Controlled Vocabulary Policy

Policy No.: 020

Version No.: 1.0

Issued On: April 22, 2021

Subject: Controlled Vocabularies, Enterprise Classification

Keywords: information management, information sharing, collaboration, controlled vocabulary, taxonomy, ontology, list, terminology, standardization, definitions, metadata, enterprise classification, records management

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1.0 Introduction

City information is a corporate asset that sets the foundation for building an accountable, accessible, and trustworthy municipal government. Well-described and searchable City information improves public access to City services and increases public trust and confidence in municipal government.

A fundamental component for managing information effectively, a controlled vocabulary (i.e. taxonomy) is an established list of standardized terms used for both classification and retrieval of information. The use of controlled vocabularies will be critical in how the City effectively manages the increasing amount of records it creates and the data within its enterprise applications going forward.

Controlled vocabularies establish a unified language for the City of Toronto. Developing standardized terminology to describe City services ensures all staff have access to consistent, approved language to describe City business when writing reports, policies, procedures and external communications.

Controlled vocabularies can improve and deliver:

- Findability

- Searchability

- Standardization

- Understanding and alignment

- Artificial intelligence and machine learning readiness

Controlled vocabularies can be applied to a wide variety of information sources, from web content to data repositories. Controlled vocabularies provide consistent terminology to describe the subject of this City information, making it easier to find all information about a specific topic and better understand the context of that information. As a single City service can be described in different ways (by both the public and staff), controlled vocabularies capture a variety of terms and synonyms that make information retrieval and management more efficient. Controlled vocabularies can also provide a common language for systems as they share and exchange data.

Furthermore, with the fast growth of technology, IoT (Internet of Things) and smart devices will accelerate the use of 'voice search' of City's web content. With voice-based searches of the internet (and City websites) increasing, controlled vocabularies can be applied for consistent information description and classification, ensuring all content is semantically structured and better indexed for voice searches.

As the City of Toronto transitions to digital processes and service delivery, Corporate Information Management Services (CIMS) role in establishing and maintaining controlled vocabularies plays a critical function in ensuring the City's digital information can be consistently described, classified and retrieved.

2.0 Background

Corporate Information Management Services (CIMS), City Clerk's Office, provides City divisions with consultative services to develop, manage, and sustain controlled vocabularies. CIMS offers a collaborative enterprise controlled vocabulary technology platform to make those vocabularies easily accessible and sharable, enabling their use and reuse. CIMS also collaborates with divisions to develop and maintain corporate controlled vocabularies for the City use.

The City of Toronto is committed to improving the relevance and accessibility of its information by implementing policies, standards, and best practices that support the development and usage of controlled vocabularies. The Controlled Vocabulary Policy is an output of the [Information Management Accountability Policy](#).

3.0 Purpose

The purpose of this policy is to establish approaches and processes for the development, management, and use of corporate and divisional controlled vocabularies to improve the description, search, and retrieval of City information by staff and the public.

4.0 Policy Statement

CIMS commits to:

- Centralizing and standardizing controlled vocabularies to support a culture of collaboration and information-sharing;
- Establishing a controlled vocabulary policy to support the adoption, development, and management of controlled vocabularies and maximize their usage and benefits;
- Collaboratively supporting the development of controlled vocabularies across City divisions to accurately and consistently describe their information and services;
- Developing controlled vocabulary working groups to support program development and complement existing governance structures within the City;
- Collaboratively enabling controlled vocabularies to be used across the City, including integrations with business applications; and
- Monitoring and managing the evolution and lifecycle of controlled vocabularies as corporate assets.

5.0 Principles

The Controlled Vocabulary Policy is the foundational policy outlining key principles for controlled vocabulary management, to be supported by standards, procedures, and guidelines on quality control, governance, usage, and controlled vocabulary lifecycle management.

The general principles for controlled vocabulary management and sustainment include:

- **Currency**: Terms in controlled vocabularies reflect the most current and commonly-accepted concepts and definitions, while maintaining the historical usage of terms.
- **Accuracy**: Terms are accurate and appropriate for their intended user communities. The terms are consistent with the City's values, i.e. in favour of inclusion and respect for diversity. A single concept can incorporate both preferred terminology and its synonyms.
- **Distinctiveness**: Terms in the same vocabulary are mutually-exclusive from each other to avoid duplication. They should have no overlap or ambiguity in their meaning, definition, or interpretation.
- **Consistency**: Terms are consistent with regards to their format and compliance with accepted standards and rules (e.g. plurals vs. singulars, nouns vs. verbs).
- **Relationships**: Terms within a single vocabulary may be related to each other, expressing either their equality or their associations within a hierarchical structure.

- **Testing and Validation**: The process of selecting terms for inclusion in controlled vocabularies involves consulting reference sources and subject matter experts within the field in question, as well as the needs of the organization.

The design and development of City controlled vocabularies are structured upon and consistent with the requirements of International Standards Organization (ISO) 25964, 'Thesauri and interoperability with other vocabularies,' as well as other recognized international standards for the development of vocabularies, metadata and classification schemas (*See 9.0 References*).

6.0 Application

This policy applies to all City of Toronto divisions and City employees.

This policy does not apply to Elected Officials, Accountability Officers or City Agencies and corporations. The City of Toronto encourages City Agencies and Corporations to review, adopt and enhance this policy to accommodate their business needs.

7.0 Roles & Responsibilities

7.1 City Clerk:

- Establish a framework of standards and policies relating to information and records management, in accordance with applicable legislation;
- Develop and offer corporate programs and services to the City of Toronto that promote the responsible management and accessibility of information, including the Controlled Vocabulary program; and
- Designate Corporate Information Management Services (CIMS) to manage the Controlled Vocabulary program and platform and promote the development and usage of corporate and divisional vocabularies under an established practices for oversight and decision-making.

7.2 Corporate Information Management Services:

- Manage and deliver the City's Controlled Vocabulary program, providing leadership on its design, development and evolution;
- Establish and sustain corporate controlled vocabularies, providing policies, standards, and best practices for controlled vocabulary management;
- Provide consultation and training to divisions on the development and maintenance of divisional controlled vocabularies;
- Administer the enterprise controlled vocabulary platform as the authoritative technology solution for managing and making accessible the City's controlled vocabularies, both corporate and divisional in nature;
- Promote the adoption, management and use of controlled vocabularies and adherence to established policy, standards, and best practices; and
- Establish a governance approach, including working groups and a central governance body, to address concerns and provide corporate direction on controlled vocabularies.

7.3 Chief Technology Officer:

- Develop and implement architecture and technology standards applicable to information and records management;

- Delegate Technology Services Division resources to provide corporate technical support in the deployment, sustainment, and integrations of the enterprise controlled vocabulary technology platform; and
- Support the alignment of technology capabilities of the enterprise controlled vocabulary platform with divisional business objectives, including potential system integrations with the platform.

7.4 Division Heads:

- Promote openness, collaboration and standardization of information throughout the division;
- Promote the creation, use, and sharing of division-specific terminology in communications, planning, and reporting;
- Identify and prioritize sets of terms and concepts to be standardized, defined, approved and managed centrally (in the enterprise controlled vocabulary platform) and make them accessible for divisional and corporate purposes;
- Ensure that governance to support the maintenance of controlled vocabularies is incorporated into divisional roles (e.g. SMEs in working groups) and processes to support sustainment and quality control; and
- Provide funding and resources for integration efforts with the enterprise controlled vocabulary platform as needed.

7.5 Working Groups

- Members of business (Subject Matter Experts) with similar business concerns jointly formalize individual groups as needed on development, management, and sustainment of controlled vocabularies;
- Raise and review conflicting terms, definitions and contentious issues around overall management of controlled vocabularies;
- Provide recommendation to a higher level governance body for resolution;
- Serve as communication and change management agents to advocate controlled vocabulary decision-making activities and decisions;
- Facilitate divisional or business area approvals on controlled vocabulary work; and
- Contribute and administer business controlled vocabularies on the enterprise controlled vocabulary platform.

7.6 City Staff:

- Foster a culture of openness and transparency through collaboration, information-sharing and the use of standardized terminology across all divisions;
- Adhere to the Controlled Vocabulary Policy and its applicable standards;
- Develop, manage, share, use, and sustain divisional controlled vocabularies;
- Leverage and re-use approved controlled vocabulary terms to describe and tag their content, and leverage them in communications and report writing;
- Identify opportunities to develop and leverage new vocabularies to support changes to organizational structures, services, programs, business process, functions, technology and assets in their division; and
- Provide subject matter expert support to the development of controlled vocabulary terms, synonyms, and associated metadata.

8.0 Definitions

Classification: An activity comprised of processes of grouping similar or related things (concepts or terms) together; separating dissimilar or unrelated things; and arranging the resulting groups into a logical sequence.

Controlled Vocabularies: A prescribed list of terms, each representing a concept, and designed to identify each concept with one consistent label. All terms in a controlled vocabulary must have an unambiguous, non-redundant definition. Thesauri, taxonomies, subject heading schemes, and name authority lists are examples of controlled vocabularies.

Corporate Controlled Vocabularies: Vocabularies that are developed and managed by CIMS and with a corporate scope. The Subject and Service Thesauri are two examples of corporate controlled vocabularies, which maintain a hierarchical structure for subjects and services of City business.

Divisional Controlled Vocabularies: Vocabularies that are developed and managed by divisional business users, in alignment with CIMS policy and best practices. Divisional Controlled Vocabularies are used to maintain division-specific interpretations of vocabulary terms.

Information Management: The means by which the City of Toronto responsibly plans, creates, captures, organizes, protects, uses, controls, shares, disposes of, and evaluates its information (including records and data) and through which it ensures that the value of that information is identified and used to the fullest extent.

Metadata: Data that can describe the context, content and structure of records and their management throughout their lifecycle. Metadata can also describe the properties of a document. For example, the following information about a document is typically recorded: Title (of the document), Date (the document was created), and Created By (individual author). These descriptors are known as 'metadata.' Metadata facilitates search, identification, and the management of information.

Ontology: a formal, explicit specification of a shared conceptualization. An ontology typically includes definitions of concepts and specified relationships between them, set out in a formal way so that a machine can use them for reasoning.

Preferred Term: One of two or more terms selected as the primary term to describe a concept. It is included as the main entry in a controlled vocabulary and is also known as the *descriptor*. Terms that are non-preferred to describe the concept are treated as *synonyms* of that concept.

Record: Documented 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 – City of Toronto Act, 2006, s.3 (1) & Municipal Code, Chapter 217.

Synonym: A word or term having the exact or very nearly the same meaning as another word or term.

Tagging: The process of assigning metadata to an item of content, such as a document or web page, using controlled vocabularies or other metadata used by the organization, to improve an individual's abilities to search for, navigate to, and retrieve that information.

Taxonomy: A collection of controlled vocabulary terms organized into a hierarchical structure. Each term in a taxonomy is in one or more relationships (parent/child - broader/narrower) to other terms in the taxonomy.

Voice search: A speech recognition technology that allows users to search the internet, website or applications by saying terms aloud rather than typing them into a search field.

9.0 References

- ANSI/NISO Z.39.19 (2010) (American National Standards Institute/National Information Standards Organization)
- BS 8723-4:2007 Structured vocabularies for information retrieval – Guide- Part 4: Interoperability between Vocabularies (British Standards Institute)
- City of Toronto Act, 2006
- Information Management Accountability Policy, 2018
- Information Management Framework
- ISO25964 Thesauri and interoperability with other vocabularies (International Standards Organization)
- Records Management Metadata Standard
- Request for Proposal No. 3405-18-0041 (Common Search Terms - Enterprise Classification)
- Toronto Municipal Code, Chapter 169, Officials, City
- Toronto Municipal Code, Chapter 217, Records, Corporate (City)

10.0 Policy Approval

Provided by Kristie Pratt, Deputy City Clerk, Corporate Information Management Services, City Clerk's Office
April 22, 2021

11.0 Policy Review

The City Clerk's Office will review this Policy and its effectiveness at the three-year mark from the effective date of this Policy, or earlier if warranted.

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12.0 Appendix

Controlled Vocabulary Framework

Controlled Vocabulary Framework				
Themes	**ACCOUNTABLE GOVERNMENT**	**TRUSTWORTHY GOVERNMENT**	**ACCESSIBLE GOVERNMENT**	**PROGRESSIVE GOVERNMENT**
Principles	• **Collaborative governance to manage Controlled Vocabularies** • **Shared responsibility**	• **Identify and maintain authentic and trusted Controlled Vocabularies** • **Publish non-sensitive Controlled Vocabularies as Open Data**	• **Controlled Vocabularies will be accessible via a scalable enterprise platform**	• **Technical Readiness** • **Technological infrastructure**
Goals	CIMS, Technology Services (TSD) & Divisions will jointly support development, management and integration of controlled vocabularies to improve information searchability by City staff and the public.	**Centralizing and standardizing** Controlled Vocabularies, which are official or trusted sources of City's descriptive metadata / terminology.	The web-based **enterprise platform** will provide access of Controlled Vocabularies to all City staff.	Enable assisted and auto-classification, text analysis, rule-based inference at enterprise level.
	CIMS will establish a **governance** body to regulate Controlled Vocabulary Program and resolve conflicts.	Manage the **lifecycle** and **evolution** of Controlled Vocabularies as corporate assets.	CIMS and Divisions collaboratively ensure defined Vocabularies are **accurate**, **current**, **distinctive** and **consistent,** as the general principles.	Enable API integration with City applications to apply Controlled Vocabularies as **descriptive metadata**, which is fundamental in managing City's digital information.
	Establish **clear roles and responsibilities** amongst CIMS, I&T and Divisions.	CIMS will provide **consultation and training** on the adoption, management and use of controlled vocabularies.	Adhere to industry **best practices** for Controlled Vocabularies management (e.g. ISO standards, NISO/ANSI).	Enable metadata crosswalk from disparate data sources and facilitate data cleansing, exchange and contextualization to achieve **system interoperability**.
	Collaboratively establish and maintain *Controlled Vocabulary Policy*.	Publish Controlled Vocabularies as **Open Data**.		Collaboratively establish and contribute to **data governance framework** in alignment with City's Digital Infrastructure Plan.