



Treasury Board of Canada
Secrétariat

Secrétariat du Conseil du Trésor
du Canada

Canada

A Framework for Government-Wide Data Governance & Stewardship

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Purpose

1

DATA GOVERNANCE FRAMEWORK To introduce the government-wide framework, including data governance and stewardship, for TBS work on the development of principles, policies and guidance with respect to “**prescribing enterprise-wide data standards**”¹.

2

PATHFINDER To seek endorsement on the approach to use PROVINCE/TERRITORY as a pathfinder:

- to establish enterprise data governance & stewardship
- to prescribe a new enterprise-wide data standard
- to show stakeholders and management what is involved, and demonstrate the beneficial outcome of data governance activity.

Problematisation

Today, individual departments and agencies generate and hold a **vast, diverse and ever-expanding array of data**, ...often collected in ways—based on informal principles and practices—that make it **difficult to share** with other departments or Canadians. Their use is **inconsistent** across the government and their **value sub-optimized** in the decision-making process and in day-to-day operations.

- *Report to the Clerk of the Privy Council: A Data Strategy Roadmap for the Federal Public Service* (November, 2018)

Data Governance

Data governance has been defined as "**a framework which formalizes the roles, functions, and procedures within which an organization's data is well-managed and enabled as a strategic asset**"¹

Data governance goes to the question of **how data will be stewarded, controlled** (and **by whom**) and for what purposes.²

Data governance is about **the strategic managing data**.

Data governance is **a practice**.

Main issues considered:

- who is responsible for the data
- who is entitled to set the rules for access to and reuse of it
- how those rules will be set
- who will profit/benefit from the data and on what terms
- addressing data security, standards, interoperability, and localization
- compliance with applicable laws, e.g. Privacy Act for personal info

¹ Barbara L Cohn, "Data Governance: A Quality Imperative in the Era of Big Data, open Data, and Beyond" (2015) 10:3 ISJLP 811 at 813

² Dr. Teresa Scassa, https://www.teresascassa.ca/index.php?option=com_k2&view=item&id=293:some-thoughts-on-smart-cities-and-data-governance&Itemid=80

What **data** is whole-of-government?

What **data** crosses departmental boundaries?

Who collects it? What do they use it for?

What is an 'authoritative source'? Who defines that?

How is **data** shared?

WHO DECIDES?

Who does it well?

How is **data** protected?

Who are the international experts?

How is **data** changed? Who can change it?

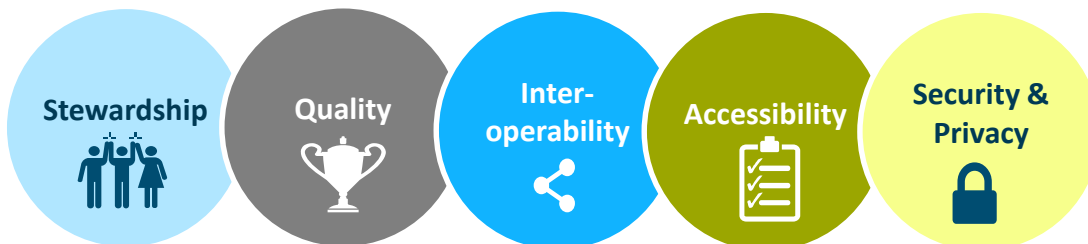
How do we get consent for sharing?

The Work Ahead: Building on the Foundation



- New Policy on Service and Digital **introduces data as a strategic asset**...but more work needed to develop **common definitions, shared principles and guidance**
- Community engagement has been **informal** – e.g. Enterprise Community of Practice, DG Data Leads but **stronger links to business** & program/operational leaders needed
- Existing GC governance can be leveraged for standards – e.g. **EARB**, but more discussion needed on decision-making role of new PCO DM Committees

A GC Framework for Data Governance & Stewardship



The Policy Basis for Enterprise-wide Data

Treasury Board Policy on Service and Digital (effective April 1, 2020)

An expected government-wide result of this policy are that service delivery, business and program innovation are **enabled by** technology and **data**;

4.1.2 The Chief Information Officer (CIO) of Canada is responsible for:

4.1.2.1 Providing advice to the Secretary of the Treasury Board of Canada and the President of the Treasury Board of Canada about:

4.1.2.1.1 Governing and managing enterprise-wide information, **data**, IT, cyber security, and service design and delivery;

4.3 Open and strategic management of information

4.3.1 The CIO of Canada is responsible for:
Enterprise standards

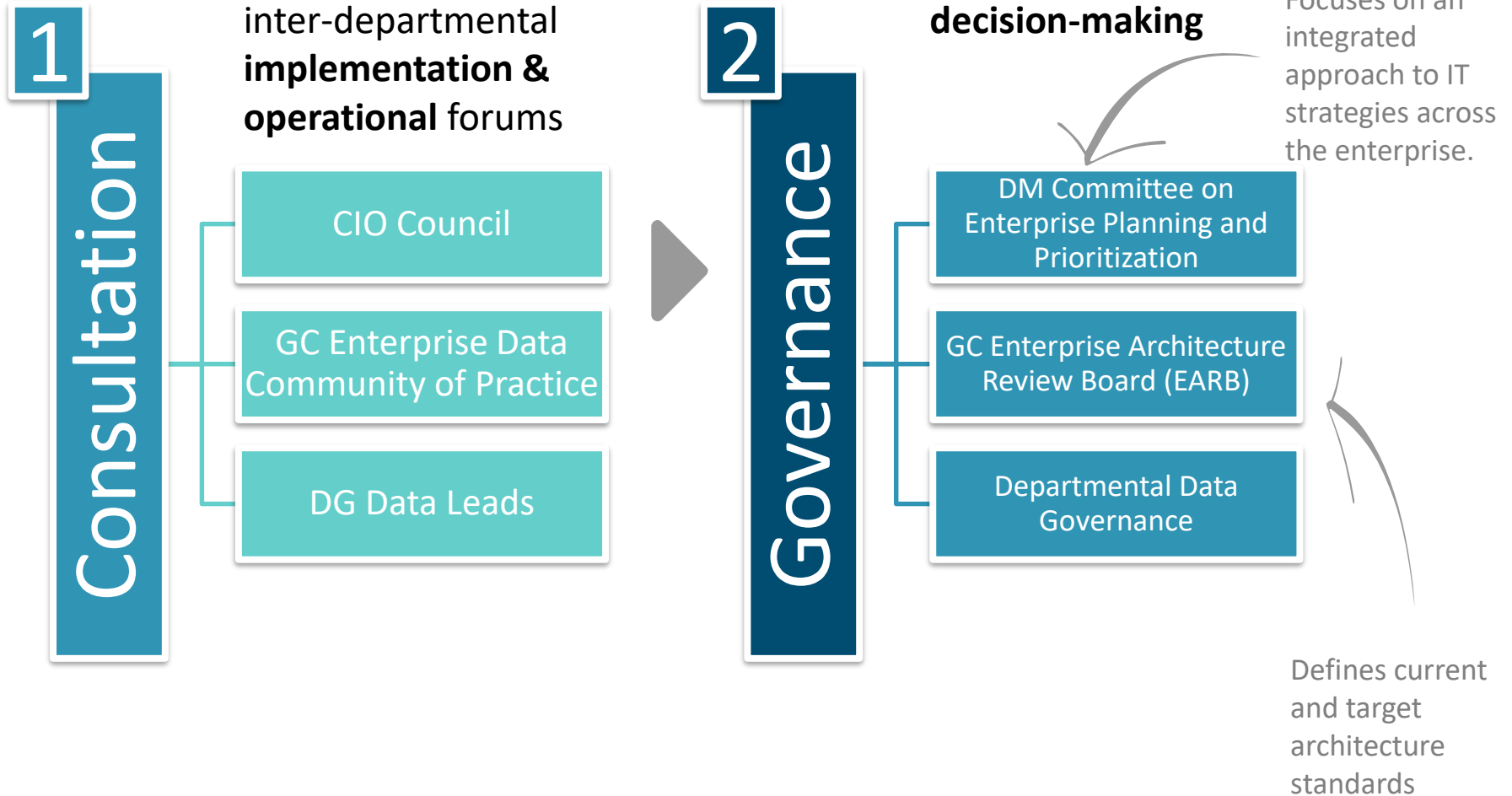
4.3.1.1 Prescribing enterprise-wide information and **data** standards for quality, accessibility, and **data** interoperability, including common architecture taxonomies and classifications, quality requirements, and life cycle management direction.

Definition of Data: “Set of values of subjects with respect to qualitative or quantitative variables representing facts, statistics, or items of information in a formalized manner suitable for communication, reinterpretation, or processing.”

A GC Framework for Data Governance & Stewardship



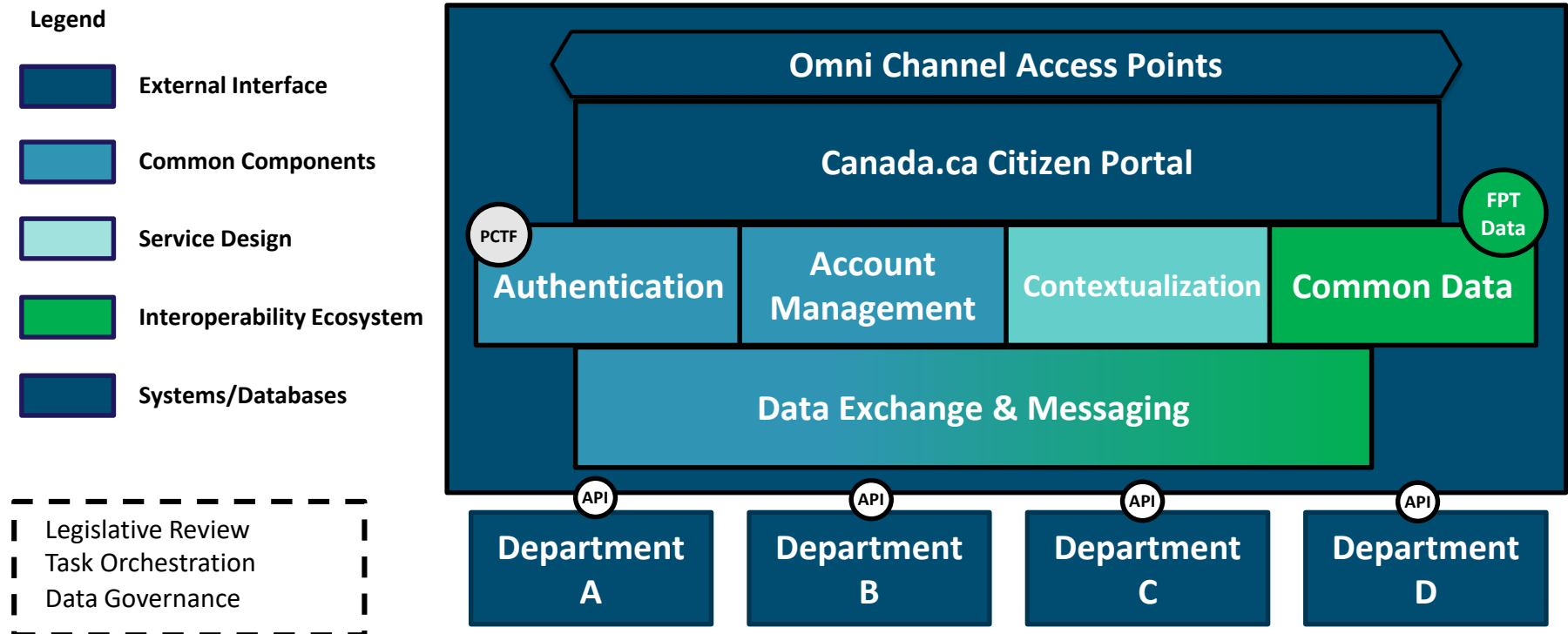
A Foundation for Authorities, Governance & Engagement



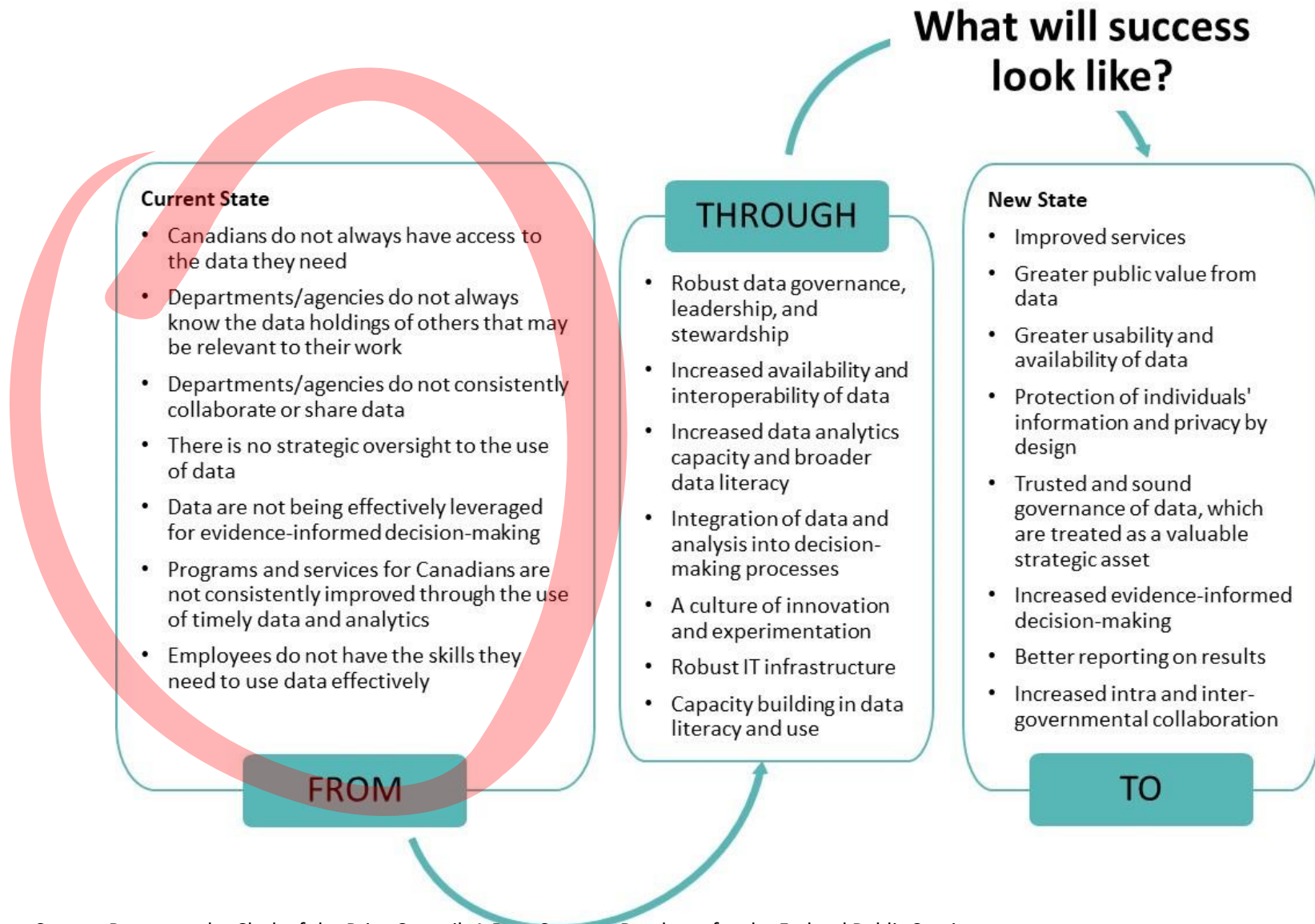
OneGC: a Vision for Digital Service Delivery and its Enabling Infrastructure

The 2017 to 2021 GC IM-IT Strategic Plan announced that “[the Treasury Board of Canada Secretariat] will develop a new strategy to set further direction on providing a single window to Canadians for all [Government of Canada] information and services and create the conditions required to transition to a single [Government of Canada] service platform.”

OneGC Platform Reference Architecture



Why Act Now?



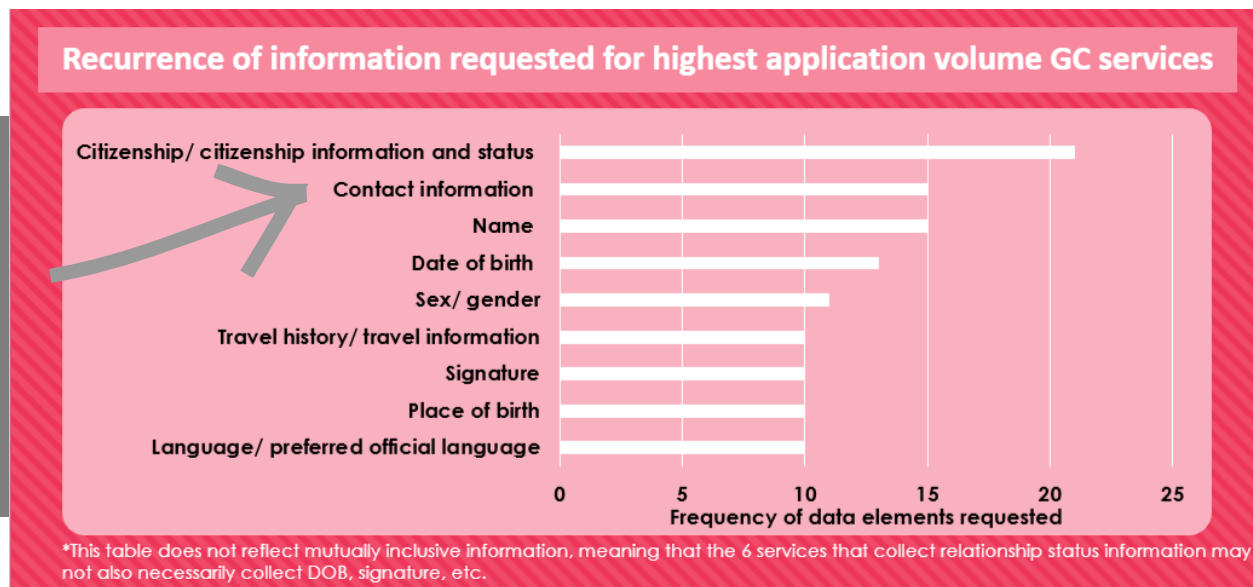
PATHFINDER: STANDARD REFERENCE DATA FOR PROVINCES & TERRITORIES

Next Steps: A Pathfinder

1 5 key service providers, ESDC, CBSA, CRA, IRCC, VAC provide the highest volume of GC services to citizens. The table below show the most frequently requested info by the government of its citizens.

TBS will methodically work on enterprise-wide data standards for these datasets.

2 Starting with PROVINCE/TERRITORY reference data model developed by data practitioners, as a pathfinder...



3 TBS will aim to introduce a mandatory TB policy instrument in 2020-21. The exercise will be used to refine the GC Enterprise Data Strategy and define GC Governance Framework, including roles and responsibilities, definitions,

Why is Reference Data important?

Reference data is data that defines the set of permissible values to be used as unique codes when describing attributes of a person, place or thing. Without it, data is inconsistent and cannot be readily compared or shared.

Good reference data enables: consistent use, better analytics, improved information sharing and high quality open data set.

T1_TAX_PROV - Taxing Province Code - CRA		
Province Code	English Label	French Label
00	Newfoundland	Terre-Neuve-et-Labrador
05	Ontario	Ontario

Province - EI Status Vector		
Province Code	English Label	French Label
01	Newfoundland	Terre-Neuve-et-Labrador
06	Ontario	Ontario

EMPT_PROV_CD - T4 Province of employment		
Province Code	English Label	French Label
NL	Newfoundland	Terre-Neuve-et-Labrador
ON	Ontario	Ontario

The Challenge

- September 2018 – The Enterprise Data Community of Practice (EDCoP) stood up the **Reference Data Management Working Group**, co-chaired by ESDC and Statistics Canada.
- Province and Territory reference data was chosen first because it seemed like **an easy place to start...**
 - There was no argument about the content (10 provinces, 3 territories),
 - The data was unlikely to change, and
 - The data was common to all departments.
- By January 2019, the working group had landed on **3 options** for Province and Territory:
 1. ISO country subdivision code
 2. Canada Post code
 3. Statistics Canada province/territory numeric codes

The Challenge

- BUT, there were challenges to settling on a single standard because...
 - **Diverging views** on alpha code vs numeric code (i.e. NS = 12);
 - **No common framework** or principles to guide decision-making (e.g. client-centred vs system-centred; jurisdictional vs geographical); and
 - **No formal governance body** to which issues could be escalated.
- In the absence of formal governance direction, the working group members chose the Canada Post Code (alpha code) for Province and Territory (e.g., NS, ON, AB) because it is **easily understood by all users, and abides to a client-centred principle**.

Lessons learned?

- Decisions will get made in the absence of governance but if we want to standardize (standard + conformity) **we need formalized bodies to set direction and make decisions**.
- This includes a framework, principles, roles and responsibilities, and clear processes for escalation and decision making.

Recommendation: Standard on Provinces/Territories Data

Canadian Subdivision Code Code de subdivision canadienne	Name in English Nom en anglais	Name in French Nom en français	Abbreviation English Abréviation en anglais	Abbreviation French Abréviation en français	Canadian Subdivision Type Code Code de type de la subdivision canadienne
NL	Newfoundland and Labrador	Terre-Neuve-et-Labrador	N.L.	T.-N.-L.	1
PE	Prince Edward Island	Île-du-Prince-Édouard	P.E.I.	Î.-P.-É.	1
NS	Nova Scotia	Nouvelle-Écosse	N.S.	N.-É.	1
NB	New Brunswick	Nouveau-Brunswick	N.B.	N.-B.	1
QC	Quebec	Québec	Que.	Qc	1
ON	Ontario	Ontario	Ont.	Ont.	1
MB	Manitoba	Manitoba	Man.	Man.	1
SK	Saskatchewan	Saskatchewan	Sask.	Sask.	1
AB	Alberta	Alberta	Alta.	Alb.	1
BC	British Columbia	Colombie-Britannique	B.C.	C.-B.	1
YT	Yukon	Yukon	Y.T.	Yn	2
NT	Northwest Territories	Territoires du Nord-Ouest	N.W.T.	T.N.-O.	2
NU	Nunavut	Nunavut	Nvt.	Nt	2

Current recommendation: (from the Enterprise Data Community of Practice) that the basis of the future enterprise-wide data standard for PROVINCES/TERRITORIES be the Canadian Subdivision Code (2-digit alpha code).

Summary

1

DATA GOVERNANCE FRAMEWORK

- A GC framework for governance & stewardship, quality, accessibility, interoperability and security & privacy
- Policy on Service and Digital establishes data as strategic asset
- Existing governance with GC EARB and DM CEPP is a start, but more formal data community needed, with defined roles and responsibilities

2

PATHFINDER

- A community-developed recommendation to establish prescribe a new enterprise-wide data standard on PROVINCE/TERRITORY reference data
- Pathfinder will run through an end-to-end process of drafting a standard, broader community engagement, capturing gaps in definitions, roles & responsibilities and needed elements of data governance
- Will show stakeholders and management in a practical way what is involved, and demonstrate the beneficial outcome

Additional References

Context

July 2017 – GC IM/IT Strategic Plan 2017-21

- first brings together the **foundational enablers** of information, **data**, technology and security required to deliver open and transparent government and improved services to Canadians.

September 2018 – Launch of GC Digital Standards

- “Be **good data stewards** – Collect data from users only once and reuse wherever possible. Ensure that data is **collected and held in a secure way so that it can easily be reused by others** to provide services.”
- “**Iterate** and improve frequently - Develop services using agile, iterative and user-centred methods. Continuously improve in response to user needs. Try new things, **start small and scale up.**”

November 2018 – Digital Operations Strategic Plan 2018-22

- GC CIO emphasizes the role of **data stewardship** and the need for “...**reliable, authoritative data** to inform decision making and ... service delivery.”

Context

November 2018 – **Report to the Clerk of the Privy Council: A Data Strategy Roadmap for the Federal Public Service**

- Call for departmental **data strategies** to address the strategic use of data across the GC.

December 2018 – **Mandatory Procedures for Enterprise Architecture Assessment**

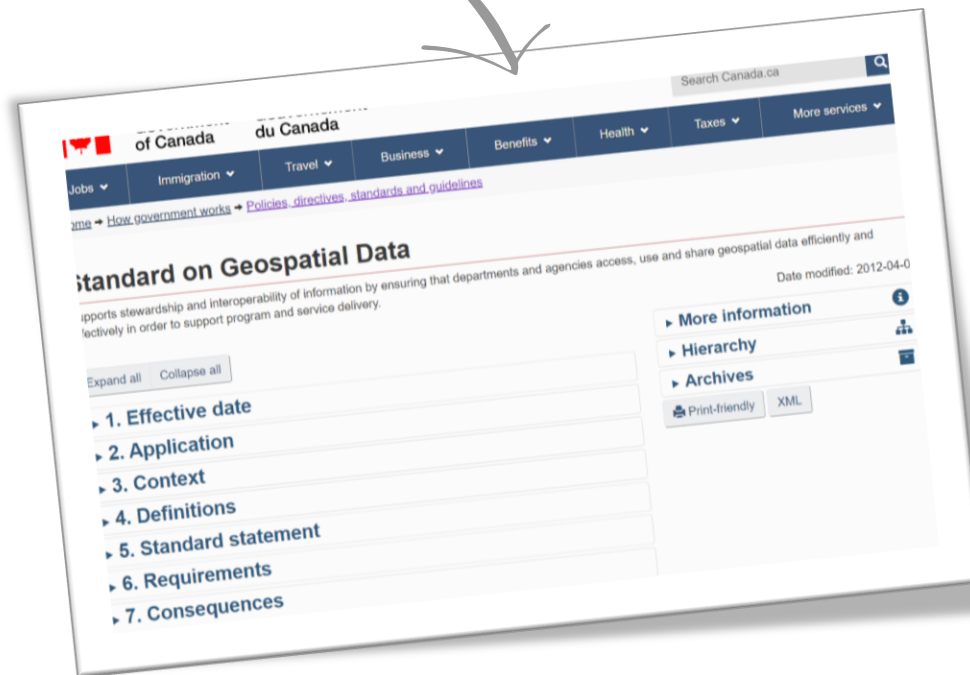
- Introduces requirements for the **collection, management, storage, and sharing of data**.

July 2019 – **TB Policy on Service and Digital**

- Secretary of the Treasury Board is responsible for setting **enterprise direction on management of information and data** (4.1.2.2).
- CIO of Canada is responsible for prescribing **enterprise-wide information and data standards** for quality, accessibility, and data interoperability (4.3.1.1).

Sample: Standard on Government-wide Data

A Standard is a mandatory TB policy instrument, that outlines detailed technical instructions, procedures on how a function is conducted.



Consultations to focus on Key Considerations:

- Effective Date – *when will it take effect? How long do departments have to fully implement? Impact? Cost?*
- Application – *which departments must follow?*
- Context – *interoperability, quality and/or accessibility basis*
- Definitions
- Standard Statement – *clarifying the objective, expected results*
- Requirements
- Consequences – *compliance*
- Roles & Responsibilities
- References

Comparative of Other Standards used for Provinces and Territories

Canadian Subdivision Code Code de subdivision canadienne	Statistics Canada Standard Geographical Classification Code Code de classification géographique standard de Statistique Canada	ISO Country Subdivision Code Code ISO de la subdivision du pays
NL	10	CA-NL
PE	11	CA-PE
NS	12	CA-NS
NB	13	CA-NB
QC	24	CA-QC
ON	35	CA-ON
MB	46	CA-MB
SK	47	CA-SK
AB	48	CA-AB
BC	59	CA-BC
YT	60	CA-YT
NT	61	CA-NT
NU	62	CA-NU