategy***

*Defines the vision, goals, and objectives for the data management program, and ensures that all relevant stakeholders are aligned on priorities and the program's implementation and management.*

Data management, as characterized by the DMM, requires a shared vision and understanding that data is an asset to the organization. A corporate strategy also reinforces the notion that data management is not simply a project, task or exercise undertaken by City Clerk Services or ITS – it should become a routine discipline supported by every corner of the organization not unlike financial management.

The CMMI notes that a data strategy will commonly consist of a vision, program scope, business value, reference to a framework (like DMM), roles and responsibilities, governance, metrics and a high-level roadmap. The strategy should not be static; there should be a frequency with which decision makers review and revise the strategy according to the changing context of the City. The need for clear leadership of a data strategy cannot be overstated. City-wide acknowledgement, buy-in and human resource investment are critical for success.

There is no formal data management strategy in place at the City, and a City-wide assessment has not been completed. There are some areas (and people) that could be leveraged to help build one. Resourcing will be a challenge, however, as many of these resources are key 'doers' within the organization and have little capacity to invest toward strategic development. Some City programs (GIS and Open Data) and technology implementation projects (CityView and Maximo) have been supporting work to address data management issues but are compelled to think from a project perspective rather than through a strategic lens. Still, if leveraged effectively, these are valuable efforts that may help build a critical mass to support a data management strategy at the City.

#### **7.1.1.2 *Data Management Function***

*Provides guidance for data management leadership and staff to ensure that data is managed as a corporate asset. Executive oversight is critical to establish and maintain data management principles, facilitate adoptions and ensure alignments across the organization.*



Accountability as well as clearly defined roles and responsibilities are what will help to make the data management function relevant. Sponsorship of the function by City leaders will help drive business ownership and guide alignment of the program with other, overarching strategic goals and objectives.

There is no corporate-wide data management guidance provided at the City because no staff are charged with data management as a function. There are several areas within the City which help to curate conversations and support best practice around data management; however, this is not connected in anyway to leadership that provides support and guidance in relation to managing 'data as a corporate asset'. Internal communities of practice exist (e.g. GIS, ITS project working groups, open data, privacy through City Clerk Services, etc.) but unless mandated and empowered by City leadership, their efforts will lead to piecemeal improvements rather than widespread change.

There is evidence that the overall pace of technology has led to a greater understanding of 'data as an asset' in some areas. There are a handful of projects driven by Branches directly (e.g. operational dashboard in Fire and performance reporting by Service Oshawa) that signal there is a need to invest further in this area. Furthermore, and as noted earlier, technology projects are now being managed by the City to address privacy and data issues (e.g. Intelligenz). These can be good building blocks to help move the organization forward but, again, investment is required to leverage this work for the whole of the City.

#### **7.1.1.3 Business Case**

*Provides a rationale for determining which data management initiatives should be funded and ensures the sustainability of data management by making decisions based on financial considerations and benefits to the organization.*

A business case can help articulate the value and bring consistency to a corporate data management program by prioritizing the work accordingly. Priorities must be determined based on a gap analysis and in accordance with the overarching strategic goals of the City. A business case also helps to cultivate support across the organization based on a collection of common needs relative to each operational area.

The City budget process as well as ISSC support the evaluation of projects where data can be a key component, but there is no priority consideration given to data projects at this time. There also does not appear to be any clear format or process with which to evaluate and make decisions regarding data.

#### **7.1.1.4 Data Program Funding Stream**

*Ensure the availability of adequate and sustainable financing to support the data management program.*

A key component tied to a data management strategy is a dedicated funding stream to support the overall program. Although the City has traditionally funded certain program elements (like GIS and open data) as well as one time, project-specific resourcing (like the data assessment phase as part of the CityView project and the tree canopy inventory build in Forestry), there is no formal program funding established for corporate-wide data work at this time.

Dedicated and ongoing investment would support the enhancement of data capabilities within the organization. It would also provide a mechanism for decision making that would require business sponsorship of data initiatives as well as corporate leadership endorsement around the City's priority areas. Funding streams should be allocated based on a corporate review of business cases and managed in accordance with success measures of each initiative.

#### **7.1.1.5 Communications**

*Ensure that policies, standards, processes, progress announcements, and other data management communications are published, enacted, understood and adjusted based on feedback.*

The DMM refers to the act of 'promulgation', which is to formally proclaim a new statute following its enactment. Not unlike Council approved by-laws, the administration can promote new policies and practices in order to ensure they are acknowledged broadly as a sanctioned mandate for staff. Formal data management is new to many organizations, and as a result, approval typically requires wide promulgation in order to take hold. This is often seen from a top-down perspective whereby executive leadership communicates the importance of a newly approved policy. In support of this, however, is also the grassroots of the organization (i.e. the rank and file that may have been employing aspects of the policy (albeit likely informally) for some time). To be truly effective at communicating new policies and programs, communication must occur across the organization both from the top-down and top-up.

Currently at the City, there is only grassroots information sharing occurring by data practitioners (e.g. GIS, open data users/creators, IT system super users, project related working group members, Records Management Branch reps, etc.). City Clerk Services also provides compliance related information support to the City, mainly in respect to privacy education. The ongoing intranet project is also an area of opportunity to help profile data work.

## 7.1.2 Data Governance

### 7.1.2.1 **Data Governance Management**

*Develop the ownership, stewardship and operational structure needed to ensure that corporate data is managed as a critical asset and implemented in an effective and sustainable manner.*

There is no formal data governance board or framework established at the City. Furthermore, there has been limited activity toward identifying and/or classifying the City's core data (i.e. the City's **key data entities**). In order to scale efforts, it is important that the City identify what data is most critical and for what purpose. This would allow data improvement initiatives to work on the highest priority data first. As an example, Figure 48 illustrates the key data entities developed with a previous municipal client.

**Figure 48 – Key Data Entities Example**

#### **Place**

- Address
- Street
- Location
- Jurisdiction

#### **Party**

- Organization (Business, Association)
- Person (Employee, Customer)

#### **Governance**

- Policy
- By-law / Regulation
- Agreement
- Standard

#### **Operations**

- Request

- Service
- Program
- Project
- Work (PM, RM, Inspect)

#### **Asset**

- Equipment
- Facility / Resource
- Infrastructure
- Inventory

#### **Financial**

- GL, Cost Centre, Cost Element
- Budget
- Purchase / Capital Orders

#### **Measures**

- Demographic Measure
- Performance Measure

This list was generated from a simple exercise but allowed the municipality to formalize data custodians for each set (also referred to as data custodians or trustees), initiate work on standards that support each subject (also referred to as data topics) as well as

better target data cleansing projects. Although some business system owners at the City of Oshawa also agreed that they were the owners of data (e.g. Intelligenz, Lagan, gtechna “Officer”), roles and responsibilities related to data management are largely unclear and implicit rather than explicitly defined or recognized. Data governance is more directly tied to a system (e.g. Maximo), program (e.g. GIS) or project (e.g. Intelligenz) rather than applied more strategically across the enterprise.

The ISSC provides technology governance for the City that often considers data as it relates to projects and systems; however, it does not explicitly govern data broadly for the corporation (by developing policy, standards, review/maintenance processes, etc.). Data sharing agreements are also in place with the Region and CLOCA; however, they are administered at the Branch level.

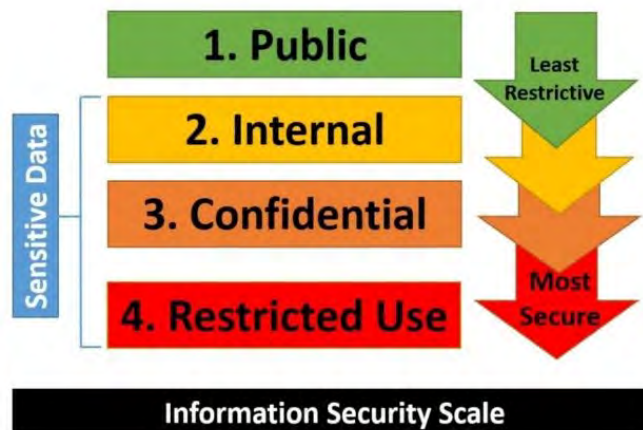
There is no data classification scheme in place at the City. In most cases, this should be developed prior to identifying the high priority data sets. Essentially, data classification represents categories of sensitivity ranging from restricted use to that which can be openly disseminated to the public. Although data classification models can range from 3 to 8 specific categories, a scaled down version is often more effective as it helps to more simply frame data management for users through a corporate lens. While data classification is not currently commonplace for cities, it seems to be commonplace for many post secondary institutions such as Boston University<sup>125</sup>.

Data classification provides a framework with which to communicate around data, privacy and risk. The example below (Figure 49) developed by Queen’s University uses a commonly used 4-category model to build out examples as well as use-cases and process information to help users manage data in accordance with its overall lifecycle.

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<sup>125</sup> Boston University Data Classification Policy <http://www.bu.edu/policies/data-classification-policy/>

**Figure 49 – Data Classification Schema Example**<sup>126</sup>



#### **7.1.2.2 Business Glossary**

*Supports a common understanding of terms and definitions about structured and unstructured data supporting business processes for all stakeholders.*

A central tenant of effective data management is standard and consistent use of terminology. If the City recognizes standard terms then it becomes far easier to apply controls and review practices to ensure better data outputs. A Business Glossary is a means of sharing internal vocabulary about data and data elements within an organization. It's a compendium of business terms and definitions which are approved and made broadly available. Creating a Business Glossary can be especially challenging within the municipal context as there can be diversity of language between Branches and operational units (at times, even within these divisions). As an example, in the area of property and addressing, Figure 50 lists some important terms that must be consistently defined and used.

<sup>126</sup> Queen's University Classification Hierarchy  
<https://www.queensu.ca/its/security/policies-procedures/standards/data-classification>

### **Figure 50 – Business Glossary Terms Example**

- |                                     |  |
|-------------------------------------|--|
| • Unique Property Identifier (UPID) | • Unique Street Reference Identifier (USRID) |
| • PIN #                             | • Street Name                                |
| • Roll #                            | • Postal Code                                |
| • Proposed                          | • Neighborhood                               |
| • Approved                          | • Intersection                               |
| • Build in-Progress                 | • Townhouse / Condominium                    |
| • Occupied                          | • Secondary Suite / Apartment                |
| • Property                          | • Service Delivery Point                     |
| • Unit                              | • Building Footprint                         |
| • Address                           | • Parcel                                     |
| • Address Point                     |  |

Important details about how values may be recorded and formatted should also be determined (for instance, in detailing with addressing, how abbreviations are handled (Street, St, ST, St.), how ampersands and punctuation are used in addresses, and how floors are referenced (first, 1<sup>st</sup> or 1)). The UK government has established very detailed process and practice guidelines for municipalities that maintain address data<sup>127</sup>.

Although rather simplistic in theory, the exercise to develop a corporate-wide Business Glossary can be a lengthy one that requires a mandate from the executive level as well as ongoing oversight by a governance body. It is practical to focus on the highest priority data sets first then address additional areas in latter phases of review. Some of these conversations are occurring with respect to the Maximo and CityView projects. There may be an opportunity to look at these initiatives and any decisions that have been made with respect to terminology and determine whether they can be considered as interim corporate standards. GIS and open data are other areas to review as well.

#### **7.1.2.3 Metadata Management**

*Establish the processes and infrastructure for specifying and extending clear and organized information about the structured and unstructured data assets under management, fostering and supporting data sharing, ensuring compliant use of data, improving responsiveness to business changes and reducing data related risks.*

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<sup>127</sup> NLPG Data Entry Conventions, version 2  
<https://www.geoplace.co.uk/documents/10181/131542/LLPG%20Data%20Entry%20Conventions>

Metadata literally means ‘data about data’ and its sole purpose is to help provide context to support the optimal use and management of data throughout the City. Metadata typically includes categories such as custodianship, classification, related business processes, related maintenance/QC windows, interfaces, source location, and archiving and lifecycle information (retention, archiving, deletion, etc.).

Not unlike asset management for capital infrastructure, defining metadata is an important task to be able to better understand where data is located, who manages it, how it’s being used and when it should be updated/maintained or disposed of. Although a longstanding requirement of technical disciplines like GIS<sup>128</sup>, the concept of ‘data as an asset’ is relatively new to the municipal world. Historically, transactional information was collected to support compliance or transaction-based exchanges between municipalities and citizens. Today we know that, en masse, data is a powerful resource for cities which can be expressed through business intelligence leading to more optimized service delivery.

GIS has defined metadata as it relates to the ESRI ArcSDE (Spatial Database Engine) and work to populate metadata is a focus of GIS practitioners (and some open data contributors) throughout the City; however, a more fulsome and robust approach is required to standardize use and practice across the City.

### **7.1.3 Data Quality**

#### **7.1.3.1 Data Quality Strategy**

*Defines an integrated, organization-wide strategy to achieve and maintain the level of data quality required to support the business goals and objectives.*

There is no formal corporate data quality strategy in place and there are no corporate definitions of data quality (in terms of accuracy, completeness, etc.). Quality is assessed on a project level, through the diligent efforts of staff or - not at all. That said, there are numerous examples of good, locally developed and ad-hoc approaches to data quality in evidence to varying degrees across the City’s key business systems (e.g. third party audits, data completeness and accuracy checks, use of normalization/data cleansing tools, daily case/work flow audits, database management etc.). These practices could be shared and applied more widely across the organization as a primer to develop a City-wide QC strategy.

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<sup>128</sup> ArcMap reference <http://desktop.arcgis.com/en/arcmap/10.3/manage-data/metadata/metadata-standards-and-styles.htm>

### **7.1.3.2 Profiling**

*Develop an understanding of the content, quality and rules of a specified set of data under management.*

Data profiling is a review process that typically occurs prior to a data quality assessment. A profiling exercise focuses on collecting statistics related to data to better understand its overall content and quality. Typically, data profiling focuses on the structure of the data (e.g. table formats), denormalized content values (e.g. phone numbers missing area codes creating redundant records) as well as data relationships (e.g. source addresses in one system referenced and used by another system). A data profiling discovery process is often a good first step to determine whether a full assessment should be done into a specific area. If the structure, content and relationships are not suitable for a project, then there would be no need to continue with a full assessment of that data.

The practice of data profiling is occurring in relation to technology implementation projects at the City but there is little evidence to suggest it is broader than that.

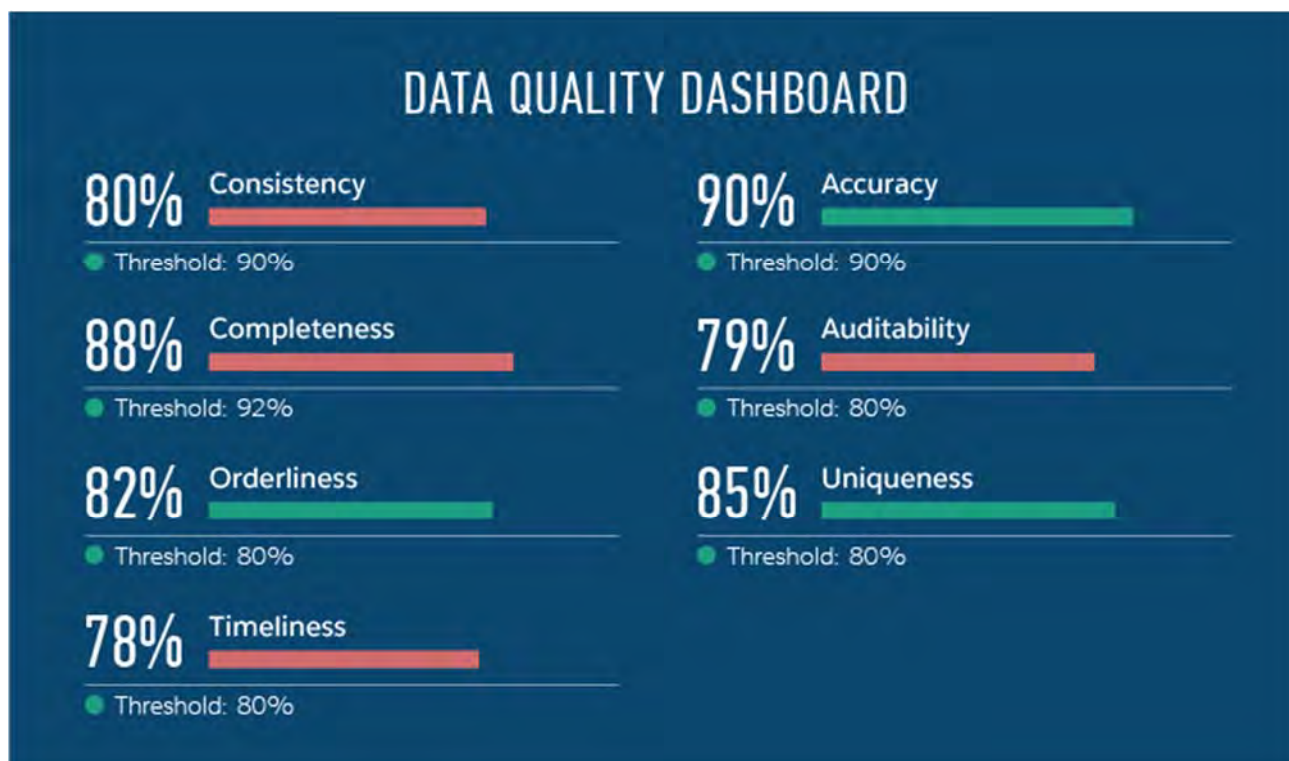
### **7.1.3.3 Data Quality Assessment**

*Provides a systematic approach to measure and evaluate data quality according to processes, techniques and against data quality rules.*

As referenced previously, there are signs of ad hoc assessments being conducted into the data managed by particular systems; however, these assessments relate more to business process than data quality as the primary focus. As an example, the daily financial audits performed by Finance Services can lead to uncovering poor quality data within the Manta tax system, but there is no way to measure the data against a predefined standard or threshold to determine how bad it might be. In some cases, data that is 70% complete may meet the predefined threshold and may not need to be addressed (or is prioritized low in accordance to higher priority data in which the threshold was set higher). Commonly, dashboard or scorecard reporting is used to visualize quality over a specific data element or a collective dataset as shown in Figure 51.



**Figure 51 – Dashboard or Scorecard Reporting Example**<sup>129</sup>



The City does not currently have a corporate-wide data quality assessment practice. There are some accounts of profiling leading directly to cleansing activities which resembles an ad hoc and reactive approach to data management. Establishing a standard protocol and configuring data tools for use across the corporation requires investment in order to be fully realized and is an area that should be strongly considered.

#### **7.1.3.4 Data Cleansing**

*Defines the mechanisms, rules, processes and methods used to validate and correct data according to predefined business rules.*

Although most organizations will do some form of data cleansing, it often relates to specific systems or is explicitly done in support of an implementation project. As with profiling and assessments, improvements to organizational data quality are greatly enhanced when there are standardized processes, tools and triggers associated with a cleansing routine. It is also important to leverage the assessment prior to cleansing to

<sup>129</sup> ScienceSoft <https://www.scnsoft.com/blog/guide-to-data-quality-management>

ensure that efforts are put towards remediating source data to which other systems or databases might refer.

The City uses various systems which generate reporting that can help to assess poor quality data and correct it (e.g. Gtechna, Lagan, etc.) as well as others that provide data cleansing utilities as a component of their overall functionality (e.g. ESRI, Datafix, etc.). There is no evidence of any corporate-wide processes to help guide these practices.

#### **7.1.4 Data Operations**

##### **7.1.4.1 *Data Requirements Definition***

*Ensure the data produced and consumed will satisfy business objectives, is understood by all relevant stakeholders, and is consistent with processes that create and consume the data.*

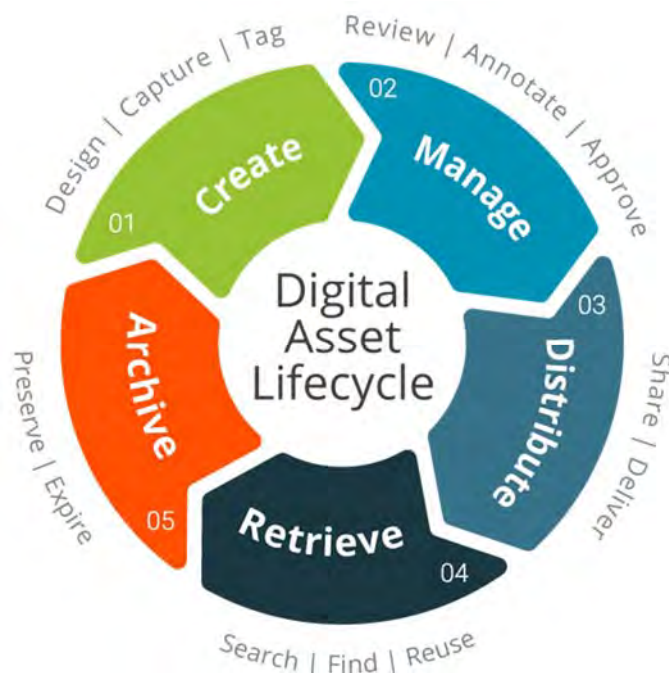
The City does not have any central, standardized processes for defining data requirements (e.g. data name standards, definitions, etc.) and there is no Data Architect or any formal designation of staff responsible for reviewing and aligning business data requirements to an enterprise-wide standard. Project work to define data requirements is largely conducted in an independent manner. There is some work currently underway to identify interface requirements between CityView and Maximo; however, this is based on the operational needs of Branches versus a holistic vantage of the City's overall systems architecture. Early and multidisciplinary collaboration in determining data requirements is necessary to ensure that personal information is protected, technical standards are met and business processes are supported.

##### **7.1.4.2 *Data Lifecycle***

*Ensure that the organization understands, maps, inventories and controls its data flows through business processes throughout the data lifecycle from creation or acquisition to retirement. Data lifecycle management enables better risk management and supports data quality improvements, particularly in situations involving large data volumes or high velocity of data movement, and complex and interdependent processes that share data.*

If the process of gathering data requirements was inclusive, data modeling should represent a 'cradle to grave' lifecycle (Figure 52) that meets both technical and business objectives and is encoded within a data management strategy. It is useful if this is accomplished as a collaboration between these groups.

**Figure 52 – Data Lifecycle Example<sup>130</sup>**



The DMM recommends that an organization leverage current programs of work to begin defining the respective lifecycle models. Again, this may relate well to the CityView and Maximo projects which are underway and have already gone through a form of data requirements gathering. If not directly tied to ongoing work, then the City should consider data which has the highest impact and which is utilized most widely by the organization (e.g. GL, properties, infrastructure assets etc.). Ideally, there should be a data lifecycle in place for each of the core data sets approved by a governance body at the City.

Currently, data within information systems is rarely archived or retired. In most cases, data is preserved and active within systems in perpetuity. This can cause a strain on the resources required to sustain a large data footprint for the organization and can also lead to slower processing times for queries and use of business systems (e.g. Versatile, Gtechna). Archiving capabilities exist within many City systems; however, without a

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<sup>130</sup> Temple University Data Lifecycle Model  
<https://sites.temple.edu/tudsc/2017/10/25/virtual-reality-in-education/digital-asset-lifecycle-filecamp/>

defined approach to classification and lifecycle, activating these controls would be done on a system level rather than by way of a standardized approach which would better support regulatory compliance, mitigate risk and lead to better outcomes overall.

#### **7.1.4.3 Provider Management**

*Optimize internal and external sourcing of data to satisfy business requirements and to manage data provisioning agreements consistently.*

Both internal and external providers of data play a role in the data landscape at the City. It is important that the City fully understands its sources of data, how the overall quality of that provided data is ascertained, and that Service Level Agreements are in place with data providers. The City has a range of external data sharing agreements. With the Municipal Property Assessment Corporation (MPAC) and Teranet for instance, formal, legal, SLA-based agreements are in place including formal feedback processes. Several data sharing agreements are also in place with the Province, the Region, CLOCA and TeachingCity partners.

Management of data sharing agreements tends to land with the area most affected. Assessing and monitoring data sharing in accordance to these agreements is challenging. Although data sharing agreements are largely seen in relation to external partners, some form of SLA with internal providers should also be investigated to better illicit the concept of data custodianship and improve the accountability of data quality overall.

There is a Computer and Internet User Corporate Policy (last updated November 17, 2014) that provides for user attention into data management and the protection of data that contains private/confidential information. It also references required safeguards around use of exporting data (e.g. via encrypted USB stick) and prohibitions surrounding the creation and storage of personal information on the City's network. It is worthwhile to note that two separate privacy breaches<sup>131</sup> occurred the year following formal adoption of this policy (2015). Although the latter instance was caused by an envelope stuffing machine, privacy breaches of this scale suggest that additional training and education on corporate policies and 'best practice' in relation to the secure management of data are required.

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<sup>131</sup> See the following reports for more information: a) Community Services Committee Report (CS-15-113) regarding the privacy breach in Recreation and Culture Services [http://app.oshawa.ca/agendas/Community\\_Services/2015/09-17/CS-15-113%20-%20Privacy%20Breach%20in%20Recreation%20and%20Culture%20Services.pdf](http://app.oshawa.ca/agendas/Community_Services/2015/09-17/CS-15-113%20-%20Privacy%20Breach%20in%20Recreation%20and%20Culture%20Services.pdf) and b) Finance Committee Report (FIN-15-16) regarding the privacy breach in Printing Services [http://app.oshawa.ca/agendas/Finance/2016/02-11/REPORT\\_FIN-16-15.pdf](http://app.oshawa.ca/agendas/Finance/2016/02-11/REPORT_FIN-16-15.pdf)

## **7.1.5 Platform and Architecture**

### **7.1.5.1 Architectural Approach**

*Design and implement an optimal data layer that enables the acquisition, production, storage and delivery of data to meet business and technical objectives.*

An architectural approach to data seeks to better govern how data is collected, stored, arranged, interfaced and shared by information systems in use at the City. Such architecture should be done in alignment with a well-defined system architecture to ensure that technical objectives such as scalability, resiliency and security are met. In addition, the approach should also ensure that business requirements surrounding access to data and related regulatory obligations are also satisfied. This combination of technical and business goals represents an ideal state with which a program of work can then be initiated to achieve.

The City has no architecture function and as a result does not have a robust system architecture reference model which would be a very useful support to help guide a similar model for data. A data architecture model would also require preliminary work to be completed in order to identify/classify high priority data within the City. Performance metrics are typically utilized to measure characteristics of the data architecture and would be optimally considered and managed by an internal governance mechanism.

### **7.1.5.2 Architectural Standards**

*Provide an approved set of expectations for governing architectural elements supporting approved data representations, data access and data distribution, fundamental to data asset control and the efficient use and exchange of information.*

Best practices in this area focus upon defined standards for data representation (business terms, logical, physical, data models), data access (common data services, integration and data transit standards, access provisioning, etc.), and both internal and external data distribution (push and pull, publish and subscribe, etc.).

The City does not have corporate-wide data standards in place. The open data program as well as GIS have developed some limited standards in these areas; however, they are infrequently used to support development elsewhere within the organization. Past and current system implementation projects (Intelligenz, Maximo) review business and technical standards; however, because they are project or system focused, this further dilutes the City's ability to create a global norm.

Standards development processes should include business objectives as well as technical requirements, so corporate collaboration and executive approval are recommended. When creating data standards, the City should also reference industry standards with respect to managing spatial information<sup>132</sup>, open data<sup>133</sup> and smart city infrastructure<sup>134</sup> to ensure interoperability of both systems and processes.

### **7.1.5.3 Data Management Platform**

*Ensure that an effective platform is implemented and managed to meet business needs.*

A data management platform (DMP) is often referred to as a system (or collection of systems and enabling technologies) that allow an organization to merge data from different sources into a single layer which then can be leveraged to provide better business intelligence. DMP technology allows organizations to collect and unify data in order to better manage it (segment, clean, etc.). Data silos commonly exist within municipalities so the level of effort required to implement a DMP can be significant.

Some municipalities have invested in tools such as Microsoft Power BI . Essentially a tool such as this provides for the consolidation of data from multiple sources, data profiling and cleansing utilities as well as analytics capabilities which allows users to produced visualized and dynamic reporting through dashboards (Figure 53). The overall value is typically contingent on a strategically designed and articulated data architecture model.

**Figure 53 – Microsoft Power BI Dashboard Example<sup>135</sup>**



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<sup>132</sup> ESRI spatial standards <https://www.esri.com/library/whitepapers/pdfs/spatial-data-standards.pdf>

<sup>133</sup> Geothink Open Data standards <https://datastandards.directory/>

<sup>134</sup> The Open City Network (non-profit) <https://theopencity.org/>

<sup>135</sup> Microsoft Power BI <https://docs.microsoft.com/pt-br/power-bi/power-bi-overview>

ITS has used SAP Crystal Reports to assist in report development; however, use of the full platform is infrequent and not widespread. The operational dashboard in Fire and Service Oshawa statistical reporting are initiatives that deserve further review in terms of documenting current capabilities around reporting. The City also uses a MDM to help manage mobile data across a broad fleet of mobile devices. This is a tool that is currently leveraged to help support remote wipes and safeguard data on corporate and BYOD (Bring Your Own Device) devices.

#### **7.1.5.4 Data Integration**

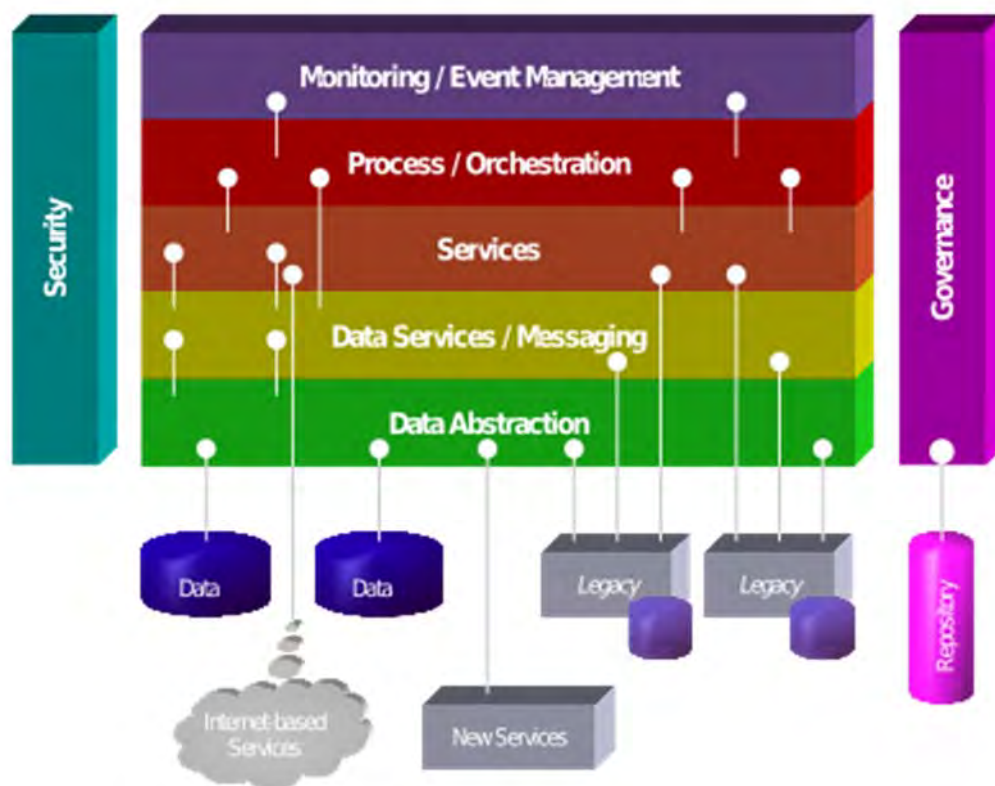
*Reduce the need for the business to obtain data from multiple sources, and to improve data availability of business processes that require data consolidation and aggregation, such as analytics. Data integration enables source data optimization, the realization of cost savings through centralization, and improved data quality.*

The City has a number of point-to-point data integrations, mostly using batch transfer of data in .csv file format or direct database to database integrations. Many are also a 'one-way push' of information to one system but not back to the source (e.g. Lagan/OLI). Point-to-point data integrations can require a great deal of effort in order to maintain. Any system side changes (e.g. patches, upgrades etc.) can break an integration and require it to be rebuilt. This can lead to downtime for systems and extended periods where data sharing is not actively working between key systems.

There are several options to consider when looking to better support system integrations, but the area is highly technical and very dependent upon the support resources available to the City. Such projects typically involve a high level of effort as, in most cases, they accompany significant changes to an organization's system and data architectural ecosystem. The notion of applied Service Oriented Architecture (SOA) modeling is one response moved forward by some organizations. Platforms built around the concept of SOA (Figure 54) allow for the reuse of information 'services' providing greater flexibility in managing integrations across multiple systems. SOA-based platforms/ applications can lead to more real-time (and in some cases, AI-based) monitoring with respect to the health of integrations across the network. They provide an opportunity to build in business and security rules and can transform data as it moves through from one system to another. Claimed by some, SOA represents a more flexible model to manage integrations which can be more easily governed. Essentially, much like software as a service (i.e. cloud), this notion looks at integration as a service rather than something that is managed at the system-to-system level.



**Figure 54 – Service Oriented Architecture Modelling Example**<sup>136</sup>



#### **7.1.5.5 Data Retention and Archiving**

*Ensure that data maintenance will satisfy organizational and regulatory requirements for historical data availability, and that legal and regulatory requirements for data archiving and retention are met.*

In large part, it appears that data is never retired from the City's business systems. There were multiple accounts in relation to data capacity issues (e.g. email, backup tapes) and some references were made to connect this directly to system performance. Many of the City's key systems support data retention and archiving functionality; however, few are utilized. If these functions were to be activated, they should only be so in accordance with an approved corporate policy (i.e. a Records Retention Schedule) or other regulatory obligation.

<sup>136</sup> Soa.sys <http://soa.sys-con.com/node/417750/mobile>



There is no formal guidance on data retention (structured or unstructured) and the current backup process requires a more formal review in order to ascertain its overall effectiveness. A high-level review of this will be conducted through the ongoing IT Strategic Plan development process. Essentially, there are concerns expressed around backups including large amounts of duplicated data that are replicated further by way of the backup process. If there is no formal policy to articulate the ‘what’ and ‘how’ of retention, the City will continue to backup more data than it should and create a backup environment where data becomes more and more challenging to access as it compounds.

## 7.2 Structured Systems Observations

Data supplied by ITS illustrates that the fifteen largest structured databases occupy 9.1 TB of storage on the City’s network. Figure 55 lists the size of the ten largest structured databases, some of which are development databases (as indicated by ‘Dev’ after a database name below).

**Figure 55 – Fifteen Largest Structured Databases**

Database Name	Department / Branch	Size (GB)
MS-SQL Multi-databases <sup>137</sup>	Corporate Services - ITS	1300
Officer (Production)	Corporate Services - Municipal Law Enforcement and Licensing	1198
Financials Database v. 9.2 (Dev)	Office of the City Manager - Finance	872
Maximo (Dev)	All	736
Human Resources Database v. 9.2 (Dev)	Office of the City Manager - HR	672
Financials Database (Dev)	Office of the City Manager - Finance	607
Chameleon	Corporate Services - Municipal Law Enforcement and Licensing	504
Human Resources Database v. 9.2 (Production)	Office of the City Manager - HR	432
GIS Database (Dev)	Development Services	430
Financials Database v. 9.2 (Production)	Office of the City Manager - Finance	418
Orion Monitoring	Corporate Services - ITS	396
CityView	All	388
MS-SQL Multi-databases	Corporate Services - ITS	388

<sup>137</sup> This is one of two instances of this database name in the list of the fifteen largest structured databases at the City. Although these databases have the same name, ITS uses them for different purposes and is able to visually differentiate between them given their different server locations.

Database Name	Department / Branch	Size (GB)
Maximo (Production)	All	386
Intelligenz (Production)	Community Services - Recreation and Culture Services	363

The following information was captured based on a series of meetings with both ITS and business representatives of the core enterprise systems used by the City. The intent of these interviews was to better understand current I&RM practices in relation to each system.

### 7.2.1 CityView / OLI

OLI is the City's land and licensing solution application which has been used for over 15 years. There is currently an ongoing project to replace OLI with CityView, a more modern solution targeted at the municipal environment which will be used primarily to manage property-related information case files as well as permits and inspections. The project to transition to CityView is still in the early stages so I&RM related decisions are still yet to be made.

#### **Roles and Responsibilities**

- Currently, there does not appear to be a 'business owner' who is accountable for OLI. Although it was identified that ownership over CityView exists (by Corporate Services, it only relates to the implementation phase off the project. Discussions are underway to determine ownership moving forward.
- Building Permit and Inspection Services (Building) is the heaviest user of OLI (and likely CityView in the future).
  - Currently, Building has invested resources into a large print scanner and use of Bluebeam (CityView addon) to scan and digitize building permits dating back to 2014. Not in scope for the CityView project, the digitization was initiated by the branch directly.
  - Building has also established a naming convention to be used for inputting property (and other key) data into OLI. This naming convention has been shared with others in the past but is not enforced outside of Building.

#### **Key Data Entities**

- For OLI (and expected for CityView)
  - Properties\* (with roll number IDs)
  - Permits
  - Development applications
  - Identifiable individuals\*
  - Case information (property standards and By-law complaints)\*

*\*A minimal amount of personal information managed is by this system.*

### **Procedures and Training**

- There is no formal training or training documentation for OLI; instead self-proclaimed super users help to pass along information to orient new users to the system. CityView will formally designate super users within branches who will orient new users through a ‘train the trainer’ model.

### **Quality Control**

- No formal quality review process exists for OLI or is currently planned for CityView. Departments that rely on the system more heavily (e.g. Building) are more likely to identify data issues in the course of using the system. Other departments that do not use the system as extensively (e.g. Planning, Engineering) are likely to miss data errors that have downstream impacts.
  - Currently, several employees within Building and ITS have worked to support OLI for several years. As such, they do run informal and ad hoc quality checks on SQL scripts and associated data as well as follow up on data issues that are represented in poor quality reporting (through SAP Crystal Reports).
  - ITS is contacted to support any data normalization issues within OLI.
- There are few system controls to prevent inputting errors (both for internal and public users).
- No formal audits are conducted to support quality assessment.
- Overall, the database requires a more fulsome data cleansing project to be initiated; however, this will be contingent upon the decision to be made to migrate (or keep) historical data.

### **Key Integrations / Interfaces**

- OLI is currently integrated with Lagan (CRM) using a one-way information flow. Some case information populated with Lagan is automatically fed into OLI through daily batch transfers.

### **Retention, Archiving, Audits**

- OLI is currently not capable of handling records retention and archiving. CityView does have the functionality available; however, it is unknown at this time if it will be fully utilized.
- Some capabilities exist to review audit logs; however, it is a very time-intensive process that is managed by ITS through a separate manual process.

- Data backups for OLI are managed through the corporate backup process managed by ITS.

### **Other**

- A number of Microsoft Access Databases currently supplement OLI (Taxi Licensing, Business Licensing, Body Rub Parlors, Rezone, etc.). There was reference made to potentially retiring these databases when CityView came online; however, we were unable to find confirmation that this was a formal decision made by the project team. It appears that decision-making related to CityView functionality is still to be determined.
  - Further to this, there seemed to be some ambiguity with respect to whether OLI would continue to operate alongside CityView or be decommissioned. The discussions surrounding this focused on whether OLI data would be migrated into CityView or whether both would run in parallel.
  - There were suggestions that data migration would be challenging due to each system using different table formats.

### **7.2.2 GIS and Open Data**

In June 2016, the then Commissioner of Corporate Services submitted a report to the Corporate Services Committee (Report CORP-16-59) to “seek Council’s endorsement of the concept of open data in principle and approval to implement an open data pilot project for the City of Oshawa.” (page 1) In particular, the report recommended “that Council approve an open data pilot project which will operate for a minimum of nine months. During this time, staff will implement an open data portal on the City’s Internet site and publish an initial group of data sets. At the end of the pilot, staff will report back to Committee with recommendations on future direction for open data based on usage and stakeholder feedback.” (page 2) Examples of initial data sets to be released as part of the pilot project include the City’s parcel and property fabric, street network, zoning and existing land use data; Animal Services statistics, including intake and outcome data; and parking facilities in the downtown area, including on-street, surface lots and parking garages.

The City uses ESRI ArcGIS as its central geospatial mapping solution which is foundational to many system and data integrations. The City’s pilot Open Data Program is built on the ESRI platform.

### **Roles and Responsibilities - GIS**

- Largely led and administered by ITS.
  - There is also one resource within Planning Services who also supports GIS work related to the area as well as in Engineering Services.

### **Roles and Responsibilities - Open Data**

- The City's pilot Open Data Program is suggested to be led by City Clerk Services; however, it appears that the program's overall mandate as well as its active leadership are currently unclear.

### **Key Data Entities - GIS**

- Assets (considered master repository for some key asset data)
- Properties
- Parcels
- Topo / Buildings
- Streets Geography
- OP / Zoning data (master)

*\*A minimal amount of personal information is managed by ESRI*

### **Key Data Entities - Open Data**

- Civic Information (broad ranging)

*\*A minimal amount of personal information is managed by the Open Data Program and none of that information is shared publicly*

### **Procedures and Training - GIS**

- Most training is provided in an ad hoc manner by ITS and other GIS practitioners in the City (mainly Planning and Engineering Services).
- A manual for using ArcMap is made available along with some online guide resources.
- There is a GIS user group consisting of Branch representatives that are primarily focused on testing new functionality.

### **Procedures and Training - Open Data**

- There is an Open Data Working Group (albeit, not too active at the moment) and an approval process supporting publication.

### **Quality Control - GIS**

- Geospatial standards are not documented; however, there are some informal aspects in which standardized practices can be seen:

- Some metadata management has been completed within the ArcSDE (Spatial Database Engine)
- In some cases, other standards (naming conventions, data formats, etc.) follow GIS best practices; however, the majority seem to be employed by personal convention by those ‘in the know’.
- ESRI procedures are applied and data cleansing tools used.

### **Quality Control - Open Data**

- Same as GIS

### **Key Integrations/Interfaces - GIS**

- OLI (current), CityView (future)
- Intelligenz
- Lagan
- eSolutions

### **Key Integrations / Interfaces - Open Data**

- Data sharing with Region and CLOCA

### **Retention, Archiving, Audits**

- Backups for GIS and open data are managed by ITS through the corporate data backup process.

### **Other**

- Essentially the same group supports GIS and open data, applying ESRI practices to data managed as a component to both programs.

### **GIS**

- The GIS user group does not meet regularly; however, due to the ongoing CityView and Maximo implementation projects (of which GIS integration is integral), they have met more frequently as of late.

### **Open Data**

- **This is an important area to revitalize, formalize and learn from**
  - A Public Hackathon was held in March 2017<sup>138</sup> (held in conjunction with TeachingCity) and Council approved the City's Open

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<sup>138</sup> City of Oshawa Hackathon <https://www.oshawa.ca/business-and-investment/hackathon.asp>

Government Licence which is based on version 2.0 of the Open Government Licence – Canada.

- The Open Data Program has been a pilot for over three years. There doesn't appear to be active leadership or a clear objective / purpose for it.
- Aside from the Open Government Licence published on the City's website, very little documentation on the Open Data Program could be found. The City's portal currently contains approximately 100 data sets, some shared by the Region and CLOCA.
- Data sets are referenced to have been approved by a process which included CLT (and potentially Council).
- All associated data is managed in accordance with GIS practices and includes robust metadata. Much of this data (and metadata) is automatically maintained through interfaces with City systems.
- There was a former internal open data working group that helped to identify and publish City data and worked with community partners and agencies to provide better access to shared data.

### **7.2.3 Intelligenz**

Intelligenz is a recently implemented solution (2019) to support users in managing recreation programming bookings and enterprise POS (point of sale). The system has been in production and operational for less than 6 months, so continual review of its functionality and overall effectiveness in supporting business processes is ongoing.

#### **Roles and Responsibilities**

- Primarily purchased as a solution to manage recreation programming bookings, the system was also intentionally procured to provide end point POS to a number of areas within the City.
  - Recreation and Culture Services is considered the 'business owner' of the system; however, ITS is regarded as having ownership over the POS (and the 'Intelligenz Management System') on behalf of areas using it (Tax Services, Building Services, Service Oshawa, Animal Services, etc.).
  - ITS is also responsible for managing user profiles upon request through the staff change checklist.

#### **Key Data Entities**

- Properties\* (with roll number IDs)
- Identifiable individuals\*
- Health related information\*
- Case information (registrations and bookings)\*

- Payment/transaction information\* (The payment process/system is referred to as being fully PCI-DSS compliant, with network segmentation and tokenization of payment information, supporting cash handling processes, use of Moneris vault key, etc.)

*\*A significant amount of personal information is managed by this system*

### **Procedures and Training**

- Some specific 'how to' manuals and walkthrough guides have been developed specific to areas of deployment (Oshawa Senior Community Centres, Service Oshawa, etc.).
- As a component of the project phase, super users were created across the organization to support a 'train the trainer' model to help orient new users. This seems to be working well as some of these areas have built upon the baseline guides to better incorporate use of the system with their existing business processes.

### **Quality Control**

- An administrative staff person in Recreation and Culture Services is actively involved in monitoring the system for poor data (duplicate records, denormalized property information, etc.).
  - Intelligenz's built-in reporting and cleansing tools are used on a regular basis by Recreation and Culture Services to perform Quality Assessments.
- It was repeatedly referenced that in lieu of organization-wide standards for naming conventions Recreation and Culture Services (and other Branches) have defaulted to developing their own.
- No formal audits are conducted to support quality assessment.

### **Key Integrations / Interfaces**

- Moneris
- GIS
- Backend with Maximo (future state)

### **Retention, Archiving, Audits**

- Data backups are managed by ITS through the corporate data backup process.
- Some audit logs are available to administrators of the system as well as Branch super users (Recreation and Culture Services noted that ad hoc audit trails are used to resolve data issues).

### **Other**



- City Clerk Services was involved early on (2017) to conduct a privacy impact assessment. The privacy impact assessment was triggered by the steering committee after procurement of the solution when discussions uncovered that the system would manage some health and payment information.
- Due to the recent implementation of this system, the users seem to be actively engaged in offering suggestions for future changes.
- Although the Intelligenz RFP included requirements for a corporate-wide POS, it appears that more engagement into developing user requirements could have occurred. Some references were made in respect to data management issues within Intelligenz that were previously supported by CLASS (e.g. parsing and applying development payments for individual lots within a subdivision). Such changes can be considered over time to enhance access to information for individual Branch use of the POS solution.
- It was noted that meetings of Intelligenz super users would be convened to support ongoing continuous improvement. This forum is an ideal one to also discuss data management and control issues.
- It was also noted that there are few formal backup payment processes in place if access to Intelligenz was unavailable. If access to the solution were to be restricted in some way, it would require a very ad hoc response to ensure the various Branches and Branch divisions reliant upon the POS could process payments some other way (manually with updates to the system afterwards).

#### **7.2.4 Kana Lagan CRM (Lagan)**

This system was implemented in 2008, making it one of the first (if not the first) CRM solutions used by a municipality in Canada. The system was upgraded in 2015 and another upgrade is currently scheduled for late 2019. The system is used to intake citizen complaints (through Service Oshawa or via the online portal) and manage an internal knowledge base and citizen profile information.

#### **Roles and Responsibilities**

- Service Oshawa has always been the sponsor/owner of the Lagan system. There appears to be a strong working relationship with ITS (who administers the system) to provide support with overall functionality and reporting requirements.
- Access provisions are a shared responsibility; however, Service Oshawa appears to be the de facto gatekeeper to provide access to users throughout the City.
- Back office (downstream) use of Lagan is widespread throughout the organization with Public Works, Roads, Waste and Forestry and By-law being heavy users of the information through integration with other systems.

## Key Data Entities

- Identifiable individuals (contact information)\*
- Case information (complaints and work orders)\*
- Knowledge Base

*\*A moderate amount of personal information is managed by this system*

## Procedures and Training

- ITS has developed a technical 'how to' document and Service Oshawa has created, collectively with ITS, a walk-through manual to help support user training.
- Service Oshawa staff provide 'train the trainer' support to help orient new users.
  - Various other procedures (documented as well as informal/verbal) support downstream use through integrations with other systems.

## Quality Control

- Although ad hoc and reactive, Service Oshawa staff spend a significant amount of time managing the quality of data within the system.
  - This is mainly accomplished using specific reports to identify redundant records and null values.
- Reporting capabilities are good, and the system has been configured to filter out information that should not be accessible to some users (e.g. by-law complainants).
  - It was noted that some of these filters were developed using filters established to support the Open Data Program.
  - Monthly statistics are forwarded to staff and Council (the latter receives a more aggregated version) which is combined with call volume data to give a more accurate illustration of the level of effort involved in supporting customer service (this does not include customer service statistics from Recreation and Culture Services)
- No formal audits are conducted to support quality assessment.

## Key Integrations / Interfaces

- Integration with OLI is currently limited (downstream, one-way) with improvements coming as part of the Maximo and CityView projects.
- GIS
- Knowledge Base
- An integration with Microsoft Exchange (email) exists but is problematic due to lack of functionality and control within the Lagan environment.

- Service Oshawa users are frequently at maximum usage for email storage (capacity restrictions are in place and managed through Microsoft Exchange).
- As part of the 2015 upgrade, email attachments prior to 2012 were deleted to free up email server storage capacity.

### **Retention, Archiving, Audits**

- Data backups are managed by ITS through the corporate data backup process.
  - Although emails can be accessed and managed within the Lagan system, they are backed up through Microsoft Exchange.
- Any loss of data within Lagan could make it challenging to reconcile communications tied directly to case files.

### **Other**

- Longstanding use of Lagan by Service Oshawa has led to informal, yet relatively strong data management practices that could be encoded to provide a solid framework for data profiling/cleansing.
- A strong partnership between Service Oshawa and ITS has helped to iterate on the system to provide maximum value.
  - That said, issues concerning email integration (storage capacity and functionality) and knowledge base management (data maintenance reminders and workflow) continue to be a work in progress and may be improved as part of the scheduled 2019 upgrade.
- The GIS integration with Lagan is strong and references were made that if more operational areas within the City were more 'GIS-based', it would improve use of the system and enhance the overall quality of the data managed therein.

### **7.2.5 Manta**

The Manta system has been used for over 20 years to support tax collection at the City. A replacement for the system has been budgeted for, and scheduled, to occur starting in 2019 (project kick-off still pending).

### **Roles and Responsibilities**

- Tax Collection Services is noted to be the business owner of the system with ongoing support provided by ITS.
- ITS manages all technical aspects of support (user management, system/database configuration, reporting, etc.) which can be significant due to the age of the system.

- User accounts and privileges are managed through the staff change checklist.
- There appears to be a strong partnership between these groups; however, ITS backfill support during vacations and other absences can sometimes lead to delays in making critical changes to enhance poor data (which can lead to significant risk).

### **Key Data Entities**

- Properties (assessment information)
- Identifiable individuals\*
- Financial information (tax bills)\*
  - The system data (through reporting) can be accessed by everyone in Finance Services (and some in Service Oshawa) currently. Some concerns were expressed with respect to access permissions and the need to ensure only pertinent information is available to users.
  - Extracts from the system are often seen to support FOI searches.

*\*A significant amount of personal information is managed by this system.*

### **Procedures and Training**

- Standard Operating Procedures (business process-based tax admin/analyst manual), including information on system use, exists within Finance Services.
  - Finance Services provides training information to help orient new staff.

### **Quality Control**

- Drop-downs are used for some fields to restrict inputting errors.
- Suggested formats are in place for some fields (dates).
- Property fields are open-ended with no controls.
  - That said, system controls are in place to block billing for anything that does not have an MPAC roll number and class qualifier populated.
  - The system can generate a report to review exceptions for case files that do not have a qualifier in place. This is used regularly to enhance completeness of data.
  - Clearly, inaccurate information within this system can lead to a plethora of problems as billing is largely automated based on the data contained therein.

### **Key Integrations / Interfaces**

- GIS
- PeopleSoft (GL)

- Royal Bank (EFT)
- Municipal Connect (not a true integration, but is said to be a manual extraction and upload process where data does not need to be manipulated outside of either system)
- esolutions (not a true integration – a manual upload to allow rate payers the ability to review their own property tax information)

### **Retention, Archiving, Audits**

- No formal audits are conducted to support quality assessment; however, there are auditing functions that address some of the data managed by the system.
  - Third party financial audits look at outputs (versus the system itself).
  - Finance Services conducts daily reconciliation audits that follow case files through associated workflows (this may or may not include review of system data).
- Archiving is not a robust functionality provided for by the system.
- Audit trails are available, but this requires significant effort by ITS to investigate.
- Data backups are managed by ITS through the corporate data backup process.
- There are likely active records within the system dating back to the 1990's.

### **Other**

- Tax law requirements have changed drastically in recent years and there appears to be a lack of resources available to ensure the system responds accordingly (e.g. Schedule 2 and 3 attachments). As a result, allocations to the GL are performed manually (through PeopleSoft) based on day end reporting. In general, Manta is simply the billing utility for taxation.
  - A LEAN review of the taxation process (including the system) led to the development of a template that can be sent out in relation to rate payer information changes (property severances, write offs, PaP, etc.) using a separate, manual process (typically email). There is a requirement for this functionality to be included as part of the replacement system.
- Data is commonly extracted and manipulated using Microsoft Excel to generate reporting and support associated workflow (e.g. tax sale registration report, arrears reporting, FIR reporting, etc.).
- It was noted that property taxes cannot be paid by credit card and that the future replacement system would not be required to support online tax payments.

### **7.2.6 Maximo**

Maximo is a new solution procured by the City to support work order management (also has asset management functionality). The project is currently ongoing with a targeted production release in early 2021.

#### **Roles and Responsibilities**

- Operations is noted to be the business owner of the system with ITS providing backend support.

#### **Key Data Entities**

- Properties\*
- City assets (including time and financial resources required for maintenance)
- Identifiable individuals\*
- Case information (work orders)\*

*\*A minimal amount of personal information will be managed by this system.*

#### **Procedures and Training**

- The Maximo project included a business process review phase in which a third-party partner worked with staff to redefine their workflow to ideally support use of the system. Related Standard Operating Procedures are an output that will be generated by the project.
- Training will be delivered using a 'train the trainer' model supported by super users representing City Branches.

#### **Quality Control**

- The key business value for implementing Maximo is to realize operational efficiencies through mobile use in the field as well as support for automated workflow.
- Aside from the one-way reporting of case files by way of Lagan, all current work order management functions are supported by paper processes as well as some Microsoft Access databases.

#### **Key Integrations / Interfaces**

- GIS
- Lagan
- Napa (fleet parts)
- Fuel Master

- PeopleSoft

### **Retention, Archiving, Audits**

- Discussion on use of archiving and retention capabilities within the system are ongoing as part of the project.
  - It was noted at the October 1, 2019 meeting of the I&RM Strategic Plan Committee that it would be optimal if the system could mirror physical records which are currently kept in accordance with the City's Records Retention By-law; however, RIM Program employees have not been consulted and none of the RIM Program employees are members of the Maximo Project Committee (or equivalent).
- Maximo has fully functioning audit log capabilities which will allow select users to track activities in relation to case files as well as any data revisions made. The City plans to utilize these capabilities; however, no decision has been made as to how they will be used or by whom.

### **Other**

- This is a significant implementation project that is intended to force the decommissioning of several Microsoft Access databases and a plethora of manual processes used to support workflow management.
  - From a data management lens, this is nearly a clean slate with which to apply best practices in support of proper data management processes and controls. When manual processes are automated by a system, it presents a unique ability to configure supporting elements as an ideal state (this becomes more challenging when migrating from another system).
  - Baseline investigation into data management and supporting process development has been (or is currently being) developed as part of the implementation project.

### **7.2.7 Officer Enforcement System (gtechna)**

gtechna (aka "Officer") is a system to support parking enforcement management for the City and has been used since 2011.

### **Roles and Responsibilities**

- Municipal Law Enforcement and Licensing Services (MLE) is the business owner of the gtechna solution and there appears to be a very strong partnership between the Branch and ITS which provides back-end support for the application.

- ITS is responsible for managing user profiles (within the Command Center), typically in response to a staff change checklist.
  - It was noted that, on occasion, user accounts are also created and modified via email request to ITS.

### **Key Data Entities**

- Identifiable individuals\* (contact information)
- License plate and vehicle-related information
- Pictures of parked cars (for some case files)
- Payment/transaction information (PCI compliant)

*\*A moderate-significant amount of personal information is managed by this system.*

### **Procedures and Training**

- Training is delivered using a 'train the trainer' model supported by five administrative positions within MLE.
  - A significant amount of ad hoc cross-training within the Branch occurs regularly, including refresher training for staff.
- Some processes are documented and a user manual for the system is available.
  - Documentation surrounding integrations with MTO and Court systems are in place.

### **Quality Control**

- No formal audits are conducted to support quality assessment; however, there are several processes that do support quality assurance.
  - A MTO interface runs every night to reconcile data in the system with the data in Authorized Requester Information Services (ARIS).
    - Both MLE and ITS review that this process has run effectively every morning (batch transfer runs during the evening)
  - Weekly review by MLE on exception reports in the system (activity of casefiles, null values, redundant data).
- Field controls and formats are automated to reduce inputting errors.
- Status based reporting (real time, by exception) is an automated function to highlight 'fatal errors' on a case file that typically leads to the cancellation of a ticket.
- Cancellation of tickets is determined by status which can be reported on specifically.

### **Key Integrations / Interfaces**

- Ministry of Transportation



- Two-way interface with Authorized Requester Information Services (ARIS)
  - Manual interface with Plate Denial List
- Court Services
  - Parking Ticket Appeals Management (PTAM)
- Intelligence (POS)
- Honk Mobile

### **Retention, Archiving, Audits**

- An audit conducted by KPMG in the parking enforcement area in 2017 included some review of the system.
- User action logs can be accessed for each case file to clearly show when data has been modified and by whom.
  - The gtechna mobile application used by Officers in the field can be configured to generate logs but there was no confirmation that this had been done.
- A forthcoming project will look at a one-time purge of unnecessary or inactive information with the system (mainly to reduce storage issues due to a high amount of digital media assets attached to case files).
- A review of security surrounding use of the system was also noted as a forthcoming project.

### **Other**

- Although not a strict adherence to data management per se, MLE's use of gtechna is quite extensive. System controls, cleansing tools and reporting functionality are regularly leveraged by dedicated administrative staff who review for completeness and accuracy of records.

### **7.2.8 PeopleSoft**

PeopleSoft is an Enterprise Resource Planning (ERP) system used by the City for more than 20 years in support of financial management, accounts payable and human resource management.

### **Roles and Responsibilities**

- There is shared accountability for the system between Payroll and HR with back-end support provided by ITS.
- ITS manages user profiles and account privileges based on approval by Finance Services.
  - Typically managed through the staff change checklist but can also occur via email to ITS.

- Based on the overall nature of ERP data, more formalized roles and responsibilities should be documented and reviewed regularly to ensure workflow approvals meet the City's compliance requirements.

### **Key Data Entities**

- Identifiable individuals\*
- Positions (rates of pay, time and labor, collective agreements, T4s, etc.)
- Financial information (GL, purchasing information [P2P])

*\*A moderate-significant amount of personal information is managed by this system.*

### **Procedures and Training**

- There are user manuals in place – both business and technical processes are well documented.
- Training is delivered using a 'train the trainer' model; however, training is provided informally to help orient new users.
- References were made that historically Finance Services has provided training to the corporation when new functionality was rolled out in respect to the Financial module.

### **Quality Control**

- No formal audits are conducted to support quality assessment; however, there are auditing functions that address some of the data managed by the system.
  - Field dropdowns and character limits are in place for some fields.
    - ITS and Finance Services perform specific audits (data assessments) on particular fields following issues raised in respect to data quality (e.g. supplier approvals)
  - HR performs most of the data entry related to the system.
    - Finance Services generates audit reports to validate data correctness and accuracy. Some of these audits are focused solely on security/fraud (e.g. past issue with users changing banking information via email).
  - Finance Services conducts daily reconciliation audits that follow case files through associated workflows (this may or may not include review of system data).
- Over the years, some GIS conventions have been used to support data management within the system.

### **Key Integrations / Interfaces**

- Intelligenz (POS)
- Peoplesoft modules (HR, Financials, P2P)

- Royal Bank (EFT)
- Fuel Master
- Napa (car parts)
- eSolutions (ORG)
- Active Directory
- Maximo (future)

### **Retention, Archiving, Audits**

- In 2019, a security audit of the system was completed on behalf of Finance Services.
  - It appears that ITS had some involvement but perhaps not enough considering its current role in administering access and user privileges.
- Although capable, the system does not archive or automatically apply retention to data or records within the system.
- Auditing capabilities are available; however, they have not been turned on. ITS tracks changes to records using a separate manual process (Excel) as it has been found to be easier to manage. This information will be provided to Finance Services (or other approved agents) upon request.
  - Visual Basic is used to automate some of the processes managed outside of the system environment.

### **Other**

- Anecdotally through interviews and conversations it appears that the City is utilizing only a limited amount of functionality offered by PeopleSoft. Several references were made in relation to exporting data and using separate, and sometimes manual, processes to synthesize and report on the data (e.g. scheduling violations).
- It has also been noted that there is a lack of resource capacity (within HR and ITS) to adequately manage the system and unlock further value from it.
  - At least two major assessments conducted on Peoplesoft in the past corroborate this claim.
- Several references were also made with respect to poor reporting from the system caused by poor quality of the data managed therein.
  - Branch level human resources reporting is adequate; however, cross-Branch level reporting is a challenge (e.g. vacancy reporting)
  - A position control project undertaken in 2016/2017 was intended to rectify data and reporting issues; however, not much has improved since then.
- It is apparent that time and attendance data is managed apart from PeopleSoft and decentralized across the City (everyone is doing it differently).

- There is poor quality data associated with temporary and part-time staff within PeopleSoft, given the high rate of data revisioning.

### **7.3 Microsoft Access Databases Observations**

At the City's request, we also investigated the use of Microsoft Access databases (Access DBs or DBs) across the organization. Microsoft Access is a database management system that allows users to build their own applications from scratch (or by way of importing Microsoft Excel spreadsheets and other data). Templates and development tools within Access allow users to build applications without having any formal training in application development. The result can also lead to something that is easier to use when compared to populating a traditional spreadsheet (e-forms, graphical controls like dropdowns and list boxes, templated reports, etc.).

Microsoft Access is a valuable tool and we frequently see it utilized in order to fill gaps throughout organizations where commercial applications or enterprise software does not adequately address business needs. Access DBs are often created by the business lines themselves without support (or even knowledge) from the organization's IT Department. In many ways this can be a good thing; however, it can also lead to challenges in terms of support, security and data management.

A scan of the City's network identified nearly 5,000 Access DBs occupying more than 75 GB (0.1 TB) of storage across personal, branch, and corporate drives on the network. Although this number seems high, the scan uncovered some DBs that were inactive, largely undeveloped, or simply built for personal use by employees who may have preferred to use Access over Excel. This is a useful reference, in and of itself, to see how much redundant data exists on the City's network. We narrowed the search further by focusing only on DBs that were actively used (at least 5+ times per month) and those that had been referenced in interviews to support operational workflows. The final list of DBs was investigated further by distributing an online survey to the employees who were identified as the respective business owners. (See Appendix 3 for a list of the DBs surveyed).

The broad use of Microsoft Access to solve business problems can have a deleterious effect on a corporate data management program. They can be seen to reinforce data silos (as they are typically created at the Branch level), they tend not to use corporate standards and conventions (if any), retention and archiving principles are not commonly applied (or even available in some cases), data integrity can become questionable if

extending use between multiple users<sup>139</sup>, and there is usually no formal support provided by the organization's IT Department if issues do occur. This last point is exacerbated when an Access developer leaves the organization and there is no documentation or guidance on how best to support or use the tool. In several cases, we were told that the overall purpose of the database was unknown; however, it was always used so staff continued to do so. There are current examples of Access databases still being built (e.g. Easements) to provide functionality that could be administered by an existing system (e.g. GIS). In the past, ITS helped to develop Access databases in response to business needs but has since decided to leave this up to Branch staff – most existing databases are not 'formally' supported by ITS directly.

Upon review of the survey findings, some common uses of Access were to help manage time and attendance functions (e.g. Fire Day Trades, Crossing Guards), provide a reference index (e.g. By-law DB, FOI Requests, Application Software), support asset management/maintenance (e.g. Vehicle and Equipment Repair, FMS Work Order DB), or some form of financial management (e.g. Donations, Day Program Invoices). We also learned that the use of Access (e.g. Easement Tracking, Contract Management etc.) has not slowed down and is typically growing in areas where there isn't an obvious corporate solution in place that might be used to support the overall objective.

The 39% Microsoft Access DB Survey response rate provided some unique insight into the use of Access throughout the City. For example, half of the respondents noted that the Access DB for which they were surveyed had been used for more than six years and 70% indicated that there were no policies or procedures guiding the database's use. When asked about responsibility for data quality within the database, several respondents either didn't know or assumed that ITS was managing it.

As use of Access is largely decentralized, control over the protection of confidential and personal information is also more challenging. Nearly 70% of respondents noted that their respective database contained confidential information and nearly 60% noted it contained personal information. When asked about being able to access an audit trail of the database to identify changes made to records, nearly 60% of the respondents noted that it was not possible. This same number also noted that there was an inability to automatically delete records in accordance to retention policies.

Moving forward, the CityView and Maximo projects (and perhaps decisions made during the Intelligenz implementation) present an opportunity for the City to better understand

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<sup>139</sup> Kernel Data Recovery <https://www.kerndatarecovery.com/blog/most-common-ms-access-issues-and-their-solutions/>

what data decisions were made in support of these projects and determine whether they can help define a corporate approach to data management. The Privacy staff in City Clerk Services, GIS and open data practitioners, Access database developers / owners and data savvy staff are also great resources to mine in order to help build out a City-wide program.

There is also the opportunity to retire a number of Access databases in lieu of leveraging the capabilities of enterprise systems. CityView and Maximo provide capabilities that could support some of these functions. The future of PeopleSoft still seems to be in debate; however, fully leveraging an ERP to automate information collection and management is highly desirable. Consolidating any financial data will lead to a reduced reliance on manual processes (exporting and importing data can lead to data integrity issues) that require far greater levels of effort. Lastly, a time and attendance management solution is also one that has been suggested to be a missing utility at the City. The practice of managing time is currently highly decentralized with several Branches using Microsoft Access, Excel or strictly paper-based processes. Although a more in-depth assessment is required, Figure 70 in Appendix 3 identifies potential migration systems the City may want to consider using in lieu of separate Access DBs. It appears that discussions through the CityView and Maximo projects have considered migrating some Access functions into these systems; however, it is unclear whether any final decisions have been made in this regard.

Noteworthy comments were made in responses to the Microsoft Access Databases Survey in relation to data more broadly – specifically in relation to unmet data management needs and areas to improve data management capabilities across the City. The following is a summary of these comments:

- “The information stored within this system could be used in a better way that would benefit more staff.”
- “I built this database to support my position...there are limited tools available for support. Tools within the database should be used to outline future requirements for QA software in the future.”
- “[Staff need] a clear understanding of what needs to be kept and for how long...”
- “[Staff need] a strategy to define what is collected, where and how it can be shared across systems...”
- “[Staff need] more electronic records management.”
- “This is a complex area for which there is not continuous training. I have a vague idea of what is required - I'm looking at a 3" Corporate Records Management User Manual that I received in 2001? A yearly update, refresher, reminder - easily accessed information that doesn't take half a day to read - might be

considered. The recently issued security reminders was a good refresher that didn't take long and the information was easily digested.”

- [Staff need] better knowledge sharing between branches/departments. It would help if staff were made aware of new systems or programs being implemented across the City (especially in regard to meeting our privacy obligations under MFIPPA).”

From these comments, and from what has been deduced through our other conversations, it seems that many staff are simply unaware of data management as a discipline and/or associate it as an area that they need more training on. The related “why” and “how” questions are being asked most frequently.

Data management requires technical capabilities to support many of the work areas suggested by the CMMI DMM framework, but it also requires sponsorship and evangelism throughout the City. This can be driven from the top down as well as bottom up through the grassroots (GIS, open data, Microsoft Access database developers/owners, Branch Records Representatives, information analysts, data savvy staff, etc.). These employees already want to make a change and could help to make it a reality if empowered and provided with the time to make it a reality. These change agents can represent a collective leadership but they, in turn, require their own leaders to connect their efforts with a broader set of corporate objectives. Its evident that the City needs investment in this area if the desire is to mature as a data-minded organization.

## **8. SWOT Analysis**

Figure 56 provides an analysis of the strengths, weaknesses, opportunities, and threats (SWOT analysis) of the City's RIM Program and current I&RM practices. It is recognized that this analysis may not list all strengths, weaknesses, opportunities, and threats; however, the key factors are included.

**Figure 56 – SWOT Analysis**

Strengths	Weaknesses
<ul style="list-style-type: none"><li>• Employee interest in:<ul style="list-style-type: none"><li>○ Moving to a ‘less paper’ organization in which born digital records and images of paper records are recognized as the City’s official records.</li><li>○ Using new technologies (e.g. document collaboration).</li><li>○ Being trained to better manage information and records.</li></ul></li><li>• ‘Super-user’ groups have been defined and engaged to work on data management matters as part of technology implementation projects.</li><li>• A number of data minded and data savvy employees are the grassroots that can be empowered and enabled to support more fulsome data management change.</li><li>• GIS and Open Data Program has developed excellent data practices, including a governance process (both currently underutilized).</li><li>• Metadata management is being developed and maintained for spatial and open data managed through the ESRI GIS system.</li></ul>	<ul style="list-style-type: none"><li>• Lack of clearly defined RIM roles and responsibilities.</li><li>• A culture of creating independent and somewhat overlapping silos / systems of information (e.g. personal drives, shared drives, e-mail system, intranet, etc.) rather than considering information holistically.</li><li>• RIM Program services are currently focused almost exclusively on paper records.</li><li>• Many challenges in classifying, searching for, and retrieving records, particularly unstructured electronic records and e-mails.</li><li>• Ad hoc practices which do not manage the lifecycle of all information / records.</li><li>• Insufficient facilities (on- and off-site) for storing inactive paper records.</li><li>• Lack of policies and tools to manage unstructured electronic records, including e-mail and website and social media content, key elements of a 21<sup>st</sup> century RIM Program.</li></ul>



Strengths (continued)	Weaknesses (continued)
	<ul style="list-style-type: none"><li>• Low rate of Records Retention Schedule application to unstructured electronic records and e-mail resulting in the retention of valueless records to the City's detriment (such as inefficiencies, potential adverse legal outcomes, and more IPC appeals) and indiscriminate retention of records, potentially resulting in the loss of irreplaceable information assets.</li><li>• Records retention and deletion are not applied to structured data, which may result in non-compliance with the Municipal Act, 2001, MFIPPA, and the Generally Accepted Recordkeeping Principles®</li><li>• Records of archival value are not identified, described, preserved, or maintained in a comprehensive archival system based on professional standards.</li><li>• No formal data management strategy and a City-wide assessment has not been completed.</li><li>• No corporate-wide data management guidance provided because no employees are charged with data management as a function.</li><li>• No clear mechanism, internal group, or process to use in evaluating and making decisions regarding data.</li></ul>

Strengths (continued)	Weaknesses (continued)
	<ul style="list-style-type: none"><li>• Lack of a corporate data inventory, business glossary, data standards, standard formats, and defined master data sources.</li><li>• Information sharing around data management ‘best practices’ seems to occur within pockets of the organization, but they are not supported by corporate standards or City-wide leadership on data.</li><li>• Auditing data is ad hoc and reactive. No defined enterprise-level processes support auditing the integrity of structured and unstructured data.</li><li>• Any retention, archiving, and auditing capabilities available in core systems are not used.</li><li>• Current ‘train the trainer’ model provides initial support for new systems but does not support ongoing orientation to information systems. No data management training is provided.</li><li>• Lack of data quality and QA / QC processes to ensure high data quality.</li></ul>

Opportunities	Threats
<ul style="list-style-type: none"> <li>• Implement procedures / processes to improve classification and retrieval, particularly for unstructured electronic records and e-mail, to facilitate more efficient and timely access to information, reduce employee frustration and inefficiencies, and support the implementation of retention periods.</li> <li>• Significantly reduce records storage volumes and storage costs by eliminating duplicated recordkeeping and enforcing Records Retention Schedule compliance, particularly for unstructured electronic records and e-mail.</li> <li>• Possibility of introducing effective and efficient document collaboration functionality to overcome challenges now encountered.</li> <li>• Provide employees with RIM training (preferably online), including training of new employees and training specific to individual departments / branches.</li> <li>• Motivate and engage employees by giving them new skills and technologies for dealing with information in the 21<sup>st</sup> century.</li> <li>• Ability to more easily and efficiently respond to future FOI requests and litigation, audits, and investigations.</li> </ul>	<ul style="list-style-type: none"> <li>• Limited resources (financial and human) and competing work priorities, including several major system implementation projects, for effecting I&amp;RM improvements.</li> <li>• The City's siloed culture and department independence may be a barrier to the development, adoption, and/or enforcement of corporate RIM standards and best practices.</li> <li>• Risk of costly, time-consuming discovery processes which may fail to identify potentially relevant data / information / records in the event of litigation, audit, investigation, or a complex or wide-ranging FOI request.</li> <li>• Potential that the extent of RIM changes will be viewed as overwhelming, causing employees to perceive the I&amp;RM Strategic Plan as unachievable.</li> <li>• RIM improvements and efforts to achieve high rates of RIM Program compliance will fail unless the RIM Program is adequately resourced and supported by senior management.</li> <li>• Failure to implement and sustain RIM improvements will prevent the City from having authoritative records (i.e. records which are authentic, reliable, useable, and possessing integrity).</li> </ul>

Opportunities (continued)	Threats (continued)
<ul style="list-style-type: none"> <li>• Promote RIM to help anchor the desired culture and habit changes.</li> <li>• Opportunity to introduce governance prior to the implementation of new systems to ensure their compliance with the City's RIM / RIM-related policies and legislated obligations for RIM and privacy.</li> <li>• Formalize a Data Management Program, establish data roles, responsibilities and best practice guidance, and focus attention on key priorities that support enterprise projects and programs.</li> <li>• Funding to support data improvement / migration is in place for certain projects (e.g. CityView, Maximo) and data profiling and requirement definitions are occurring at the project level. This can be leveraged to standardize tools and governance for the City to better evaluate data requirements prior to implementation.</li> <li>• Leverage existing staff sharing of own data management practices to convene a broader conversation about data management as a new discipline at the City.</li> <li>• Collaborate with community partners like Region of Durham and TeachingCity directly to support better data management practices.</li> </ul>	<ul style="list-style-type: none"> <li>• (Further) damage to City's reputation by not having accurate, complete, and well-managed information.</li> <li>• Maintaining the status quo is not an option given the continuous, exponential increase in records volume (particularly unstructured electronic records and e-mails) and the availability of beneficial technologies.</li> <li>• Risk of loss of the City's archival heritage without an Archives Program based on professional standards and practices.</li> <li>• Overall quality of data is questionable (mainly assessed through anecdotal references to data migration projects and reporting). A more focused review is required to understand directly what threats may exist in respect to existing structured and unstructured data.</li> <li>• Data security through use of firewalls and virus protection is in place; however, more socialization of user-level threats is required to prevent mismanagement or misuse of data which may result in privacy breaches.</li> <li>• Introduction of new systems and growing trend of utilizing SaaS (cloud) solutions will place greater reliance on data integrations to support information flows.</li> </ul>

Opportunities (continued)	Threats (continued)
<ul style="list-style-type: none"><li>• Third party audits of City operations have, at times, focused on data-related areas and consideration of those areas in future audits will continue to illuminate data management practices that require improvement.</li><li>• Some Branch led initiatives demonstrate an understanding of the value of managing 'data as an asset'. In addition to the possibility of replicating this understanding in other areas, these initiatives may also help to inform the development of corporate-wide data standards, controls, and procedures.</li><li>• Current ISSC could be reviewed and improved to help support conversations and make decisions regarding data management.</li></ul>	<ul style="list-style-type: none"><li>• Structured and unstructured data is retained in perpetuity – either through information systems or by way of the corporate data backup process, resulting in escalating costs for storage and potentially increased liability associated with legal discovery and the FOI process.</li><li>• Many existing Microsoft Access databases (nearly 5,000 databases found through a network scan) are redundant, inactive or unused; however, the City expends resources to back up those databases.</li><li>• No organizational control, training, or governance of Microsoft Access databases.</li><li>• No dedicated (ongoing) funding stream to support data management and necessary resources are unavailable to support any significant continuous data management improvements.</li></ul>

## 9. Corporate Strategies / Projects Alignment Opportunities

This section discusses opportunities to align improvements in the City's management of information and records with other corporate strategies and projects.

### 9.1 City of Oshawa Strategic Plan

Based on a refresh of the 2012 Strategic Plan, Our Focus, Our Future is the City's 2015 - 2019 Strategic Plan. It identifies five goals and corresponding themes (see Figure 57) to guide the City's decision-making in accordance with the guiding principles of sustainability and financial stewardship.

**Figure 57 - Strategic Goals and Themes in the 2015 - 2019 Strategic Plan**

Strategic Goal	Theme
<b>Economic Prosperity and Financial Stewardship</b>	<ul style="list-style-type: none"><li>• Financial Strategy</li><li>• Build and Further Diversity Our Economy</li><li>• Wise Land use</li><li>• Responsible Taxation</li><li>• Safe and Reliable Infrastructure</li></ul>
<b>Accountable Leadership</b>	<ul style="list-style-type: none"><li>• Deliberate Community Engagement</li><li>• Our Corporate Culture Demands Excellence and Respect</li><li>• Develop and Leverage Relationships</li></ul>
<b>Social Equality</b>	<ul style="list-style-type: none"><li>• Enrich Our Community Through Diversity</li><li>• An Active, Healthy and Safe Community</li></ul>
<b>Cultural Vitality</b>	<ul style="list-style-type: none"><li>• Enrich Our Community Through Culture</li></ul>
<b>Environmental Responsibility</b>	<ul style="list-style-type: none"><li>• Proactive Environmental Management</li><li>• Cleaner Air, Land and Water</li><li>• Resilient Local Food System</li><li>• Less Waste Generation</li></ul>

All City operations depend on efficient access to well-organized, accurate, complete, and authoritative information and records' however, RIM improvements at the City would support the achievement of several strategies in the Strategic Plan as shown in Figure 58.

**Figure 58 - Strategies with an I&RM Connection**

Strategic Goal	Theme	Strategy	I&RM Connection
<b>Economic Prosperity and Financial Stewardship</b>	Build and Further Diversity Our Economy	Ensure flexible and timely approvals to advance sound and sustainable development opportunities	Efficient and timely access to well-organized, accurate, complete, and authoritative information will support decision-making / approvals
	Responsible Taxation	Proactively apply for public sector funding and pursue private sector partnerships	There may be opportunities, particularly through public sector grants, subsidized programs, or partnerships to support improvements in the management of the City's archival records
	Safe and Reliable Infrastructure	Strategically manage and sufficiently fund the City's present and future assets (roads, buildings, parks, open space and equipment)	Strategic management of the City's present and future assets depends considerably on having efficient, timely access to well-organized, accurate, complete, and authoritative information
<b>Accountable Leadership</b>	Our Corporate Culture Demands Excellence and Respect	Ensure strong leadership by investing in the necessary elements to create an environment of excellence and become an employer of choice that attracts and retains the best employees	<p>Ensuring employees have efficient and timely access to the information they need to do their jobs will alleviate frustration and improve productivity</p> <p>Investing in the necessary elements (including technology) to create an I&amp;RM environment of excellence will assist the City in becoming an employer of choice that attracts and retains the best employees</p>

Strategic Goal	Theme	Strategy	I&RM Connection
	Our Corporate Culture Demands Excellence and Respect	Assess risks and learn from our mistakes within a context of continuous improvement	It is difficult to learn from one's mistakes without well-organized, accurate, complete, and authoritative information  Access to well-organized, accurate, complete, and authoritative information eliminates the need to 'reinvent the wheel'
<b>Cultural Vitality</b>	Enrich Our Community Through Culture	Work with the community to implement Culture Counts, the Arts, Culture and Heritage Plan, specifically by broadening and evolving the City's role in arts, culture and heritage	Identifying, preserving, and providing access to the City's archival records (both paper and born digital) will increase the City's participation in supporting the community's heritage
<b>Environmental Responsibility</b>	Proactive Environmental Management	Ensure City policies and practices, including stormwater management, respect and enhance the natural environment	Becoming a 'less paper' organization in which born digital information is accessed, used, and maintained in electronic format as the City's official record will reduce the City's paper consumption
	Less Waste Generation	Develop and implement waste management strategies to reduce or avoid waste generation and increase waste diversion rates	Encouraging employees to refrain from printing convenience copies of born digital information will help reduce or avoid paper waste generation



## 9.2 City of Oshawa IT Strategic Plan

Parallel to the I&RM Strategic Plan development process there is work ongoing to create an IT Strategic Plan for the City.

There are important parallels between these projects. Based on early review to date, the IT Strategy Project has uncovered the need to invest (time and money) into building up the City's data and integration layer. Essentially, this is a layer of systems and enabling technologies that sits on top of the City's information systems to provide for:

- Better quality data (e.g. cleansing, standards, audits).
- Maximize value of information systems (e.g. Automatic Vehicle Location workflow automation).
- Improve BI and analytics (e.g. real-time dashboards, consolidated reporting).
- Enhanced access to information (e.g. corporate search, EDRMS, digital catalogues).

Data management is not a discipline at the City currently and as evidenced by early discovery through the IT Strategic Plan work, it is also something that requires an investment in the tools and capabilities designed to effectively manage it at a corporate level. It also requires a commitment and clear mandate at the executive level (and Council approval).

Through a shared, contracted resource on both projects, there will be opportunities to consolidate information and make recommendations around both areas that will help to improve the City's overall maturity level.

## 9.3 Open Data and GIS

There are numerous references in this report to the current underutilization of both of these program areas to help build toward more mature data management at the City. Although there doesn't appear to be much documentation to support current practices, processing data through the ESRI GIS tools and publishing information as part of the City's open data catalogue are already following many of the suggestions put forward by the DMM. If the intent is to invest further in data management, then these two areas (along with the implementation projects noted in Section 9.4) should be closely reviewed and considered in order to establish a baseline with which to continuously improve.

#### **9.4 Technology Implementation Projects (CityView, Maximo)**

The City has committed a considerable amount of work and investment into implementing the CityView and Maximo enterprise solutions. Aside from delivering better overall value to the City (e.g. automation, mobility, etc.) both solutions will also bring in functionality that could be used to enhance data management as well as retire high risk solutions currently deployed (i.e. Microsoft Access databases).

There is considerable evidence to suggest that targeted conversations regarding system data were held with the respective project teams. Specifically, data requirements gathering was done to support Maximo and data modeling was reviewed to potentially support the migration of data from OLI to CityView. Other work regarding the definition of business terms, data formats and system controls is being conducted at the project level (especially on the Maximo project). This information can be reviewed and adapted to help support the development of corporate standards.

Direct leadership (e.g. dedicated PM, project sponsor, etc.) for the projects provides a clear picture of accountability with respect to implementation. Some staff were fully seconded to the Maximo project to ensure the work noted above met their own business objectives (it appears, however, that backfilling the seconded positions isn't taking place which calls into question whether there is a strict focus applied to the project - or - that staff simply inherited project work on top of their existing duties). Dedicated resourcing with broad representation from the Branch level will provide for better outcomes that are more aligned with corporate priorities. This also creates a platform to have City-wide conversations. Although these are currently very project focused, they will be good use-cases to review in order to support broader decision making around managing 'data as a corporate asset'.

### **10. Benchmarking Information Management at the City**

Ergo benchmarked the City's RIM Program and its I&RM practices against the Generally Accepted Recordkeeping Principles® (the Principles) using the Information Governance Maturity Model (IG Maturity Model) to identify areas of strength and opportunities for improvement. Information about the benchmarking methodology and the results of this analysis are provided below.

## 10.1 Generally Accepted Recordkeeping Principles®

Developed by ARMA International (ARMA), the Generally Accepted Recordkeeping Principles® (the Principles) are “a generally accepted global standard”<sup>140</sup> which “identify the critical hallmarks of information governance. They establish a high-level framework of good practices . . . [and] provide organizations with both a standard of conduct for governing information and guidelines by which to judge that conduct. Organizations complying with the Principles may assure stakeholders and the general public that they are embracing their responsibilities for information governance and engaging in continuous quality improvement initiatives.”<sup>141</sup> There are eight principles, as briefly described in Figure 59.

## 10.2 Information Governance Maturity Model (IG Maturity Model)

The Information Governance Maturity Model (IG Maturity Model) “- which is based on the Principles, as well as the extant standards, best practices, and legal/regulatory requirements that surround information governance - is a tool to facilitate a more complete picture of effective information governance.”<sup>142</sup> The IG Maturity Model “goes beyond a mere restatement of the Principles by defining the characteristics of effective information governance programs at five distinct levels of development and completeness.”<sup>143</sup> High-level descriptions of each of the five levels are provided below.<sup>144</sup>

1. Level 1 (Substandard): “This level describes an environment where information governance concerns are not addressed at all, are addressed minimally, or are addressed in a sporadic manner. Organizations at this level usually have concerns that the information governance programs will not meet legal or regulatory requirements and may not effectively serve their business needs.”
2. Level 2 (In Development): “This level describes an environment where there is a developing recognition that information governance has an impact on the organization and that the organization may benefit from a more defined information governance program. The organization is vulnerable to redress of its

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<sup>140</sup> ARMA International, Implementing the Generally Accepted Recordkeeping Principles® (ARMA International TR 30-2017), page 6. Note: This publication is available for purchase from the ARMA International bookstore (<https://www.arma.org/store/default.aspx>) and, for professional members of ARMA International, as a free PDF download.

<sup>141</sup> Ibid, page 6.

<sup>142</sup> Ibid, page 6.

<sup>143</sup> Ibid, page 6.

<sup>144</sup> Ibid, page 7.

legal, regulatory, and business requirements because its practices are ill-defined, incomplete, nascent, or marginally effective.”

3. Level 3 (Essential): “This level describes the essential or minimum requirements that must be addressed to meet the organization’s legal, regulatory, and business requirements. Level 3 is characterized by defined policies and procedures and the implementation of processes specifically intended to improve information governance. Level 3 organizations may be missing significant opportunities for streamlining the business and controlling costs, but they demonstrate the key components of a sound program and may be minimally compliant with legal, operational, and other responsibilities.”
4. Level 4 (Proactive): “This level describes an organization-wide, proactive information governance program with mechanisms for continuous improvement. Information governance issues and considerations are routinized and integrated into business decisions. For the most part, the organization is compliant with industry best practices and meets its legal and regulatory requirements. Level 4 organizations can pursue the additional business benefits they could attain by increasing information asset availability, as appropriate; mining information assets for a better understanding of client and customer needs; and fostering their organizations’ optimal use of information assets.”
5. Level 5 (Transformational): “This level describes an organization that has integrated information governance into its infrastructure and business processes such that compliance with the organization’s policies and legal/regulatory responsibilities is routine. The organization recognizes that effective information governance plays a critical role in cost containment, competitive advantage, and client service. It implements strategies and tools for ongoing success.”

### **10.3 IG Maturity Model: High-level Benchmarking Results**

Ergo assessed the City’s RIM Program and its I&RM practices using the IG Maturity Model and assigned a current benchmarking rating for each Principle. This assessment is based on our understanding of the current RIM Program and the City’s I&RM practices as obtained from the documentation / data review, surveys, and stakeholder consultations.

Our maturity assessment and proposed target levels are provided in Figure 59. See Appendix 6 for the rationale of our benchmarking rating for each Principle. As summarized below, the City scored a 1.1 average maturity score out of 5 across the eight Principles.

We propose a Level 3 target level for each Principle because that is the minimum (essential) target level for all organizations.

**Figure 59 – The Principles Benchmarking Ratings**

<b>Principle</b>	<b>High-level Definition<sup>145</sup></b>	<b>City's Current Level</b>
<b>Accountability</b>	"A senior executive (or a person of comparable authority) shall oversee the information governance program and delegate responsibility for information management to appropriate individuals."	<b>1</b>
<b>Transparency</b>	"An organization's business processes and activities, including its information governance program, shall be documented in an open and verifiable manner, and that documentation shall be available to all personnel and appropriate, interested parties."	<b>1</b>
<b>Integrity</b>	"An information governance program shall be constructed so the information assets generated by or managed for the organization have a reasonable guarantee of authenticity and reliability."	<b>1</b>
<b>Protection</b>	"An information governance program shall be constructed to ensure an appropriate level of protection to information assets that are private, confidential, privileged, secret, classified, essential to business continuity, or that otherwise require protection."	<b>1.5</b>
<b>Compliance</b>	"An information governance program shall be constructed to comply with applicable laws, other binding authorities, and the organization's policies."	<b>1</b>
<b>Availability</b>	"An organization shall maintain its information assets in a manner that ensures their timely, efficient, and accurate retrieval."	<b>1</b>
<b>Retention</b>	"An organization shall maintain its information assets for an appropriate time, taking into account its legal, regulatory, fiscal, operational, and historical requirements."	<b>1</b>
<b>Disposition</b>	"An organization shall provide secure and appropriate disposition for information assets no longer required to be maintained, in compliance with applicable laws and the organization's policies."	<b>1</b>

<sup>145</sup> ARMA International, Implementing the Generally Accepted Recordkeeping Principles® (ARMA International TR 30-2017), Appendix A - The ARMA International Generally Accepted Recordkeeping Principles®, pages 19-25.

The above ratings are illustrative but should not overly alarm the City. These scores should be considered opportunities to target and prioritize key areas for improvement. Indeed, many organizations with which we have worked started with comparable scores and are either working toward or have succeeded in attaining the Level 3 targets.

## Appendix 1: Acronyms and Abbreviations

Figure 60 lists the acronyms and abbreviations used in this report.

**Figure 60 – Acronyms and Abbreviations Used in the Report**

Acronym	Full Name
<b>ArcGIS</b>	ESRI's GIS platform
<b>AI</b>	Artificial Intelligence
<b>ArcSDE</b>	ESRI Spatial Database Engine
<b>ARIS</b>	Authorized requester information service (Ministry of Transportation)
<b>BI</b>	Business Intelligence
<b>City</b>	City of Oshawa
<b>CCTV</b>	Closed Circuit Television
<b>CLOCA</b>	Central Lake Ontario Conservation Authority
<b>CLT</b>	Corporate Leadership Team
<b>CMMI</b>	Capability Maturity Model Integration
<b>COBIT</b>	Control Objectives for Information and Related Technologies
<b>CRM</b>	Customer relationship management
<b>csv</b>	Comma-separated values
<b>DB</b>	Database
<b>DMM</b>	Data Management Maturity
<b>DMP</b>	Data Management Platform
<b>EDRMS</b>	Electronic document and records management system
<b>EFT</b>	Electronic funds transfer
<b>ERP</b>	Enterprise resource planning (system)
<b>ESRI</b>	Environmental Systems Research Institute
<b>FMS</b>	Facilities management services
<b>FOI</b>	Freedom of Information
<b>FTE</b>	Full-time equivalent
<b>GB</b>	Gigabyte (a unit of data storage capacity that is roughly equivalent to one billion bytes)
<b>GIS</b>	Geographical information system
<b>GL</b>	General ledger
<b>HR</b>	Human Resource Services (a branch in the Office of the City Manager)
<b>IPC</b>	Information and Privacy Commissioner of Ontario
<b>ISACA</b>	Information Systems Audit and Control Association
<b>ISSC</b>	Information Systems Steering Committee (a City of Oshawa committee)

<b>Acronym</b>	<b>Full Name</b>
<b>IT</b>	Information technology in the context of using computers, storage, networking and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data Note: Some employees refer to the City's Information Technology Services Branch as IT instead of ITS.
<b>ITS</b>	Information Technology Services (a branch in the City's Corporate Services Department)
<b>LEAN</b>	Lean Education Academic Network
<b>M</b>	Million
<b>MDM</b>	Mobile device manager
<b>MFIPPA</b>	Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c. M.56, as amended, and includes any regulations passed under it
<b>MPAC</b>	Municipal Property Assessment Corporation
<b>ORG</b>	eSolutions Organization Management (system)
<b>P2P</b>	PeopleSoft Procure-to-Pay (system)
<b>PCI-DDS</b>	Payment card industry data security standard
<b>PIA</b>	Privacy impact assessment
<b>PIN</b>	Personal identification number
<b>PM</b>	Project management
<b>POS</b>	Point of sale
<b>PTAM</b>	Parking ticket appeals management (Court Services)
<b>QA</b>	Quality assurance
<b>QC</b>	Quality control
<b>Records Retention</b>	Name of the on-site records storage facilities for boxed records on the ground floor at City Hall (there are two rooms known as Records Retention Room 1 and Records Retention Room 2)
<b>RIM</b>	Records and information management
<b>SaaS</b>	Software as a service
<b>SAP</b>	Systems, applications and Products (provider/vendor)
<b>SOA</b>	Service oriented architecture
<b>TB</b>	Terabyte (a unit of data storage capacity consisting of 1,024 gigabytes)
<b>UPID</b>	Unique property identifier
<b>USB</b>	Universal serial bus ("stick" storage unit)
<b>USRID</b>	Unique street reference identifier



## Appendix 2: Definitions

Figure 61 defines the key terms in the report. The prefix 'External' is used before the name of a document in the 'Definition Source' column to indicate a resource published by a 3<sup>rd</sup> party.

**Figure 61 – Definitions**

<b>Term</b>	<b>Definition</b>	<b>Definition Source</b>
<b>Accession (verb)</b>	To take legal and physical custody of records and to formally document their receipt by entering brief information about them in a register or database.	External: Glossary of Archival and Records Terminology (2005)
<b>Accession Register</b>	An official record of each group of records received by a repository.	External: Glossary of Archival and Records Terminology (2005)
<b>Active Records</b>	A readily accessible record related to current, ongoing, or in-process activities and referred to on a regular basis to respond to day-to-day operational requirements.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Archival Record</b>	Materials created or received by a person, family, or organization, public or private, in the conduct of their affairs that are preserved because of the enduring value contained in the information they contain or as evidence of the functions and responsibilities of their creator.	External: Glossary of Archival and Records Terminology
<b>Archival Value</b>	The ongoing usefulness or significance of records, based on the administrative, legal, fiscal, evidential, or historical information they contain, justifying their continued preservation.	External: Glossary of Archival and Records Terminology (2005)
<b>Artificial Intelligence</b>	Artificial intelligence (AI) applies advanced analysis and logic-based techniques, including machine learning, to interpret events, support and automate decisions, and take actions.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )

Term	Definition	Definition Source
<b>Arrangement</b>	The process of intellectually and/or physically organizing records in accordance with the archival principles of provenance and original order, and into levels of arrangement such as the fonds, the series, the file, and the item.	External: Millar, Archives Principles and Practices (2010)
<b>Born Digital</b>	Document or information created in electronic (digital) form, and not the one digitized through scanning	External: Business Dictionary ( <a href="http://www.businessdictionary.com/definition/born-digital.html">http://www.businessdictionary.com/definition/born-digital.html</a> )
<b>Business Intelligence</b>	Offerings to design, develop and deploy enterprise processes and to integrate, support and manage the related technology applications and platforms. These include business and infrastructure applications for BI platforms, analytics needs and data warehousing infrastructure. Solutions include areas such as corporate performance management (CPM) and analytics, in addition to the traditional BI platform, data warehouse/data infrastructure and data quality areas.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>BYOD Device</b>	Is alternative strategy allowing employees, business partners and other users to utilize a personally selected and purchased client device to execute enterprise applications and access data. Typically, it spans smartphones and tablets, but the strategy may also be used for PCs. It may include a subsidy.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Data</b>	Information in raw or unorganized form (such as alphabets, numbers, or symbols) that refer to, or represent, conditions, ideas, or objects. Data is limitless and present everywhere in the universe.	External: Business Dictionary ( <a href="http://www.businessdictionary.com/definition/data.html">http://www.businessdictionary.com/definition/data.html</a> )
<b>Data Management /</b>	Technology-enabled discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, semantic consistency and	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )

Term	Definition	Definition Source
<b>Master Data Management</b>	accountability of the enterprise's official shared master data assets. Master data is the consistent and uniform set of identifiers and extended attributes that describes the core entities of the enterprise including customers, prospects, citizens, suppliers, sites, hierarchies and chart of accounts.	
<b>Description</b>	The process of establishing intellectual control over archival material by creating finding aids or other access tools that identify the content, context, and structure or the archives.	External: Millar, Archives Principles and Practices (2010)
<b>Disclosure</b>	Disclosure means the release of personal information by any method (e.g. sharing information by any means such as verbally, sending an email, posting online) to anybody or person.	External: Town of Whitby, Corporate Access and Privacy Policy <a href="https://whitby.civicweb.net/FileStorage/8296039F5A0D4756AB3EA6EAE4E6878F-CLK%2011-16%20Corporate%20Access%20and%20Privacy%20Policy.pdf">https://whitby.civicweb.net/FileStorage/8296039F5A0D4756AB3EA6EAE4E6878F-CLK%2011-16%20Corporate%20Access%20and%20Privacy%20Policy.pdf</a>
<b>Disclosure, Routine</b>	Routine disclosure is the routine or automatic release of certain records and information in response to informal requests.	External: Town of Newmarket, Routine Disclosure Policy <a href="https://www.newmarket.ca/TownGovernment/Documents/Routine%20Disclosure%20Policy%20Final%20September%2011.pdf">https://www.newmarket.ca/TownGovernment/Documents/Routine%20Disclosure%20Policy%20Final%20September%2011.pdf</a>
<b>Disposition</b>	For a record, the final action taken per the retention schedule, concluding with destruction, transfer, or permanent preservation.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Enduring Value</b>	The continuing usefulness or significance of records, based on the administrative, legal, fiscal, evidential, or historical information they contain, justifying their ongoing preservation.	External: Glossary of Archival and Records Terminology (2005)
<b>FOI Request, Formal</b>	A request for access to or copies of a record which is submitted in writing detailing the requested records, is dated and signed by the requester. This	MFIPPA Policy (1997)

Term	Definition	Definition Source
	type of request should be received only after the informal request has been denied.	
<b>FOI Request, Informal</b>	A verbal request for access to or copies of a record. May also be referred to as an over-the-counter or routine request. All requests should begin informally and requesters should only formally submit a request as a last resort.	MFIPPA Policy (1997)
<b>Fonds</b>	The entire body of documents, regardless of form or medium, created or accumulated by a particular individual, family, corporate body or other agency as part of life and work and retained because those materials have ongoing archival value as evidence of those functions and activities.	External: Millar, Archives Principles and Practices (2010)
<b>Form</b>	A paper or electronic document with a fixed arrangement of predetermined spaces designed for entering and extracting prescribed information or variable data.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Inactive Record</b>	A record no longer needed to conduct current business but preserved until it meets the end of its retention period. Note: Inactive records are often stored in a records centre or on offline media.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Information</b>	Data that has been given value through analysis, interpretation, or compilation in a meaningful form.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Information Governance</b>	A strategic, cross-disciplinary framework composed of standards, processes, roles, and metrics that hold organizations and individuals accountable for the proper handling of information assets. The framework helps organizations achieve business objectives, facilitates compliance with external requirements, and minimizes risk posed by sub-standard information handling practices	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition

Term	Definition	Definition Source
<b>Integration / Data Integration</b>	The discipline of data integration comprises the practices, architectural techniques and tools for achieving the consistent access and delivery of data across the spectrum of data subject areas and data structure types in the enterprise to meet the data consumption requirements of all applications and business processes.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Interface</b>	In computing, an interface is a shared boundary across which two or more separate components of a computer system exchange information. The exchange can be between software, computer hardware, peripheral devices, humans, and combinations of these. Some computer hardware devices, such as a touchscreen, can both send and receive data through the interface, while others such as a mouse or microphone may only provide an interface to send data to a given system.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Internet</b>	An electronic communications network that connects computer networks and organizational computer facilities around the world.	Computer and Internet User Corporate Policy (Policy AG 10.99)
<b>Intranet</b>	Is a computer network that uses Internet Protocol technology to share information, operational systems, or computing services within an organization.	Computer and Internet User Corporate Policy (Policy AG 10.99)
<b>Key Data Entities</b>	The fundamental information objects that are employed by the business applications to execute the operations of the business while simultaneously providing the basis for analyzing the performance of the lines of business	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Lifecycle (of a record)</b>	The major milestones of a record's existence, subject to changing requirements: creation / receipt, classification, use, retention, and	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition

Term	Definition	Definition Source
	disposition (i.e. transfer to another entity, archival retention, or destruction).	
<b>Metadata</b>	Metadata is information that describes various facets of an information asset to improve its usability throughout its life cycle. It is metadata that turns information into an asset. Generally speaking, the more valuable the information asset, the more critical it is to manage the metadata about it, because it is the metadata definition that provides the understanding that unlocks the value of data.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Microfiche</b>	A flexible, transparent sheet of film bearing a number of micro-images arranged in a grid pattern with a heading area across the top.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Microfilm</b>	<ol style="list-style-type: none"> <li>1) A high-resolution film in roll form or mounted onto aperture cards containing micro-images.</li> <li>2) The action of recording micro-images on film.</li> </ol>	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Microforms</b>	Generic term for any material, usually photographic film, that contains micro-images.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Normalization (Denormalized)</b>	The process of structuring a relational database[clarification needed] in accordance with a series of so-called normal forms in order to reduce data redundancy and improve data integrity. It was first proposed by Edgar F. Codd as part of his relational model.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Open Data</b>	Information or content made freely available to use and redistribute, subject only to the requirement to attribute it to the source. The term also may be used more casually to describe any data that is shared outside the organization and beyond its original intended use, for example, with business	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )

Term	Definition	Definition Source
	partners, customers or industry associations. Formally, data designated as “open” is subject to several conditions and licensing that can be found at <a href="http://opendefinition.org">opendefinition.org</a> .	
<b>Original Order</b>	The order and organization in which records were created, used, maintained and stored by the creator or office of origin. The Principle of Original Order states that the order and organization in which records were created, used, maintained and stored by the creator or office of origin is maintained by an archives.	External: Millar, Archives Principles and Practices (2010)
<b>Patch</b>	A set of changes to a computer program or its supporting data designed to update, fix, or improve it. This includes fixing security vulnerabilities and other bugs, with such patches usually being called bugfixes or bug fixes, and improving the functionality, usability or performance.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Personal Information</b>	Recorded information about an identifiable individual (not a corporation, partnership or sole proprietorship), including information relating to: a) race, national or ethnic origin, colour, religion, age, sex, sexual orientation or marital or family status of the individual; b) education, medical, psychiatric, psychological, criminal or employment history, financial transactions c) any identifying number, symbol, address, telephone number, fingerprints or blood type d) personal opinions or views of the individual except if they relate to another individual, and views or opinions of another individual about the individual	MFIPPA Policy (1997)

Term	Definition	Definition Source
	<p>e) correspondence sent to the City which is implicitly or explicitly of a private or confidential nature and replies to that correspondence</p> <p>f) the individual's name if it appears with any other personal information</p>	
<b>Personal Information</b>	<p>S. 2(1): "personal information" means recorded information about an identifiable individual, including,</p> <p>(a) information relating to the race, national or ethnic origin, colour, religion, age, sex, sexual orientation or marital or family status of the individual,</p> <p>(b) information relating to the education or the medical, psychiatric, psychological, criminal or employment history of the individual or information relating to financial transactions in which the individual has been involved,</p> <p>(c) any identifying number, symbol or other particular assigned to the individual,</p> <p>(d) the address, telephone number, fingerprints or blood type of the individual,</p> <p>(e) the personal opinions or views of the individual except if they relate to another individual,</p> <p>(f) correspondence sent to an institution by the individual that is implicitly or explicitly of a private or confidential nature, and replies to that correspondence that would reveal the contents of the original correspondence,</p>	External: Municipal Freedom of Information and Protection of Privacy Act, s. 2(1) and s. 2(2)



Term	Definition	Definition Source
	<p>(g) the views or opinions of another individual about the individual, and</p> <p>(h) the individual's name if it appears with other personal information relating to the individual or where the disclosure of the name would reveal other personal information about the individual;</p> <p>S. 2(2) Personal information does not include information about an individual who has been dead for more than thirty years.</p> <p>S. 2(2.1) Personal information does not include the name, title, contact information or designation of an individual that identifies the individual in a business, professional or official capacity.</p> <p>S. 2(2.2) For greater certainty, subsection (2.1) applies even if an individual carries out business, professional or official responsibilities from their dwelling and the contact information for the individual relates to that dwelling.</p>	
<b>Personal Information Bank</b>	A Personal Information Bank is a collection of personal information that is organized and capable of being retrieved using an individual's name or an identifying number or particular assigned to the individual).	MFIPPA Policy (1997)
<b>Personal Information Bank Index</b>	A head shall make available for inspection by the public an index of all personal information banks in the custody or under the control of the institution	External: Municipal Freedom of Information and Protection of Privacy Act, s. 34(1)

Term	Definition	Definition Source
	<p>setting forth, in respect of each personal information bank,</p> <ul style="list-style-type: none"> <li>(a) its name and location;</li> <li>(b) the legal authority for its establishment;</li> <li>(c) the types of personal information maintained in it;</li> <li>(d) how the personal information is used on a regular basis;</li> <li>(e) to whom the personal information is disclosed on a regular basis;</li> <li>(f) the categories of individuals about whom personal information is maintained; and</li> <li>(g) the policies and practices applicable to the retention and disposal of the personal information.</li> </ul>	
<b>Platform</b>	<p>Platforms (in the context of digital business) exist at many levels. They range from high-level platforms that enable a platform business model to low-level platforms that provide a collection of business and/or technology capabilities that other products or services consume to deliver their own business capabilities.</p> <p>Platforms that enable a platform business model have associated business ecosystems. They typically expose their capabilities to members of those ecosystems via APIs.</p>	<p>External: Gartner.com IT Glossary (<a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a>)</p>

Term	Definition	Definition Source
	Internal platforms also typically expose their capabilities via APIs. But they may offer other mechanisms, such as direct data access, as required by the products that consume them.	
<b>Privacy Breach</b>	Privacy Breach – means the use or disclosure of Personal Information or records containing Personal Information in violation of Sections 31 or 32 of the Act [Municipal Freedom of Information and Protection of Privacy Act]	Privacy Breach Protocol
<b>Privacy Impact Assessment (PIA)</b>	A Privacy Impact Assessment (PIA) is a process that helps determine whether government initiatives involving the use of personal information raise privacy risks; measures, describes and quantifies these risks; and proposes solutions to eliminate privacy risks or mitigate them to an acceptable level.	External: Officer of the Privacy Commissioner of Canada ( <a href="https://www.priv.gc.ca/en/privacy-topics/privacy-impact-assessments/gd_exp_201103/">https://www.priv.gc.ca/en/privacy-topics/privacy-impact-assessments/gd_exp_201103/</a> )
<b>Provenance</b>	The person, agency or office of origin that created, acquired, used and retained a body of records in the course of their work or life. The Principle of Provenance states that the records created acquired, used and retained by a person, agency or office of origin are kept together in an archives.	External: Millar, Archives Principles and Practices (2010)
<b>Record Series</b>	A group of related records filed / used together as a unit and evaluated as a unit for retention purposes (e.g. a personnel file consisting of an application, reference letters, benefit forms, etc.).	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Record</b>	Any information however recorded, whether in printed form, on film, by electronic means or otherwise, and includes: correspondence, memoranda, books, plans, maps, drawings, diagrams, pictorial or graphic works, photographs,	MFIPPA Policy (1997)

Term	Definition	Definition Source
	films, microfilms, sound recordings, videotapes, machine-readable records.	
<b>Record</b>	<p>“record” means any record of information however recorded, whether in printed form, on film, by electronic means or otherwise, and includes,</p> <p>(a) correspondence, a memorandum, a book, a plan, a map, a drawing, a diagram, a pictorial or graphic work, a photograph, a film, a microfilm, a sound recording, a videotape, a machine readable record, any other documentary material, regardless of physical form or characteristics, and any copy thereof, and</p> <p>(b) subject to the regulations, any record that is capable of being produced from a machine readable record under the control of an institution by means of computer hardware and software or any other information storage equipment and technical expertise normally used by the institution;</p>	External: Municipal Freedom of Information and Protection of Privacy Act, s. 2(1)
<b>Record</b>	<p>“record” means information however recorded or stored, whether in printed form, on film, by electronic means or otherwise, and includes documents, financial statements, minutes, accounts, correspondence, memoranda, plans, maps, drawings, photographs and films;</p>	External: Municipal Act, 2001, s. 1(1)
<b>Records and Information Management</b>	The field of management responsible for establishing and implementing policies, systems, and procedures to capture, create, access, distribute, use, store, secure, retrieve, and ensure disposition of an organization’s records and information.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition

Term	Definition	Definition Source
<b>Records Retention Schedule</b>	A comprehensive list of record series titles, indicating for each series the length of time it is to be maintained. May include retention in active office area, inactive storage areas, and when and if such series may be destroyed or formally transferred to another entity, such as an archives for historical preservation.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Remote Wipe</b>	A remote wipe refers to a system where an administrator has the ability to remotely delete data on a hardware device or system.	External: <a href="https://www.techopedia.com/definition/10352/remote-wipe">https://www.techopedia.com/definition/10352/remote-wipe</a>
<b>Retention Period</b>	The length of time a record must be kept to meet administrative, fiscal, legal, or historical requirements.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>SaaS</b>	Software as a service (SaaS) is software that is owned, delivered and managed remotely by one or more providers. The provider delivers software based on one set of common code and data definitions that is consumed in a one-to-many model by all contracted customers at anytime on a pay-for-use basis or as a subscription based on use metrics.	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )
<b>Series (in the archives context)</b>	Aggregations of files or other records within a larger fonds or group that relate to the same processes or that are evidence of a common form, purpose or use.	External: Millar, Archives Principles and Practices (2010)
<b>Service Oriented Architecture (SOA)</b>	Service-oriented architecture (SOA) is a design paradigm and discipline that helps IT meet business demands. Some organizations realize significant benefits using SOA including faster time to market, lower costs, better application consistency and increased agility. SOA reduces redundancy and increases usability, maintainability	External: Gartner.com IT Glossary ( <a href="http://www.gartner.com/it-glossary">www.gartner.com/it-glossary</a> )

Term	Definition	Definition Source
	and value. This produces interoperable, modular systems that are easier to use and maintain. SOA creates simpler and faster systems that increase agility and reduce total cost of ownership (TCO).	
<b>Social media</b>	Social media (social networking) are media for social interaction that use various forms of web-based technologies and sites (often called Web 2.0) that include networking (Facebook, LinkedIn, wikis, discussion boards) blogging, micro-blogging (Twitter), photo sharing (Flickr), video sharing (YouTube) and webcasting (podcast). These formats allow users to interact with each other by sharing information, opinions, knowledge and interests.	Computer and Internet User Corporate Policy (Policy AG 10.99)
<b>Structured data (or structured information or structured records)</b>	Information with a high degree of pre-defined organization so humans and/or software applications handling it know exactly where to find each data element. An example is a relational database with tables, data fields, and relations among fields in different tables.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Transitory Records</b>	A record of short-term value that can be destroyed immediately or after meeting its transitory need.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition
<b>Vital Record</b>	A record that is fundamental to the functioning of an organization and necessary to the continuance of operations. Also referred to as essential record.	External: Glossary of Records Management and Information Governance Terms, 5 <sup>th</sup> edition

## Appendix 3: Data Collection Participants

This appendix lists the employees who attend the interviews and focus groups and provides information about the survey responses.

### Subject Matter Expert Interviews

Ergo conducted nine interviews with fourteen subject matter experts. Interviews were conducted in-person at City Hall unless otherwise indicated. Figure 62 lists the position title of each employee who was invited to attend an interview.

**Figure 62 – Subject Matter Interviews**

Function	Interview Objective(s)	Position Title
<b>City Clerk Services</b> <sup>146</sup>	Discuss the by-laws and corporate agreements databases and records, generally, in City Clerk Services	Administrative Assistant
<b>Intranet Administration</b>	Discuss the content and management of the content on the City's internal website (intranet)	Organizational Development Consultant
<b>IT</b>	Discuss the management of the City's unstructured electronically stored information	Systems Analyst
<b>Legal</b> <sup>147</sup>	Discuss the City's documents/ information/ records from a legal perspective	Manager, Systems and Security Operations
<b>MFIPPA and Privacy</b>	Discuss the City's documents/ information/records from a FOI and privacy perspective	Network Administrator
<b>RIM Program Management</b> <sup>148</sup>	Discuss the City's RIM Program	Lawyer
		City Solicitor
		Records and Information Analyst
		Information, Access and Privacy Officer
		Interim City Clerk
		Corporate Communications Officer

<sup>146</sup> This interview was completed by teleconference.

<sup>147</sup> This interview was completed by teleconference.

<sup>148</sup> This interview was completed in two parts by teleconference.

Function	Interview Objective(s)	Position Title
<b>Social Media Administration</b>	Discuss content and the management of the content of the City's social media channels	Manager, Corporate Communications
<b>Versatile Administration</b>	Discuss the administration and use of the Versatile system	Records and Information Analyst
		Records and Information Analyst
<b>Website Administration</b>	Discuss content and the management of the content on the City's public website	Corporate Communications Officer
		Corporate Communications Officer
		Manager, Corporate Communications

### **Subject Matter Expert Interviews - Structured Systems**

Ergo conducted nine interviews with twenty subject matter experts to discuss data management in relation to the City's structured systems. Figure 63 lists the position title of each employee who was invited to attend an interview.

**Figure 63 – Subject Matter Interviews: Structured Systems**

Structured System	Interview Objective(s)	Position Title
<b>GIS / Open Data</b>	Discuss data management in ESRI GIS and the City's Open Data Program	Senior Business Analyst
		Supervisor, GIS
		GIS Technologist (Planning Services)
<b>gtechna (Officer Enforcement System)</b>	Discuss data management in gtechna	Manager, Municipal Law Enforcement Services
		Director, Municipal Law Enforcement and Licensing Services (interim)
		IT Project Planning and Portfolio Manager
<b>Intelligenz</b>	Discuss data management in Intelligenz	Senior Business Analyst
		Senior Financial Analyst
		Manager, Culture and Centralized Recreation Services
<b>Kana Lagan (CRM)</b>	Discuss data management in Kana Lagan	Senior Business Analyst
		Manager, Customer Service



Structured System	Interview Objective(s)	Position Title
		Customer Service Technical Administrator
		Systems Analyst
<b>Manta</b>	Discuss data management in Manta	Senior Business Analyst
		Manager, Taxation Services
<b>Maximo</b>	Discuss data management in Maximo	Senior Business Analyst
		PM, CityView / Maximo and Director, Facilities Management Services
		Director, Operation Services
<b>OLI / CityView</b>	Discuss data management in OLI / CityView	Senior Business Analyst
		Building Permit Assistant
		Manager, Culture and Centralized Recreation Services
<b>PeopleSoft</b>	Discuss data management in PeopleSoft	Manager, Communications, Benefits and HRIS
		Senior Business Analyst
		Supervisor, Purchasing Support Services
		Senior Business Analyst
		Manager, Financial Reporting and Planning
		Manager, Finance Services and Systems Development
		Supervisor, Payroll and AP
		Database Manager (ITS)
<b>Non-core Structured Systems</b>	Discuss data management in non-core structured systems	Senior Business Analyst
		Senior Business Analyst
		Senior Business Analyst
		Systems Analyst

### **Focus Group – CLT**

Ergo conducted a focus group at a regularly scheduled CLT meeting. Figure 64 lists the position titles of the senior managers who participated in this focus group.

**Figure 64 – Focus Group Participants: CLT**

Position Title
Commissioner, Corporate Services
Manager, Finance Reporting and Planning
Commissioner, Development Services
City Manager
Director, Operations
Executive Director, Human Resource Services
City Solicitor

### **Focus Group – Directors**

Ergo conducted a focus group with six representative Directors. Figure 65 lists the position title of each Director who was invited to attend the focus group.

**Figure 65 – Focus Group Participants: Directors**

Position Title
Fire Chief
Chief Building Official
Manager, Purchasing Services
Manager, Finance Services and Systems Development
Manager, Corporate Communications
Manager, Administration and Access Services
Manager, Taxation Services (Finance Services)

### **Focus Groups – Department Employees**

RIM Program staff prepared a proposed list of focus group participants for review and confirmation by Directors / Managers. Nine focus groups were held with twenty-six employees across the City. Figure 66 lists the position title of each employee who was invited to attend a focus group.

**Figure 66 – Focus Group Participants: Department Employees**

<b>Position Title</b>
<b>Focus Group # 1</b>
Animal Care Technician (Animal Services)
Administration Clerk (Fire Services)
<b>Focus Group # 2</b>
Program Supervisor (Arts Resource)
Administration Clerk (Strategic and Business Services)
Program Supervisor
Administration Clerk (Strategic and Business Services)
Supervisor (Operations)
<b>Focus Group # 3</b>
Business Intelligence Co-ordinator (Economic Development Services)
Administrative Assistant (Planning Services)
Economic Development Officer
Principal Planner (Planning Services)
File Clerk (Building Permits and Inspection Services)
Manager, Infrastructure Services (Engineering Services)
<b>Focus Group # 4</b>
Executive Administrative Assistant (Councillors Office)
Executive Administrative Assistant (Office of the City Manager)
Legal Assistant (Legal Services)
Project Assistant (Teaching City)
Administrative Assistant (Office of the City Manager)
<b>Focus Group # 5</b>
Human Resources Assistant (HR)
Manager, Finance Services and Systems Development (Finance Services)
Supervisor, Payroll and Accounts Payable (Finance Services)
Junior Buyer (Purchasing)
Wellness and Disability Management Consultant (HR)
Manager, Taxation Services (Finance Services)
Human Resources Consultant (HR)
<b>Focus Group # 6</b>
Receptionist / Administrative Assistant (Service Oshawa)
Corporate Communications Officer
Manager, Customer Services (interim) (Service Oshawa)
Manager, Corporate Communications
Co-ordinator, Customer Service (Service Oshawa)
Customer Service Technical Administrator (Service Oshawa)

Position Title
<b>Focus Group # 7</b>
Licensing Administrator (Municipal Law Enforcement and Licensing Services)
Administrative Assistant (Municipal Law Enforcement and Licensing Services)
Licensing and Standards Examiner (Municipal Law Enforcement and Licensing Services)
<b>Focus Group # 8</b>
IT Project Planning and Portfolio Manager (ITS)
Manager, Applications Support (ITS)
Technical and Administrative Assistant (ITS)
Manager, Systems and Security Operations (ITS)
Project and Quality Assurance Manager (Facilities Management Services)
<b>Focus Group # 9</b>
Supervisor, Roads (Community Services)
Supervisor, Strategic and Business Services (Parks)
Manager, Strategic and Business Services (Community Services)

### **Focus Group – RIM Program Employees**

Ergo completed a focus group with the three RIM Program employees. Figure 67 lists the position title of each RIM Program employee who was invited to attend the focus group.

**Figure 67 – Focus Group Participants: RIM Program Employees**

Position Title
Records and Information Analyst
Records and Information Analyst
Information, Access and Privacy Officer

### **I&RM Survey**

Ergo administered a survey to gather employee input on the City's current I&RM practices, strengths, and challenges.

The Commissioner, Corporate Services sent an e-mail message to 912 City e-mail accounts<sup>149</sup> to invite employees to complete the survey. The Commissioner also sent a reminder invitation a few days prior to the survey deadline. A prize draw (5 prizes) was

<sup>149</sup> Typically, members of Council do not complete this survey; however, the Interim City Clerk advised Councillors to select 'Office of the City Manager - Strategic Initiatives' in response to the department / branch question. One respondent (0.4% of total respondents) selected that dropdown.

offered to incent participation. At the end of the survey, a respondent had the option to enter the prize draw by providing his/her name, e-mail address, and telephone number.

286 surveys were submitted from July 30 to August 16, 2019 for a survey response rate of approximately 31%. Note: Because very few survey questions were mandatory, there is significant variation in the number of responses received for individual questions.

As illustrated in Figure 68, the highest number of responses were received from employees in Community Services Department (40.4%) followed by Corporate Services Department (28.6%).

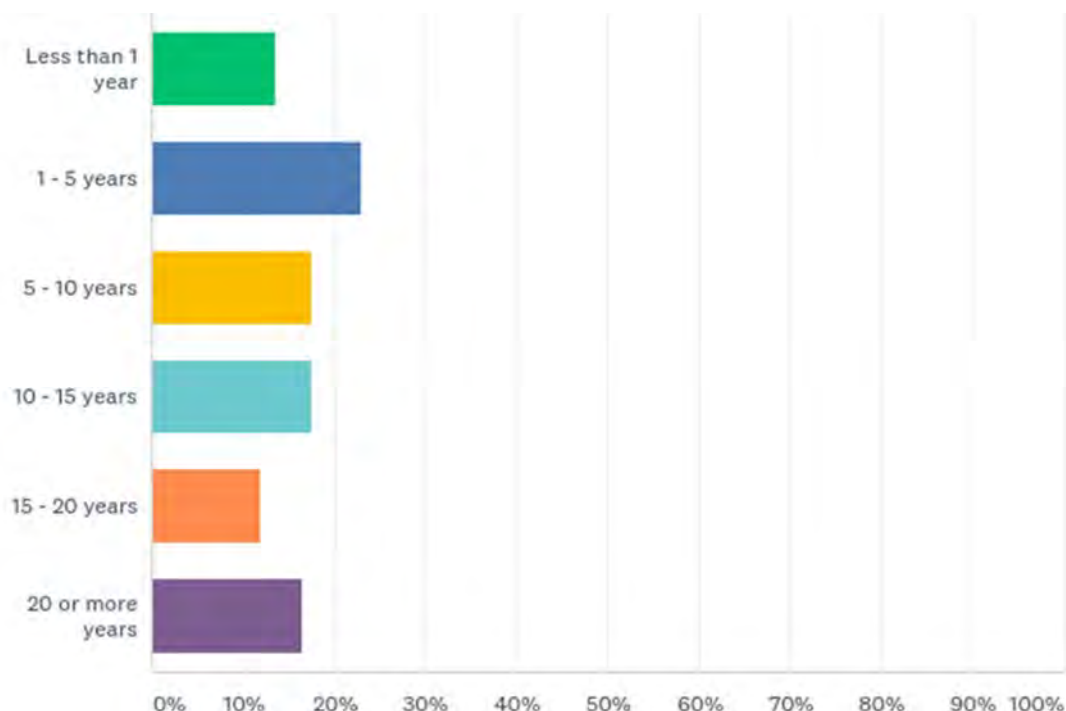
**Figure 68 – I&RM Survey: Number of Responses by Department**

(n = 255; 31 employees did not respond to this question)

Department	Number of Responses	% of Responses
Corporate Services	73	28.6%
Community Services	103	40.4%
Development Services	39	15.3%
Finance Services	19	7.5%
Office of the City Manager	21	8.2%

The distribution of responses by tenure of employment with the City is shown in Figure 69. 36.5% of respondents have worked for the City for 5 years or less, 47% have worked for the City for 5-20 years, and 16.5% have worked for the City for 20 or more years.

**Figure 69 – Distribution of I&RM Survey Responses by Employment Tenure  
(n = 286)**



### **Microsoft Access Databases Survey**

An initial network scan identified almost 5,000 Access DBs. This list was refined further by reviewing user activity on each database and by validating use through various conversations with staff as part of the interview process. In the end, a list of 36 Access DBs was compiled (see Figure 70 below). The Commissioner, Corporate Services invited the business owner/administrator of each of those DBs to complete the survey. A reminder e-mail message was also sent prior to the survey deadline.

Ergo administered the survey in SurveyMonkey. 14 surveys (39% response rate) were submitted from August 23 to September 6, 2019. Figure 68 lists each Access DB for which a survey invitation was issued.

**Figure 70 – Microsoft Access Databases Survey Invitations**

<b>Access DB</b>	<b>Function</b>	<b>Migration**</b>
Animal Share	Integration between Chameleon (backend)	N/A
Applications Software	IT applications	Maximo
Body Rub Parlours	Licensing case mangement	CityView
Business Directory	Shared index with Region	N/A
Business Licensing	Business license management	CityView
By-law DB	By-law indexing	Retire ?
CCTV	Video surveillance	N/A
Collision Accidents	Incident management	N/A
Communities in Bloom	Property management	CityView
Crossing Guards	Resource management	Time and attendance
Day Program Invoices	Accounts payable management	Peoplesoft or ERP
Day Trades	Time scheduling / tracking management	Time and attendance
Donations	Online donations app (backend)	PeopleSoft or ERP
Facility Repair DB	Case management for Fire	Maximo
Finance Services, Insurance and Risk	Case management	PeopleSoft or ERP
Fire Inspections	Asset management	Maximo
FMS Work Order DB	Maintenance case management	Maximo
FOI Requests	FOI case management	Versatile
IT Inventory	Inventory management	Maximo
Outdoor Pools	Asset / facilities management	Maximo
Part Lot Control	Land management	CityView
Programs	Customer management	Lagan
Public Skating	Asset / facilities management	Maximo
Real Estate Tracking	Index of available City-owned property	CityView
Rezone	Site plan / Rezone / Subdivision applications	CityView
Roads	Case management	Maximo
Security Incidents	IT case management	N/A
Signage Variances	Case management	CityView
Street Naming	Asset management	Maximo

Access DB	Function	Migration**
Taxi Licensing	Permit management	CityView
Total Rewards	Human resource management	PeopleSoft or ERP
Underground Parking	Asset / facilities management	Maximo
Vehicle and Equipment Repair DB	Maintenance case management	Maximo
Vital Stats	Case management (death certificates)	CityView
Winter Access	Schedule management	Time and attendance
Work Tracking DB	Time scheduling / tracking management	Time and attendance

\*\* A more detailed review is required, but this column suggests potential systems with which to migrate functionality of existing Microsoft Access databases.



## Appendix 4: Documentation / Data Reviewed by Ergo

Figure 71 lists the City-supplied documentation / data reviewed by Ergo. It also includes relevant City and City-related documentation / information found by Ergo when searching the City's website and the Internet.

**Figure 71 – Documentation / Data Reviewed by Ergo**

<b>Document / Data Name</b>	<b>Date (Issue / Revision / Effective / Meeting Date) or Term</b>
<b>City of Oshawa Job Descriptions</b>	
City Clerk Services Job Descriptions <ul style="list-style-type: none"> <li>• City Clerk</li> <li>• Deputy City Clerk</li> <li>• Information, Access and Privacy Officer</li> <li>• Records and Information Analyst</li> </ul>	June 16, 2016 December 6, 2018 December 2018 July 27, 2015
ITS Job Descriptions <ul style="list-style-type: none"> <li>• Database Manager</li> <li>• Director, ITS</li> <li>• Network Administrator</li> <li>• Network Security Manager</li> </ul>	2007 No date No date 2016
<b>City of Oshawa Policies</b>	
Code of Conduct (Policy AG 10.80)	October 17, 2018
Computer and Internet User Corporate Policy (Policy AG 10.99)	November 17, 2014
Corporate Archives Policy	2016 (draft)
Litigation Hold Policy	No date (draft)
Mobile Communication Device Criteria and Guidelines (Policy & Procedure 075-12)	December 16, 2015
Municipal Freedom of Information and Protection of Privacy Policy and Procedure	1997
Online Communications Policy	November 29, 2012
Records Retention By-law (By-law 45-2002 as amended, Office Consolidation)	June 23, 2016
Records Retention By-law (By-law 45-2002, as amended Office Consolidation), Schedule A - Records Retention Schedule	August 3, 2016
Use of Personal Devices for Work Purposes Policy (Policy AG 10.100)	October 23, 2015

Document / Data Name	Date (Issue / Revision / Effective / Meeting Date) or Term
<b>RIM Program Data / Documentation Not Categorized Elsewhere</b>	
2018 Mass Shred Memo to Branch Directors	February 28, 2019
E-mail Management Guidelines for City Staff	February 2018
Enterprise Content Management: A Corporate-wide Initiative (presentation to CLT)	October 12, 2016
Forms Management <ul style="list-style-type: none"> <li>Forms Procedure</li> <li>Forms Standards</li> </ul>	September 22, 21997 September 22, 1997 (including revised form numbering codes effective June 2000)
Potential Adjustment Description and Justification and Attachment with Additional Information for 2020 Operating Budget (new, full-time RIM Co-ordinator position)	No date
Off-site Storage <ul style="list-style-type: none"> <li>Contract</li> <li>Invoices and Payments Summary Spreadsheet</li> </ul>	April 1, 2019 to March 31, 2020 April 5, 2016 to June 28, 2019
Privacy and Freedom of Information: What You Need to Know ... (training presentation for Customer Services Representatives)	No date
Procedures, Guides and Forms <ul style="list-style-type: none"> <li>Application for Access / Correction to Records (OFN 20-3)</li> <li>Creating a File (in Versatile)</li> <li>FOI Branch Request (form)</li> <li>Law Enforcement Request for Video Surveillance Footage</li> <li>MFIPPA Procedure</li> <li>Preparing Files for Transfer to Corporate Retention</li> <li>Privacy Breach Protocol</li> <li>Request a File or Box Pickup (using Versatile)</li> <li>Staff Departure Procedure (Records)</li> <li>Versatile User Guide - Records Rep (for Versatile 8.4)</li> <li>Versatile User Guide - Search (for Versatile 8.4)</li> </ul>	No date  No date No date (draft) No date  No date No date  Approved by Council June 23, 2014 No date No date  No date

Document / Data Name	Date (Issue / Revision / Effective / Meeting Date) or Term
Records Retention Reports (generated from Versatile) <ul style="list-style-type: none"> <li>Box Report with Record Series - Commercial Warehouse</li> <li>Box Report with Record Series - Records Retention Room 1</li> <li>Box Report with Record Series - Records Retention Room 2</li> <li>File Check Out Status Report by Employee (for records stored in Records Retention and a commercial warehouse)</li> </ul>	<p>June 17, 2019</p> <p>June 17, 2019</p> <p>June 17, 2019</p> <p>June 17, 2019</p>
Shredding Services Contract (Contract C2015-018)	May 1, 2017 to April 30, 2020
<b>Miscellaneous</b>	
Baseline IT Assessment	2014
City of Oshawa Strategies <ul style="list-style-type: none"> <li>Communications Strategy 2018 - 2021</li> <li>IT Strategic Plan 2011</li> <li>Online Communications Strategy</li> <li>Our Focus, Our Future (City's 2015 -2019 Strategic Plan)</li> </ul>	<p>May 2018</p> <p>2011</p> <p>2013</p> <p>October 2015</p>
City of Oshawa Website Terms of Reference (as accessed at <a href="https://www.oshawa.ca/city-hall/Website-Terms-of-Use.asp">https://www.oshawa.ca/city-hall/Website-Terms-of-Use.asp</a> )	City of Oshawa Website Terms of Reference (as accessed at <a href="https://www.oshawa.ca/city-hall/Website-Terms-of-Use.asp">https://www.oshawa.ca/city-hall/Website-Terms-of-Use.asp</a> )
Community Services Committee Reports <ul style="list-style-type: none"> <li>CS-15-113 re: Privacy breach in Recreation and Culture Services</li> <li>CS-16-95 re: Privacy breach investigation in Community Services</li> <li>CS-19-74 re: Privacy breach in Strategic and Business Services</li> </ul>	<p>September 9, 2015</p> <p>October 21, 2016</p> <p>May 29, 2019</p>
Corporate Services Committee Reports <ul style="list-style-type: none"> <li>CORP-13-146-CM re: Retention of E-mail and Other Electronic Records</li> <li>CORP-14-63 re: Amendments to Records Retention By-law 45-2002</li> <li>CORP-14-77 re: Privacy Breach Protocol</li> <li>CORP-16-59 re: Open Data Pilot Project</li> <li>CORP-18-29 re: Communications Strategy 2018 - 2021</li> </ul>	<p>September 26, 2013</p> <p>May 1, 2014</p> <p>June 16, 2014</p> <p>June 16, 2016</p> <p>May 24, 2018</p>

Document / Data Name	Date (Issue / Revision / Effective / Meeting Date) or Term
Council in Committee of the Whole Reports <ul style="list-style-type: none"> <li>CM-16-20 re: Privacy breach investigation - Member of Council</li> </ul>	September 21, 2016
Finance Committee Reports <ul style="list-style-type: none"> <li>FA-11-127 re: IT Strategic Plan</li> <li>FIN-16-15 re: Privacy breach in Printing Services</li> <li>FIN-19-37 re: award of Request for Proposal C2019-33 Information and Records Management Strategic Plan</li> </ul>	May 30, 2011 February 5, 2016  May 8, 2019
Good Practices for Use of Photos and Images	January 30, 2017
HR Recruitment File H: Drive Folder Structure	Unknown
iConnect Replacement Business Case (memo to Manager, Purchasing Services re: Single Source for Intranet Replacement)	May 18, 2018
iConnect Replacement Project Charter	February 2019
ISSC Project List	May 2019
ITS Documentation <ul style="list-style-type: none"> <li>Business Owner Responsibilities</li> <li>ITS Areas of Responsibility</li> <li>ITS Change Management Process</li> <li>ITS Projects</li> <li>System Contact List (internal ITS spreadsheet)</li> </ul>	No date No date No date May 2019 No date
Open Data (see also Corporate Services Committee Report CORP-16-59 above) <ul style="list-style-type: none"> <li>CLT Presentation re: open data and proposed framework</li> <li>Council Minutes (related to open data)</li> <li>Open Data Initiative</li> <li>Open Government License (based on based on version 2.0 of the Open Government Licence – Canada) <a href="https://map.oshawa.ca/OpenData/Open%20Government%20Licence%20version%202.0%20-%20Oshawa.pdf">https://map.oshawa.ca/OpenData/Open%20Government%20Licence%20version%202.0%20-%20Oshawa.pdf</a></li> </ul>	September 2015  June 27, 2016 July 15, 2016 2016
Organization Charts <ul style="list-style-type: none"> <li>2019 Operating Budget Organization Charts</li> <li>ITS</li> </ul>	2019 Unknown
Purchasing Services Green Contract Files Document Filing Structure	Unknown

<b>Document / Data Name</b>	<b>Date (Issue / Revision / Effective / Meeting Date) or Term</b>
Report to Mayor and Council <ul style="list-style-type: none"> <li>Final Report re Investigation Related to Report AG-13-09</li> </ul>	August 27, 2013
Retirement Eligibility Statistics (next 10 years, as provided to HR by OMERS)	October 9, 2019
Social Media Accounts Governance and Guidelines Manual	August 2019
Standard ArcMAP Functions (ITS GIS Manual)	2019
	No date
Various Budget Documents (OpEx and CapEx)	2017 - 2019
Various project templates, change request forms, and other PM artifacts	2014 - 2019

## **Appendix 5: The Information Governance Maturity Model**

Figure 72 contains the Information Governance Maturity Model (IG Maturity Model), as excerpted from Appendix B, pages 26-29 of the following ARMA International publication: Implementing the Generally Accepted Recordkeeping Principles® (ARMA International TR 30-2017).

The IG Maturity Model describes the Levels 1 to 5 requirements for each of the Generally Accepted Recordkeeping Principles®.

### **Notes:**

1. References in the IG Maturity Model to 'information management' were abbreviated as 'IM'.
2. References in the IG Maturity Model to 'information management program' were abbreviated as 'IM Program'.
3. References in the IG Maturity Model to 'information governance program' were abbreviated as 'IG Program'.
4. References in the IG Maturity Model to 'information governance' were abbreviated as 'IG'.

**Figure 72 – The Information Governance Maturity Model**

The Principle	Level 1 (Substandard)	Level 2 (In Development)
<p><b>Accountability:</b></p> <p>“A senior executive (or a person of comparable authority) shall oversee the IG Program and delegate responsibility for IM to appropriate individuals.”</p>	<p>No senior executive (or person of comparable authority) is aware of the need to manage records or other information assets.</p> <p>The information manager role is largely non-existent, or it is an administrative or clerical role distributed among general staff.</p> <p>Employees are not made aware of their responsibilities for managing the information assets they create or receive.</p> <p>Information assets are managed inconsistently or not at all.</p>	<p>A senior executive (or person of comparable authority) is aware of the need to manage information assets but is not actively engaged in coordinating with individual departments.</p> <p>The information manager role is recognized, but the person in that role is responsible only for tactical operation of the IM Program, which is concerned primarily with managing specific records rather than all information assets.</p> <p>The IM Program primarily covers only paper records. The information technology function or department is the <i>de facto</i> lead for storing electronic information, and the information manager is not involved in discussions about electronic systems; information assets are not stored in a systematic fashion.</p> <p>Only employees with direct IM Program responsibilities receive training about managing information assets, but that training is limited to their program responsibilities.</p>

Level 3 (Essential)	Level 4 (Proactive)	Level 5 (Transformational)
<p>A senior executive (or person of comparable authority) is responsible for and actively engaged in setting strategy for managing information.</p> <p>The information manager role is recognized within the organization, and the person in that role is responsible for the tactical operation of the established IM Program on an organization-wide basis. The information manager is occasionally engaged in strategic IM initiatives with executive management.</p> <p>The IM Program is responsible for electronic and paper records.</p> <p>Senior management is aware of the IM Program and its value to the organization. The organization envisions establishing a broader-based IG program to direct various information-driven business processes in the organization.</p> <p>The organization has created specific goals related to accountability for records assets and information-driven business processes.</p>	<p>A senior executive (or person of comparable authority) is responsible for and involved in setting the strategy for managing all of the organization's information assets.</p> <p>The organization has appointed an IG professional who oversees the IM Program.</p> <p>The information manager is a senior officer responsible for all tactical and strategic aspects of the IM Program, which is an element of the IG program.</p> <p>An IG stakeholder committee, representing all functional areas, meets periodically to review disposition policy and other IG-related issues.</p> <p>All employees receive ongoing, documented training regarding their IM responsibilities.</p>	<p>The organization's governing board and senior management place great emphasis on the importance of IG.</p> <p>The information manager directs the IM Program and reports to an individual at the senior level of management (e.g. chief IG officer).</p> <p>The chief IG officer and the information manager are essential members of the organization's governing body.</p> <p>The organization's initial goals related to accountability for information-related business processes have been met, and it has an established, routinized process to ensure goals for accountability are reviewed and revised, as needed.</p> <p>All employees receive ongoing, documented training regarding their IM responsibilities, and compliance with this training is audited and documented regularly.</p>



All employees receive training regarding their IM responsibilities, but only during orientation.		
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The Principle	Level 1 (Substandard)	Level 2 (In Development)
<p><b>Transparency:</b></p> <p>“An organization’s business processes and activities, including its IG Program, shall be documented in an open and verifiable manner, and that documentation shall be available to all personnel and appropriate, interested parties.”</p>	<p>It is difficult to obtain information about the organization, its business, or its IM Program in a timely manner.</p> <p>Business and IM processes are not well-defined, and no clear documentation regarding these processes is readily available.</p> <p>Employees are not made aware of their responsibilities for helping ensure transparency.</p> <p>The organization puts no emphasis on transparency.</p> <p>The organization cannot readily accommodate requests for information from regulators, the courts, potential business partners, investors, buyers, or other entities.</p> <p>The organization has no controls to ensure the consistency of information disclosure.</p>	<p>The organization realizes that some degree of transparency is important in its business processes and IM Program to meet the organization’s business or regulatory needs.</p> <p>Although a limited amount of transparency exists in areas where regulations demand it, there is no systematic or organization-wide drive to transparency.</p> <p>Only those employees with direct IM Program responsibilities receive training related to transparency, but that training is limited to their program responsibilities.</p> <p>The organization has begun to document its business and IM processes.</p>

Level 3 (Essential)	Level 4 (Proactive)	Level 5 (Transformational)
<p>Transparency in business practices and IM is taken seriously, and information is readily and systematically available, when needed.</p> <p>There is a written policy regarding transparency in business operations and in IM.</p> <p>Employees receive training about the importance of transparency and the specifics of the organization's commitment to transparency, but only during orientation.</p> <p>The organization has defined specific goals related to IG transparency.</p> <p>Business and IM processes are documented.</p> <p>The organization can accommodate most requests for information from regulators, the courts, potential business partners, investors, buyers, or other entities.</p>	<p>Transparency is an essential part of the corporate culture.</p> <p>On a regular basis, the organization monitors compliance with its transparency policy.</p> <p>Documentation of business and IM processes is monitored and updated consistently.</p> <p>All employees receive ongoing, documented training about the importance of transparency and the specifics of the organization's commitment to transparency.</p> <p>Requests for information from regulators, the courts, potential business partners, investors, buyers, or other entities are managed through routinized business processes.</p>	<p>The organization's senior management considers transparency as a key component of IG.</p> <p>Software tools are in place to help ensure transparency.</p> <p>All employees receive ongoing, documented training about the importance of transparency and the specifics of the organization's commitment to transparency; compliance with this training is audited and documented regularly.</p> <p>Regulators, the courts, potential business partners, investors, buyers, or other legitimately interested parties are consistently satisfied with the transparency of the organization's processes.</p> <p>The organization's initial transparency goals have been met and it follows a routinized process to ensure its goals for transparency are reviewed and revised, as needed.</p>

The Principle	Level 1 (Substandard)	Level 2 (In Development)
<p><b>Integrity:</b></p> <p>“An IG Program shall be constructed so the information assets generated by or managed for the organization have a reasonable guarantee of authenticity and reliability.”</p>	<p>There are no systematic audits or defined processes for showing that an information asset is authentic, i.e., the information asset’s origin, time of creation or transmission, and content are what they are purported to be.</p> <p>Various organization functions use haphazard methods to demonstrate authenticity and chain of custody; the legitimacy of those methods cannot be verified easily.</p>	<p>Some of the organization’s information assets are stored with metadata that demonstrate their authenticity, but there is no formal process for metadata storage or chain of custody safeguards.</p> <p>Metadata storage and chain of custody safeguards are deemed important, but they are left to the departments to handle in their own ways.</p> <p>Only those employees with direct IM Program responsibilities receive training related to ensuring the integrity of information assets, but that training is limited to their program responsibilities.</p>

Level 3 (Essential)	Level 4 (Proactive)	Level 5 (Transformational)
<p>The organization has a formal process to ensure that chain of custody and the required levels of authenticity can be integrated into its systems and processes.</p> <p>The organization captures the appropriate metadata elements to demonstrate compliance with its policies.</p> <p>All employees receive training related to ensuring the integrity of information assets, but only during orientation.</p> <p>The organization has specific goals related to integrity.</p>	<p>For all systems, business applications, and records, there is a clear definition of metadata requirements that will ensure the authenticity of information assets.</p> <p>The organization's metadata requirements include security, signature, and chain of custody safeguards to demonstrate authenticity.</p> <p>Metadata-related processes are an integral part of IM practices.</p> <p>All employees receive ongoing, documented training related to ensuring the integrity of information assets.</p>	<p>There is a formal, defined process for introducing record-generating systems, capturing metadata, and meeting other authenticity requirements, including those related to chain of custody.</p> <p>Controls for ensuring the integrity of information assets are audited regularly.</p> <p>The organization's initial goals related to integrity have been met, and there is a routinized process to ensure goals for integrity are reviewed and revised, as needed.</p> <p>All employees receive ongoing, documented training related to ensuring the integrity of information assets, and their compliance with that training is audited.</p>

The Principle	Level 1 (Substandard)	Level 2 (In Development)
<p><b>Protection:</b></p> <p>“An IG Program shall be constructed to ensure an appropriate level of protection to information assets that are private, confidential, privileged, secret, classified, essential to business continuity, or that otherwise require protection.”</p>	<p>No consideration is given to the organization-wide protection of information assets. For example, information is not backed up, and virus protection is absent.</p> <p>Employees are not made aware of their responsibilities for protecting information assets.</p> <p>Information assets are stored haphazardly and without centralized access controls; if controls exist, they are assigned by the document’s author or owner.</p> <p>Protection methods, if used at all, are left to the discretion of the divisions and departments within the organization.</p>	<p>Some protection of information assets is exercised. For example, anti-virus protection may be in place and information may be backed up sporadically.</p> <p>There is a written policy for select information assets requiring protection (e.g. paper personnel records); however, the policy does not give clear and definitive guidelines for all information assets in all formats and on all media.</p> <p>Only those employees with direct IM Program responsibilities receive training about protecting information assets; but that training is limited to their program responsibilities.</p> <p>Protection policies do not address how to transmit protected information assets among internal or external stakeholders.</p> <p>Access controls for information are determined by individual content owners.</p>

Level 3 (Essential)	Level 4 (Proactive)	Level 5 (Transformational)
<p>The organization has a formal written policy for protecting information assets, and it has centralized access controls. For example, firewalls are in place, anti-virus software is installed, information is backed up regularly, and the breach response and business continuity plans are documented.</p> <p>Confidentiality and privacy considerations for information assets are well-defined throughout the organization.</p> <p>The importance of chain of custody is defined.</p> <p>Employees receive training about how to protect information assets, but only during orientation.</p> <p>Information asset audits are conducted in regulated areas of the business; audits in other areas may be conducted, but they are left to the discretion of each functional area.</p> <p>The organization has created specific goals related to information asset protection.</p>	<p>The organization has implemented systems that provide for the protection of information assets. Firewalls are in place, anti-virus software is installed across the enterprise, there are centralized access controls, information is backed up routinely, and the breach response and business continuity plans are reviewed and updated regularly.</p> <p>Employees receive ongoing, documented training about how to protect information assets.</p> <p>Auditing of compliance and protection measures is conducted regularly.</p>	<p>Executives, senior management, and other governing bodies (e.g. board of directors) place great value in the protection of information.</p> <p>All information protections are in place, including anti-hacking tools, offsite data backups, and business continuity and breach response plans; plans are reviewed, tested, and updated regularly.</p> <p>Employees receive ongoing, documented training about how to protect information assets, and compliance with that training is audited.</p> <p>Audits are conducted and results are examined regularly; continuous improvement is a priority.</p> <p>Incidents of inappropriate or inadvertent information asset disclosure or loss are rare.</p> <p>The organization's initial goals related to information protection have been met, and there is an established, routinized process to ensure that goals for protection are reviewed and revised, as needed.</p>

The Principle	Level 1 (Substandard)	Level 2 (In Development)
<p><b>Compliance:</b></p> <p>“An IG Program shall be constructed to comply with applicable laws, other binding authorities, and the organization’s policies.”</p>	<p>There is no clear understanding or definition of the information assets the organization is obligated to keep.</p> <p>Employees are not made aware of their responsibilities for complying with IM policies and processes.</p> <p>Information is not systematically managed; groups within the organization manage information as they see fit, based upon their own understanding of their responsibilities, duties, and requirements.</p> <p>There is no central oversight or guidance and no consistent, defensible position on compliance.</p> <p>There is no formally defined or generally understood policy for imposing legal, audit, or other processes in relation to information asset production.</p> <p>The organization has significant exposure to adverse consequences from poor compliance practices.</p>	<p>The organization has identified some of the rules and regulations that govern its business and introduced some compliance policies and practices; the policies are incomplete, and there are no structured accountability controls for compliance.</p> <p>Only those employees with direct IM Program responsibilities receive training about the importance of compliance with IM policies and processes, but that training is limited to their program responsibilities.</p> <p>There is an information asset hold process, but it is not well-integrated with the organization’s IM and discovery processes; the organization lacks full confidence in it.</p>



Level 3 (Essential)	Level 4 (Proactive)	Level 5 (Transformational)
<p>The organization has identified key compliance laws and regulations.</p> <p>Information creation and capture are, in most cases, systematically carried out in accordance with IM principles.</p> <p>The organization has a code of business conduct that is integrated into its overall IG structure and policies.</p> <p>All employees receive training about the importance of compliance with IM policies and processes, but only during orientation.</p> <p>Compliance is highly valued, and it is measurable and verifiable.</p> <p>The information hold process is integrated into the organization's IM and discovery processes, and it is generally effective.</p> <p>The organization has created specific goals related to compliance.</p> <p>The organization's exposure to adverse consequences from poor IM and IG practices is reduced.</p>	<p>The organization has implemented systems to capture, protect, and dispose of information assets in a legally defensible manner.</p> <p>Records are linked with the metadata, which are used to demonstrate and measure compliance.</p> <p>Employees receive ongoing, documented training about the importance of compliance with IM policies and processes.</p> <p>Training and audit-related information is available for review.</p> <p>Lack of compliance is consistently remedied by defined corrective actions.</p> <p>Legal, audit, and other processes that require producing information assets are well-managed and effective, with defined roles and repeatable processes that are integrated into the organization's IG Program.</p> <p>The organization is at low risk of adverse consequences from poor IM and IG practices.</p>	<p>The importance of compliance in the management of information assets is clearly recognized at the board and senior management levels. Auditing and continuous improvement processes are well-established and monitored by senior management.</p> <p>The roles and processes for IM are discovery are integrated, well-developed, and effective.</p> <p>All employees receive ongoing, documented training regarding the importance of compliance with IM policies and processes; compliance with this training is audited and documented regularly.</p> <p>The organization suffers few or no adverse consequences related to IG and compliance failures.</p> <p>The organization's goals related to compliance have been met, and it has an established, routinized process to ensure its goals for compliance are reviewed and revised, as needed.</p>

The Principle	Level 1 (Substandard)	Level 2 (In Development)
<p><b>Availability:</b></p> <p>“An organization shall maintain its information assets in a manner that ensures their timely, efficient, and accurate retrieval.”</p>	<p>Information assets are not readily available when needed, and/or it is unclear whom to ask when assets need to be produced.</p> <p>It is too time-consuming to find the appropriate version of an information asset, if it can be found at all.</p> <p>Employees are not made aware of how and where to store information assets.</p> <p>The organization lacks finding aids, such as indices or metadata, for information assets.</p> <p>Legal discovery and information requests are difficult to fulfill because it is not clear where information assets, including specific versions of those assets, are located.</p>	<p>Information retrieval mechanisms have been implemented in some areas of the organization.</p> <p>In those areas with information asset retrieval mechanisms, it is possible to distinguish among official records, duplicates, and other items.</p> <p>There are some policies on where and how to store official records and other information assets, but a best practice is not imposed across the organization.</p> <p>Only those employees with direct IM Program responsibilities receive training about how and where to store information assets, but that training is limited to their program responsibilities.</p> <p>Responding to legal discovery and information asset requests is complicated and costly due to the inconsistent treatment of information.</p>

Level 3 (Essential)	Level 4 (Proactive)	Level 5 (Transformational)
<p>There is a best practice for where and how information assets are stored, protected, and made available.</p> <p>There are clearly defined policies for handling information assets.</p> <p>Information asset retrieval mechanisms are consistent and effective.</p> <p>All employees receive training about how and where to store information, but only during orientation.</p> <p>Most of the time, it is easy to determine where to find the authentic, final version of any information asset.</p> <p>Discovery and information asset request processes are well-defined and systematic.</p> <p>Systems and infrastructure contribute to the availability of information assets.</p> <p>The organization has created specific goals related to the availability of information assets.</p>	<p>IG policies have been clearly communicated to all employees and other parties.</p> <p>All employees receive ongoing, documented training about how and where to store information.</p> <p>There are clear guidelines and an inventory that identify and define information assets and systems, so information assets are consistently and readily available, when needed.</p> <p>Appropriate systems and controls are in place for discovery and other requests for information assets, including the use of automation for consistent processing of requests.</p>	<p>The senior management and board provide support to continually upgrade processes that affect information asset availability.</p> <p>All employees receive ongoing, documented training about how and where to store information, and they are audited for compliance regularly.</p> <p>There is a measurable return on investment because of the availability of information assets.</p> <p>The organization's goals for information asset availability have been met, and there is an established, routinized process to ensure that these goals are reviewed and revised, as needed.</p>

The Principle	Level 1 (Substandard)	Level 2 (In Development)
<p><b>Retention:</b></p> <p>“An organization shall maintain its information assets for an appropriate time, taking into account its legal, regulatory, fiscal, operational, and historical requirements.”</p>	<p>There is no current, documented records retention schedule or policy.</p> <p>Rules and regulations defining retention are not identified or centralized; retention guidelines are haphazard, at best.</p> <p>In the absence of retention schedules and policies, employees either keep everything or dispose of information assets based on their own business needs, rather than on organizational needs.</p>	<p>A records retention schedule and policies are available, but they do not encompass all information assets, have not undergone an official review, and are not well-known throughout the organization.</p> <p>Only those employees with direct IM Program responsibilities receive training about the requirements for keeping or disposing of the information assets they create and receive, but only as the requirements relate to their program responsibilities.</p> <p>The records retention schedule and policies are not updated or maintained regularly.</p> <p>The litigation hold process is in place, but it may not be monitored to ensure its effectiveness so relevant information may be missed.</p> <p>Educational materials and training activities related to retention policies are not available.</p>

Level 3 (Essential)	Level 4 (Proactive)	Level 5 (Transformational)
<p>The organization has instituted a policy for the retention of information assets; a formal records retention schedule that is tied to rules and regulations is consistently applied throughout the organization.</p> <p>All employees receive training about the requirements for keeping or disposing of the information assets they create and receive, but only during orientation.</p> <p>The litigation hold process is in place and compliance is monitored.</p> <p>The organization has created specific goals related to information asset retention.</p>	<p>Employees understand how to classify records and other information assets appropriately.</p> <p>All employees receive ongoing, documented training about the requirements for keeping or disposing of the information assets they create and receive.</p> <p>Records retention schedules are reviewed on a regular basis and there is a process to adjust retention schedules, as needed.</p> <p>The appropriate retention of information assets is a major organizational objective.</p>	<p>The appropriate retention of information assets is an important consideration at the senior management and board levels.</p> <p>All employees receive ongoing, documented training about the requirements for keeping or disposing of the information assets they create and receive, and compliance with this training is audited and documented regularly.</p> <p>Retention is applied to all information assets in an organization and is not limited to official records only.</p> <p>Information assets are consistently retained for the appropriate periods, per retention schedules.</p> <p>The litigation hold process is in place, routinely monitored, and actively reminds employees of requirements throughout the litigation action.</p> <p>The organization's information asset retention goals have been met, and there is an established, routinized process to ensure goals are reviewed and revised, as needed.</p>

The Principle	Level 1 (Substandard)	Level 2 (In Development)
<p><b>Disposition:</b></p> <p>“An organization shall provide secure and appropriate disposition for information assets no longer required to be maintained, in compliance with applicable laws and the organization’s policies.”</p>	<p>There are no processes or there is no documentation of processes for transferring or disposing of information assets.</p> <p>Employees are not made aware of their information disposition responsibilities.</p> <p>A process for suspending the disposition of information assets in the event of investigation or litigation is non-existent or applied inconsistently throughout the organization.</p>	<p>Preliminary guidelines for the disposition of information assets are established.</p> <p>There is a realization of the importance of consistently suspending the disposition of information assets, when required.</p> <p>Only those employees with IM Program responsibilities receive training about their information disposition responsibilities, but that training is limited to their program responsibilities.</p> <p>The disposition of information assets is not audited or enforced.</p>

Level 3 (Essential)	Level 4 (Proactive)	Level 5 (Transformational)
<p>Official policy and procedures for the disposition of information assets have been developed.</p> <p>Official policy and procedures for suspending the disposition of information assets have been developed.</p> <p>Although policies and procedures for the disposition of information assets exist, they may not be standardized throughout the organization.</p> <p>All employees receive training about their information disposition responsibilities, but only during orientation.</p> <p>The organization has created specific goals related to the disposition of information assets.</p>	<p>All employees receive documented, ongoing training about their information disposition responsibilities.</p> <p>Information asset disposition procedures are applied consistently throughout the organization.</p> <p>The process for suspending the disposition of information assets is defined, understood, and used consistently throughout the organization.</p> <p>Information assets are disposed of in a manner appropriate to the assets' content, media, and format in accordance with retention policies.</p>	<p>The information asset disposition process covers all information assets, regardless of media or format.</p> <p>Information asset disposition is assisted by technology and is integrated into all applicable data applications, repositories, and systems.</p> <p>All employees receive documented, ongoing training about their information disposition responsibilities, and compliance with this training is audited and documented regularly.</p> <p>Information asset disposition processes are applied consistently and effectively.</p> <p>Processes for information asset disposition are regularly evaluated and updated to account for operational changes.</p> <p>The organization's information asset disposition goals have been met and it has an established, routinized process to ensure goals are reviewed and revised, as needed.</p>

## **Appendix 6: Detailed IG Maturity Model Benchmarking**

Figure 73 provides Ergo's assessment of the City's RIM Program and I&RM practices using the Information Governance Maturity Model (IG Maturity Model) benchmarking tool. A numerical level rating and rating rationale are provided for each of the eight Principles.

Because the City is not at Level 4 (Proactive) or Level 5 (Transformational), those levels are not included in this appendix. See Appendix 5 for the verbatim requirements for those levels.

### Notes:

1. References in the IG Maturity Model to 'information management' were abbreviated as 'IM'.
2. References in the IG Maturity Model to 'information management program' were abbreviated as 'IM Program'.
3. References in the IG Maturity Model to 'information governance program' were abbreviated as 'IG Program'.
4. References in the IG Maturity Model to 'information governance' were abbreviated as 'IG'.



### **Figure 73 – Benchmarking Using the Information Governance Maturity Model**

**Accountability:** “A senior executive (or a person of comparable authority) shall oversee the IG Program and delegate responsibility for IM to appropriate individuals.”

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
<p>No senior executive (or person of comparable authority) is aware of the need to manage records or other information assets.</p> <p>The information manager role is largely non-existent, or it is an administrative or clerical role distributed among general staff.</p> <p>Employees are not made aware of their responsibilities for managing the information assets they create or receive.</p> <p>Information assets are managed inconsistently or not at all.</p>	<p>A senior executive (or person of comparable authority) is aware of the need to manage information assets but is not actively engaged in coordinating with individual departments.</p> <p>The information manager role is recognized, but the person in that role is responsible only for tactical operation of the IM Program, which is concerned primarily with managing specific records rather than all information assets.</p> <p>The IM Program primarily covers only paper records. The information technology function or department is the <i>de facto</i> lead for storing electronic information, and the information manager is not involved in discussions about electronic systems; information assets are not stored in a systematic fashion.</p> <p>Only employees with direct IM Program responsibilities receive training about managing information assets, but that training is</p>	<p>A senior executive (or person of comparable authority) is both responsible for and actively engaged in setting strategy for managing information.</p> <p>The information manager role is recognized within the organization, and the person in that role is responsible for the tactical operation of the established IM Program on an organization-wide basis. The information manager is occasionally engaged in strategic IM initiatives with executive management.</p> <p>The IM Program is responsible for electronic and paper records.</p> <p>Senior management is aware of the IM Program and its value to the organization. The organization envisions establishing a broader-based IG program to direct various information-driven business processes in the organization.</p> <p>The organization has created specific goals related to accountability for records assets and</p>

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
	limited to their program responsibilities.	information-driven business processes.  All employees receive training regarding their IM responsibilities, but only during orientation.

City's rating: Level 1

Rationale:

- City Clerk (a Director level position) oversees the RIM Program.
- Manager, Records Information Systems position eliminated and RIM Program responsibility assigned to the Deputy City Clerk position which is vacant.
- RIM Program currently focused almost exclusively on the management of paper records.
- Information assets are managed inconsistently across the organization.
- RIM Program provides very limited training for new or existing department / branch employees.
- No formal Data Management Program and no accountability model to support that function as a discipline within the City.
- Some staff, through convention, have applied good practices around data management but that work is decentralized and ungoverned.
- Although there is evidence that some branches understand the value of data through reporting and visualization, there is no mechanism in place with which to support conversations which could establish accountability within, and beyond, the branch level.

**Transparency:** “An organization’s business processes and activities, including its IG Program, shall be documented in an open and verifiable manner, and that documentation shall be available to all personnel and appropriate, interested parties.”

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
<p>It is difficult to obtain information about the organization, its business, or its IM Program in a timely manner.</p> <p>Business and IM processes are not well-defined, and no clear documentation regarding these processes is readily available.</p> <p>Employees are not made aware of their responsibilities for helping ensure transparency.</p> <p>The organization puts no emphasis on transparency.</p> <p>The organization cannot readily accommodate requests for information from regulators, the courts, potential business partners, investors, buyers, or other entities.</p> <p>The organization has no controls to ensure the consistency of information disclosure.</p>	<p>The organization realizes that some degree of transparency is important in its business processes and IM Program to meet the organization’s business or regulatory needs.</p> <p>Although a limited amount of transparency exists in areas where regulations demand it, there is no systematic or organization-wide drive to transparency.</p> <p>Only those employees with direct IM Program responsibilities receive training related to transparency, but that training is limited to their program responsibilities.</p> <p>The organization has begun to document its business and IM processes.</p>	<p>Transparency in business practices and IM is taken seriously, and information is readily and systematically available, when needed.</p> <p>There is a written policy regarding transparency in business operations and in IM.</p> <p>Employees receive training about the importance of transparency and the specifics of the organization’s commitment to transparency, but only during orientation.</p> <p>The organization has defined specific goals related to IG transparency.</p> <p>Business and IM processes are documented.</p> <p>The organization can accommodate most requests for information from regulators, the courts, potential business partners, investors, buyers, or other entities.</p>

City’s rating: Level 1

Rationale:

- Minimal documentation of RIM (Program) processes.

- No written policy regarding transparency in business operations and in IM.
- No training about the importance of transparency.
- Challenges in responding to some FOI requests.
- Inconsistencies in information disclosure have resulted in IPC appeals.
- Very few data management processes are currently documented.
- Staff are largely unaware of data management processes, often resorting to developing their own standards and practices.
- The open data portal provides civic information to the public; however, the associated workflow and internal governance of the Open Data Program seems undocumented and unmanaged.

**Integrity:** “An IG Program shall be constructed so the information assets generated by or managed for the organization have a reasonable guarantee of authenticity and reliability.”

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
<p>There are no systematic audits or defined processes for showing that an information asset is authentic, i.e., the information asset's origin, time of creation or transmission, and content are what they are purported to be.</p> <p>Various organization functions use haphazard methods to demonstrate authenticity and chain of custody; the legitimacy of those methods cannot be verified easily.</p>	<p>Some of the organization's information assets are stored with metadata that demonstrate their authenticity, but there is no formal process for metadata storage or chain of custody safeguards.</p> <p>Metadata storage and chain of custody safeguards are deemed important, but they are left to the departments to handle in their own ways.</p> <p>Only those employees with direct IM Program responsibilities receive training related to ensuring the integrity of information assets, but that training is limited to their program responsibilities.</p>	<p>The organization has a formal process to ensure that chain of custody and the required levels of authenticity can be integrated into its systems and processes.</p> <p>The organization captures the appropriate metadata elements to demonstrate compliance with its policies. All employees receive training related to ensuring the integrity of information assets, but only during orientation.</p> <p>The organization has specific goals related to integrity.</p>

City's rating: Level 1

Rationale:

- No systematic audits or defined processes for showing the authenticity of information assets.
- Authenticity of information assets and their chain of custody may be questionable.
- A hybrid paper, unstructured electronic, and data environment in which it is often time-consuming and challenging to assemble the single source of truth for a project, decision, etc.
- The City is challenged in meeting its obligations under MFIPPA regarding the public's right to correct personal information because the City does not always

know the storage locations / systems in which a person's personal information is kept.

- Overall data integrity is largely sustained through heroic, and individual, efforts from ITS and branch staff.
- Some spot checks and informal audits are applied to data within systems but this in no way universal across systems.
- Metadata exists in support of data published through GIS (including the open data portal) but there is no evidence that it is being applied elsewhere.
- No evidence of any chain of custody artifacts relating to preserving data integrity, although some ad hoc auditing of system logs does occur to help support 'errors in reporting'.
- Some reconciliation audits are managed at the branch level, but they are focused on business processes and are not always tied to an information system directly.

**Protection:** “An IG Program shall be constructed to ensure an appropriate level of protection to information assets that are private, confidential, privileged, secret, classified, essential to business continuity, or that otherwise require protection.”

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
<p>No consideration is given to the organization-wide protection of information assets. For example, information is not backed up, and virus protection is absent.</p> <p>Employees are not made aware of their responsibilities for protecting information assets.</p> <p>Information assets are stored haphazardly and without centralized access controls; if controls exist, they are assigned by the document's author or owner.</p> <p>Protection methods, if used at all, are left to the discretion of the divisions and departments within the organization.</p>	<p>Some protection of information assets is exercised. For example, anti-virus protection may be in place and information may be backed up sporadically.</p> <p>There is a written policy for select information assets requiring protection (e.g. paper personnel records); however, the policy does not give clear and definitive guidelines for all information assets in all formats and on all media.</p> <p>Only those employees with direct IM Program responsibilities receive training about protecting information assets; but that training is limited to their program responsibilities.</p> <p>Protection policies do not address how to transmit protected information assets among internal or external stakeholders.</p> <p>Access controls for information are determined by individual content owners.</p>	<p>The organization has a formal written policy for protecting information assets and has centralized access controls. For example, firewalls are in place, anti-virus software is installed, information is backed up regularly, and breach response and business continuity plans are documented.</p> <p>Confidentiality and privacy considerations for information assets are well-defined throughout the organization.</p> <p>The importance of chain of custody is defined.</p> <p>Employees receive training about how to protect information assets, but only during orientation.</p> <p>Information asset audits are conducted in regulated areas of the business; audits in other areas may be conducted, but they are left to the discretion of each functional area.</p> <p>The organization has created specific goals related to information asset protection.</p>

City's rating: Level 1.5

Rationale:

- Access to Records Retention is restricted to RIM Program staff.
- Centralized access controls for network drives, e-mail accounts, and structured systems.
- City has firewalls and anti-virus protection. Further assessment of security measures will occur through the IT Strategy Project which is currently ongoing.
- ITS regularly backs up the network servers.
- Privacy Breach Protocol developed and approved by Council.
- Limited, voluntary privacy training.
- No training on protecting or managing data as an asset.
- An Information Security Classification has not been developed.
- No Disaster Recovery Plan for records.
- A Vital Records Program has not been established.
- Archival material is at risk of loss or damage.



**Compliance:** “An IG Program shall be constructed to comply with applicable laws, other binding authorities, and the organization’s policies.”

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
<p>There is no clear understanding or definition of the information assets the organization is obligated to keep.</p> <p>Employees are not made aware of their responsibilities for complying with IM policies and processes.</p> <p>Information is not systematically managed; groups within the organization manage information as they see fit, based upon their own understanding of their responsibilities, duties, and requirements.</p> <p>There is no central oversight or guidance and no consistent, defensible position on compliance.</p> <p>There is no formally defined or generally understood policy for imposing legal, audit, or other processes in relation to information asset production.</p> <p>The organization has significant exposure to adverse consequences from poor compliance practices.</p>	<p>The organization has identified some of the rules and regulations that govern its business and introduced some compliance policies and practices; the policies are incomplete, and there are no structured accountability controls for compliance.</p> <p>Only those employees with direct IM Program responsibilities receive training about the importance of compliance with IM policies and processes, but that training is limited to their program responsibilities.</p> <p>There is an information asset hold process, but it is not well-integrated with the organization’s IM and discovery processes; the organization lacks full confidence in it.</p>	<p>The organization has identified key compliance laws and regulations.</p> <p>Information creation and capture are, in most cases, systematically carried out in accordance with IM principles.</p> <p>The organization has a code of business conduct that is integrated into its overall IG structure and policies.</p> <p>All employees receive training about the importance of compliance with IM policies and processes, but only during orientation.</p> <p>Compliance is highly valued, and it is measurable and verifiable.</p> <p>The information hold process is integrated into the organization’s IM and discovery processes, and it is generally effective.</p> <p>The organization has created specific goals related to compliance.</p> <p>The organization’s exposure to adverse consequences from poor IM and IG practices is reduced.</p>

City's rating: Level 1

Rationale:

- The Records Retention Schedule identifies the information assets the City is obligated to keep but Retention Schedule use is limited for unstructured electronic records and e-mail and the Retention Schedule does not include data.
- Information is not systematically managed; departments / branches within the City manage information as they see fit, based upon their own understanding of their responsibilities, duties, and requirements.
- In the absence of a RIM Policy, employees are unaware of their RIM accountabilities and responsibilities.
- No formally defined or generally understood policy for imposing legal, audit, or other processes in relation to information asset production.
- No evidence that legislated requirements for keeping records have been identified or were considered when retention periods were proposed.
- The City has a Code of Conduct.
- RIM (Program) compliance is not measurable or verifiable.
- City has some exposure to adverse consequences from poor compliance practices.
- Limited, voluntary RIM training.
- More systematic control and management of some paper records, as compared to unstructured electronic records for which control and management are ad hoc.
- References were made that the City is fully PCI-DSS compliant and evidence suggests that this is the case in respect to the deployment of the Intelligenz system (POS). Other systems such as Honk Mobile (e-parking solution) are also likely compliant. Further review and confirmation would be required to ascertain the City's full PCI-DSS compliance status.

**Availability:** “An organization shall maintain its information assets in a manner that ensures their timely, efficient, and accurate retrieval.”

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
<p>Information assets are not readily available when needed, and/or it is unclear whom to ask when assets need to be produced.</p> <p>It is too time-consuming to find the appropriate version of an information asset, if it can be found at all.</p> <p>Employees are not made aware of how and where to store information assets.</p> <p>The organization lacks finding aids, such as indices or metadata, for information assets.</p> <p>Legal discovery and information requests are difficult to fulfill because it is not clear where information assets, including specific versions of those assets, are located.</p>	<p>Information retrieval mechanisms have been implemented in some areas of the organization.</p> <p>In those areas with information asset retrieval mechanisms, it is possible to distinguish among official records, duplicates, and other items.</p> <p>There are some policies on where and how to store official records and other information assets, but a best practice is not imposed across the organization.</p> <p>Only those employees with direct IM Program responsibilities receive training about how and where to store information assets, but that training is limited to their program responsibilities.</p> <p>Responding to legal discovery and information asset requests is complicated and costly due to the inconsistent treatment of information.</p>	<p>There is a best practice for where and how information assets are stored, protected, and made available.</p> <p>There are clearly defined policies for handling information assets.</p> <p>Information asset retrieval mechanisms are consistent and effective.</p> <p>All employees receive training about how and where to store information, but only during orientation.</p> <p>Most of the time, it is easy to determine where to find the authentic, final version of any information asset.</p> <p>Discovery and information asset request processes are well-defined and systematic.</p> <p>Systems and infrastructure contribute to the availability of information assets.</p> <p>The organization has created specific goals related to the availability of information assets.</p>

City's rating: Level 1

Rationale:

- It can be time-consuming to find the final / approved version of a record, if it can be found at all.
- Employees are uncertain where to store unstructured electronic records and e-mails.
- Responding to FOI requests and some legal discovery requests is often time-consuming due to the inconsistent treatment of information. It is not always clear where information resides, it is often necessary to search many repositories, and there is considerable duplication. There is no guarantee that all responsive information and records will be located.
- Locating (additional) responsive records after an IPC appeal has been filed is damaging to the City's reputation.
- No policy or guidance for differentiating between a record and a transitory record.
- Frequent challenges to the timely, efficient retrieval of information.
- Numerous examples suggest that the overall availability of data is currently an issue for the City. Systems and databases are largely siloed and not interconnected (e.g. through a data management platform) to support improved access by staff.
- Corporate policies and processes are not well indexed and are difficult for staff to locate.
- No corporate data management policies are currently available.
- In large part, staff do not have any guidance on 'how' and 'where' to properly store information.
- Access to network drives is segmented at the branch level and there are few systems or processes that allow data sharing between branches.
- There are few examples of adequate version controls being applied. Data queries often return a large amount of outdated data (that should have been deleted or archived).

**Retention:** “An organization shall maintain its information assets for an appropriate time, taking into account its legal, regulatory, fiscal, operational, and historical requirements.”

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
<p>There is no current, documented records retention schedule or policy.</p> <p>Rules and regulations defining retention are not identified or centralized; retention guidelines are haphazard, at best.</p> <p>In the absence of retention schedules and policies, employees either keep everything or dispose of information assets based on their own business needs, rather than on organizational needs.</p>	<p>A records retention schedule and policies are available, but they do not encompass all information assets, have not undergone an official review, and are not well-known throughout the organization.</p> <p>Only those employees with direct IM Program responsibilities receive training about the requirements for keeping or disposing of the information assets they create and receive, but only as the requirements relate to their program responsibilities.</p> <p>The records retention schedule and policies are not updated or maintained regularly.</p> <p>The litigation hold process is in place, but it may not be monitored to ensure its effectiveness so relevant information may be missed.</p> <p>Educational materials and training activities related to retention policies are not available.</p>	<p>The organization has instituted a policy for the retention of information assets; a formal records retention schedule that is tied to rules and regulations is consistently applied throughout the organization.</p> <p>All employees receive training about the requirements for keeping or disposing of the information assets they create and receive, but only during orientation.</p> <p>The litigation hold process is in place and compliance is monitored.</p> <p>The organization has created specific goals related to information asset retention.</p>

City's rating: Level 1

Rationale:

- The Records Retention Schedule is not regularly reviewed and updated; revisions are made in response to department / branch requests.
- The Records Retention Schedule is not used consistently across the organization.
- No retention scheduling training is provided.
- The Litigation Hold Policy has not been approved.
- Retention periods are not applied to data. Unless culled and managed by staff directly, all data is maintained within every system and is routinely captured by the corporate backup process.

**Disposition:** “An organization shall provide secure and appropriate disposition for information assets no longer required to be maintained, in compliance with applicable laws and the organization’s policies.”

Level 1 (Substandard)	Level 2 (In Development)	Level 3 (Essential)
There are no processes or there is no documentation of processes for transferring or disposing of information assets.	Preliminary guidelines for the disposition of information assets are established.	Official policy and procedures for the disposition of information assets have been developed.
Employees are not made aware of their information disposition responsibilities.	There is a realization of the importance of consistently suspending the disposition of information assets, when required.	Official policy and procedures for suspending the disposition of information assets have been developed.
A process for suspending the disposition of information assets in the event of investigation or litigation is non-existent or applied inconsistently throughout the organization.	Only those employees with IM Program responsibilities receive training about their information disposition responsibilities, but that training is limited to their program responsibilities.	Although policies and procedures for the disposition of information assets exist, they may not be standardized throughout the organization.
	The disposition of information assets is not audited or enforced.	All employees receive training about their information disposition responsibilities, but only during orientation.
		The organization has created specific goals related to the disposition of information assets.

City’s rating: Level 1

Rationale:

- Documented processes exist to guide the transfer and disposition of paper records.
- Limited, voluntary RIM training does not address information disposition.
- There is process for suspending the disposition of information assets (excluding structured data) in the event of investigation or litigation or because records are needed for an additional period to satisfy business needs.

- The disposition of information assets is not audited or enforced.
- Disposition of unstructured electronic records and e-mail is mostly ad hoc and undocumented.
- The City's archival records have not been identified.
- Unless structured data is deleted by users, there is no overarching process or practices in place to do this at a higher level. All data is maintained within every system and is routinely captured by the corporate backup process.



## Appendix 7: Version Control Log

Figure 74 provides the history of the drafting and finalization of the I&RM Assessment Report.

**Figure 74 – Version Control Log**

<b>Date</b>	<b>Description</b>	<b>Author</b>
September 23, 2019	Draft report submitted to the I&RM Strategy Project Committee	Ergo Information Management Consulting
October 16, 2019	Final report submitted to the City's Project Manager for the I&RM Strategy Project	Ergo Information Management Consulting
October 22, 2019	Final report submitted to the City's Project Manager for the I&RM Strategy Project after receiving feedback, from the Corporate Leadership Team	Ergo Information Management Consulting