

# Enterprise Data Management Plan Guideline

Information Management Framework

# Document control

## Approval

This document was approved by the Information Management Group on 23 August 2017, and applies from the date of issue (see below).

<b>APPLIES TO</b>	All Departments and Victoria Police	<b>AUTHORITY</b>	Information Management Group
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0.2	24/07/2017	Multiple changes following stakeholder review and feedback
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# Contents

<b>Introduction</b>	<b>4</b>
Overview	4
Rationale	4
Derivation, audience, glossary & related documents	4
<b>Guidelines</b>	<b>6</b>
Enterprise data management	6
Leadership and engagement	6
Development	8
Review	13
<b>Further information</b>	<b>13</b>
<b>Appendix A: Plan structure</b>	<b>14</b>

# Introduction

## Overview

This document provides guidance to Victorian Government (government) departments for implementing the [IM-STD-05 Enterprise Data Management Plan Standard](#) (the standard) and for developing or revising their enterprise data management plans. This document is a guide only and should not be seen as requirements.

## Rationale

The Royal Commission into Family Violence<sup>1</sup>, VAGO<sup>2</sup> and the Productivity Commission<sup>3</sup> all identified inconsistent data management practice across government. This has led to:

- fragmented, poor quality data
- an inability to achieve an integrated view of citizens and services
- a limitation on government's ability to make evidence-based decisions
- increased risk to government, and to the safety and wellbeing of Victorians
- missed potential for better service and policy design.

In addition, different departments, divisions and program areas often work in silos, addressing their data needs independently with little awareness of the overlapping efforts and costs.

Developing enterprise data management plans will promote consistency in data and data management practice within departments and across government, aiming to:

- ensure data is treated with the same strategic oversight as other assets, deriving maximum value while maintaining appropriate governance and protection,
- make data more discoverable, accessible and interoperable so it can be shared for frontline service delivery, analytics and insight, and
- gain a more complete view of citizens, the government's service delivery and outcomes by overcoming data silos.

## Derivation, audience, glossary & related documents

### Derivation

This guideline is derived from the [Data Management Position Paper](#).

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<sup>1</sup> Summary and recommendations, Royal Commission into Family Violence, March 2016, <http://www.rcfv.com.au/Report-Recommendations>

<sup>2</sup> Access to Public Section Information, Victorian Auditor-General's Office (VAGO), December 2015, [http://www.audit.vic.gov.au/reports\\_and\\_publications/latest\\_reports/2015-16/20151210-access-to-information.aspx](http://www.audit.vic.gov.au/reports_and_publications/latest_reports/2015-16/20151210-access-to-information.aspx)

<sup>3</sup> Data Availability and Use, Productivity Commission, May 2017, <http://www.pc.gov.au/inquiries/completed/data-access/report>

## Audience

This guideline has been developed for Victorian Government departments and Victoria Police, which are in-scope for the implementation of this standard. However the content may be of relevance to other agencies.

This guideline is specifically targeted at VPS employees involved in governing and managing data assets and managing data systems and associated business processes. This includes:

- Chief Information Officers (CIO)
- Chief Data Officers (CDO)
- Chief Information Security Officers (CISO)
- senior line-of-business representatives with significant data assets under their management
- data asset owners
- data asset custodians
- enterprise, data and other domain architects
- data governance and data quality managers
- data analysts
- application, database and system administrators
- relevant service providers.

## Glossary

The glossary of terms and abbreviations used in this document are defined in the [IM GUIDE 03 Information Management Glossary](#).

## Related documents, tools and references

1. [IM FMW 01 Information Management Framework](#)
2. [IM POL 01 Information Management Policy](#) (awaiting approval)
3. [IM STD 03 Information Management Governance](#) (awaiting approval)
4. [IM STD 05 Enterprise Data Management Plan Standard](#) (in development)
5. [IM STD 07 Information Asset Register Standard](#) (in development)
6. [Data Management Body of Knowledge \(DMBOK\)](#)
7. [Public Record Office of Victoria \(PROV\) Standards Framework and Policies](#)
8. [Victorian Protective Data Security Framework \(VPDSF\)](#)

# Guidelines

## Enterprise data management

*“Enterprise data management... [is] the ability of an organisation to precisely define, easily integrate and effectively retrieve data for both internal applications and external communication.”<sup>4</sup>*

Enterprise data management provides the framework and discipline for the consistent management of data across systems, business processes, divisions and the organisation as a whole. As such it provides the bridge between strategic and tactical data management.

Enterprise data management aims to overcome data silos, find opportunities to simplify and standardise and create the enabling environment for data integration, sharing and reuse. The emphasis is on deriving maximum value from the investment in data and ensuring the organisation’s data supports its strategic objectives.

## Planning in practice

Planning how data is created or collected, managed, improved and used is critical to the success of enterprise data management. An enterprise data management plan (EDMP) is about whole of department (enterprise) data management leadership, coordination and prioritisation.

The EDMP covers the key components of data management and sets out the common business rules (e.g. operating procedures and standards) to be applied department-wide.

It serves as both a reference guide and a communication tool by planning how data is created or collected, managed, improved and used, and promotes coordination and a common understanding across business areas and IT.

## Leadership and engagement

2. Ensure the Enterprise Data Management Plan is:
  - a. owned by an executive level-officer,
  - b. developed with the involvement of both business and IT representatives,
  - c. endorsed by the department’s Information Management Governance Committee<sup>5</sup>, and
  - d. approved by the department head<sup>6</sup>.

## Executive leadership

Executive-level ownership and accountability is vital to recognition of, and securing commitment, to enterprise-wide data management. Leadership at this level is required to foster a culture where data is valued as an asset, and to ensure the success of organisation-wide initiatives.

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<sup>4</sup> Building a Sustainable Enterprise Data Management Strategy, EDM Council, 2006, <https://www.edmcouncil.org/downloads/20060700BuildingASustainableEDMStrategy.PDF>

<sup>5</sup> As described in requirement 5 of [IM-STD-03 Information Management Governance Standard](#), and [IM-GUIDE-05 Information Management Governance Guideline](#).

<sup>6</sup> I.e. Secretary of the department or agency chief executive officer as appropriate.

An appropriate executive-level officer should be identified as sponsor for the development process and ownership of the subsequent EDMP. Depending on the size and functions of the department, this may be:

- the Chief Information Officer (CIO),
- the Chief Data Officer (CDO),
- an executive-level officer responsible for championing the importance of information (and data) and its management<sup>7</sup>, or
- an executive-level officer responsible for a major line of business or service delivery area.

## Cross-organisation engagement

A key aim of the EDMP is to promote alignment across business areas, as well as between the business and IT. As such, its development should be a coordinated effort involving not just data and IT specialists (e.g. enterprise and data architects and application, database and system administrators) but also business areas (e.g. owners, custodians and stewards of data assets and senior line of business representatives).

Consideration should be given to the most appropriate stakeholders to engage when planning the EDMP development and consultation process. For example:

- Technical subject matter experts (SMEs) will need to be consulted on topics such as current state, data architecture and modelling, data standards and technology.
- Business representatives will need to be consulted on the areas of future need, planned initiatives and data quality management processes.

Engagement at different levels will assist in building both a strategic view (e.g. potential for cross-linkage within the department and externally), as well as an operational perspective (e.g. opportunity for improving process efficiency through re-use).

## Endorsement and approval

The Information Management Governance Committee (IMGC) should be involved from early in the development process, consulted as appropriate and kept informed. As the central information (and data) governance body within the department the IMGC's support is essential if the EDMP is to accomplish its objectives.

The department head or agency chief executive officer is ultimately accountable for the organisation's assets (including information and data assets), as per the *Financial Management Act 1994 (Vic)*. Accordingly, they should provide final approval of the EDMP following endorsement and recommendation up from the IMGC.

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<sup>7</sup> As described in requirement 1 of [IM-STD-03 Information Management Governance Standard](#).

# Development

1. Develop an Enterprise Data Management Plan<sup>8</sup> that:
  - a. aligns data, data initiatives and data management practice with organisational strategy and business operations,
  - b. ensures critical data assets<sup>9</sup> are a key focus and considered when prioritising initiatives, improving practice and standardisation,
  - c. documents governance of enterprise (whole of organisation) data and data management practice, including roles and responsibilities, and compliance with statutory and administrative obligations,
  - d. provides business rules for how data is created, stored, managed and used, and
  - e. identifies opportunities for increasing the value of data to the organisation and government.

## Key steps and approach

The following outlines an approach to the development of the EDMP and expands on the key aspects listed in the standard. For a suggested document structure including section descriptions and rationale, see Appendix A: Plan structure.

Key step	Approach
Identify sponsor	As described in Executive leadership above, determine who should be the executive sponsor and EDMP owner and obtain their support.
Scope and purpose	Define the scope and purpose of the EDMP in consultation with the sponsor.
Audience	Identify the audiences, including varying levels of data literacy and their expected use of the EDMP.
Table of contents	Formulate a draft table of contents or document structure.
Engagement plan	Develop a high-level plan for who to engage, when, how and on which aspects.
Schedule	Using the above information, create a schedule for development and confirm with the sponsor.
Research and analysis	Carry out research and analysis: <ul style="list-style-type: none"><li>• Review current practice across government (locally and internationally) and industry.</li><li>• Review internal documents, artefacts and registers e.g. information asset registers, data dictionaries and system registers.</li><li>• Identify problems and opportunities (i.e. SWOT – strengths,</li></ul>

<sup>8</sup> Departments may use a more business-appropriate title if desired.

<sup>9</sup> As described by [IM-GUIDE-05 Information Management Governance Guideline](#).



Key step	Approach
	weaknesses, opportunities and threats).
Consultation and development	Commence an iterative process of consultation and content development by engaging key stakeholders, and subject matter experts, in both one-on-one interviews and working groups.
Review & feedback	Seek peer and editorial review then circulate to stakeholders and governance groups for multiple rounds of review and feedback.
Approval	Obtain IMGC endorsement and departmental head approval (as described under Endorsement and approval above).
Communicate	Publish the approved EDMP and publicise across the department.



The [Data Management Association's \(DAMA's\) Data Management Body of Knowledge \(DMBOK\)](#), a 'standard industry view of data management functions, terminology and best practices'<sup>10</sup>, is a valuable resource for guiding data management planning at both enterprise and more detailed levels.

## Strategic alignment

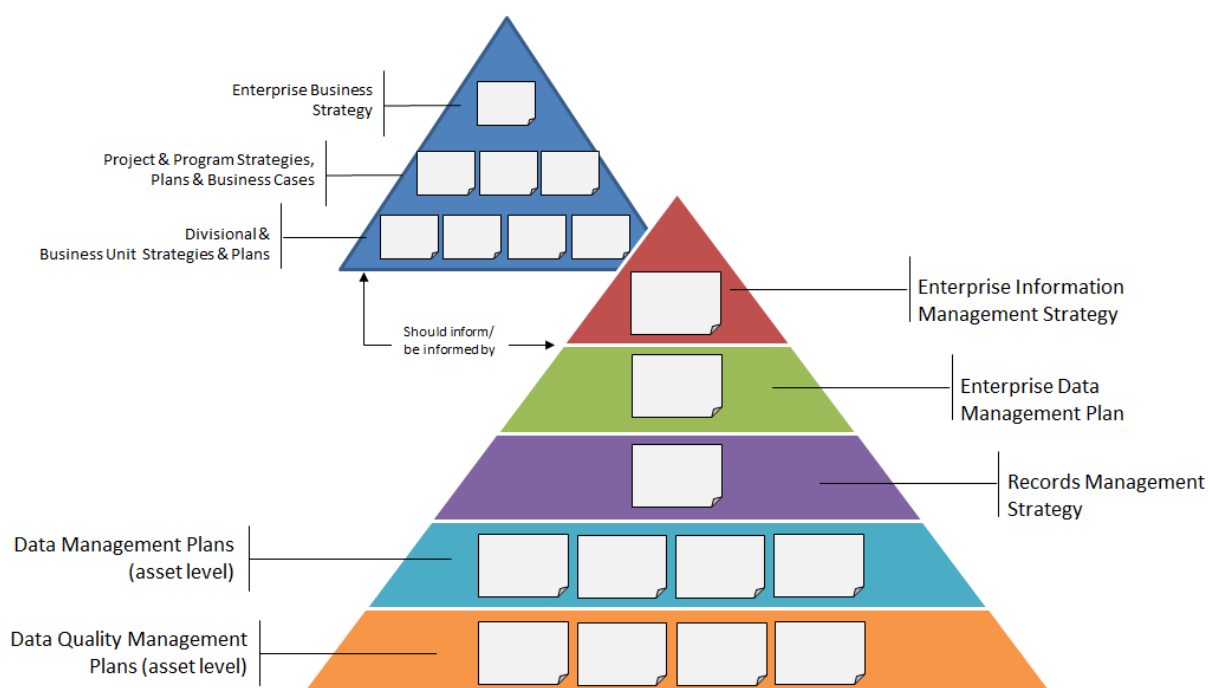


Figure 1 – Strategic alignment

Conceptually, the EDMP sits below a department's enterprise information management strategy<sup>11</sup> and above more detailed initiative, business process or asset-level data and data

<sup>10</sup> Data Management Body of Knowledge, Data Management Association, 2017, <https://www.dama.org/content/body-knowledge>

quality management plans (see Figure 1 – Strategic alignment above). Together, these should inform (and be informed by) the department's business strategy, project and program strategies, plans and business cases, and divisional and business unit strategies.

Senior and executive-level input should to be sought when determining strategic alignment and objectives. This will include the sponsor, forums such as the department's IMGCC, and other operational or business-focused executive groups.

## Enterprise information management strategy

An enterprise information management strategy is a high level strategic document that aligns information and information management practices to support operations and organisational strategic objectives. It describes the planned and prioritised approach to current and future information management needs, as well as measures to satisfy statutory and administrative obligations.

An enterprise information management strategy encompasses data, however it does not describe more detailed data-specific planning, processes, standards or systems.

## Data management plans

While the EDMP spans the breadth of the organisation, more specific data management plans may be required to properly manage individual initiatives, business processes or data assets. Plans at this level prescribe how data will be collected, stored, managed, secured and shared at a level of detail not suitable for a whole-of-organisation view.

Data management plans may specify data capture or creation methods, data types, definitions and naming conventions, data and metadata standards in use, and storage, interchange, access, privacy and security details and data quality considerations.

Data management plans should tie back to the EDMP and in doing so, provide the link between tactical and operational data management.

## Data quality management plans

Data quality management plans provide detailed information about data quality activities for a given initiative, business process or data asset. They identify key dimensions of data quality as they apply to the specific context and aim to ensure data is fit for purpose and data quality is consistently described.

Data quality management plans document data quality roles and responsibilities, needs of data users, known issues, key failure points and data quality metrics and reporting. The data quality management plan may be incorporated into the data management plan.

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<sup>11</sup> As described in requirement 3 of [IM-STD-03 Information Management Governance Standard](#), and [IM-GUIDE-05 Information Management Governance Guideline](#).

## Critical data assets

*“if you do not understand your [data], you cannot fully protect and exploit it”<sup>12</sup>*

An accurate and up-to-date inventory of data assets is a prerequisite to planning for and managing data strategically. Departments are required<sup>13</sup> to maintain registers of significant and critical information assets, including data assets (see Figure 2 – Information assets).

Data assets identified as critical should be a key focus of the EDMP, as they signify data that is high value or high risk, or vital to the department’s business delivery. These assets are likely to represent the highest business value and return on investment and so should be prioritised for improvement and standardisation.

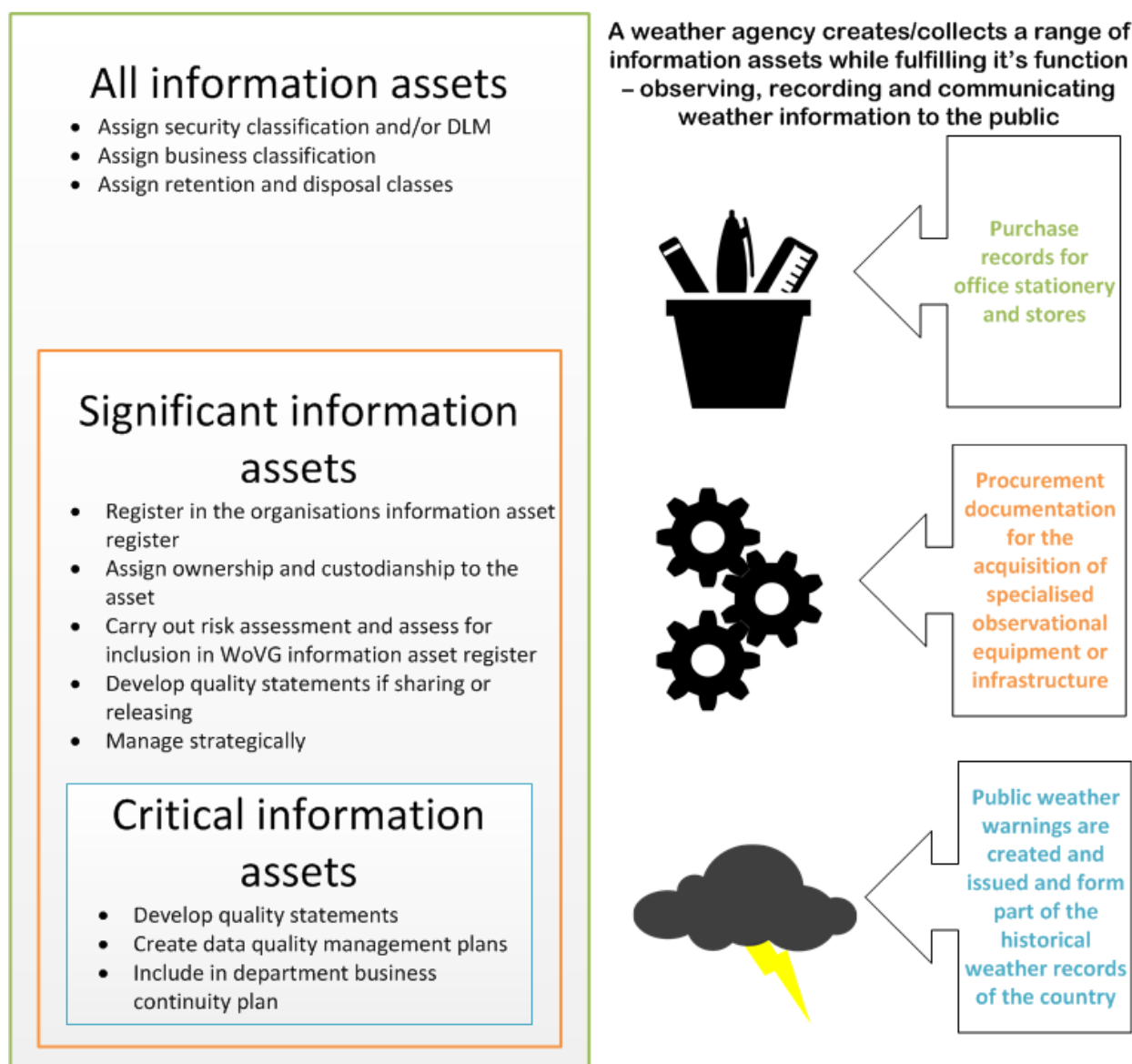


Figure 2 – Information assets

<sup>12</sup> Information Assets and Business Requirements, The National Archives UK, 2011, <http://www.nationalarchives.gov.uk/documents/information-management/identify-information-assets.pdf>

<sup>13</sup> As described in requirement 7 of [IM-STD-03 Information Management Governance Standard](#), and [IM-GUIDE-05 Information Management Governance Guideline](#)

## Data governance

[IM-STD-03 Information Management Governance Standard](#) sets out the governance requirements for information (including data) within departments.

The EDMP should clearly articulate the how the department's information management governance model (including custodianship model) specifically applies to data. Examples include:

- business area or domain-specific data working groups that report up to the IMGC
- roles that may have certain responsibilities pertaining specifically to data assets (e.g. a critical data asset administrator's duty to ensure appropriate backup and recovery processes)
- data-specific legislation that requires certain assurance activities, measures or monitoring such as the *Privacy and Data Protection Act 2014 (Vic)*.

## Business rules

The EDMP should serve as an authoritative guide to how data should be planned for, created, stored, managed and used when focusing on each component of data management.

Certain business rules (including operating procedures and standards) will be applicable across the whole organisation, while others will apply to a particular class of assets (e.g. critical data assets being required to have a data quality management plan). Some may apply only to a specific asset, system or business process, but should still be documented for clarity and possible future alignment.

## Value and opportunity

A primary motivation for enterprise data management is to derive maximum value from the organisation's data assets. Across government, there is enormous potential for unlocking the value of existing data by reuse, repurpose and integration (with other data assets).

Opportunities can be identified to realise this potential by considering broader strategic objectives of the department (and government), exploring current state and future need, and analysing those assets most important to the department's business functions. These may include:

- streamlining business processes by re-using data already collected and stored elsewhere in the department
- reducing the administrative burden on citizens (the 'once-only principle'<sup>14</sup>) by linking their data across business areas and functions
- finding cost savings by consolidating data storage and integration platforms.

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<sup>14</sup> Single Digital Market, European Commission, 2017, <https://ec.europa.eu/digital-single-market/en/news/eu-wide-digital-once-only-principle-citizens-and-businesses-policy-options-and-their-impacts>

## Review

### 4. Review and update the **Enterprise Data Management Plan** on an annual basis.

Government policy, technological advances and increasing community and stakeholder expectations are all driving changes to government's business processes and ICT environment. This in turn means that the underlying data landscape is constantly shifting.

The EDMP can only be effective in meeting its objectives if it is regularly reviewed and updated. The emphasis should be on ensuring the plan continues to align with government and organisational business needs and strategic objectives.

Current state, future need and planned initiatives should all be reassessed for accuracy and relevance. Developments in government and industry data standards should be monitored for inclusion, along with expanding disciplines like master data management, and new data technologies and platforms.

## Further information

For further information regarding this standard, please contact Enterprise Solutions, Department of Premier and Cabinet, at: [enterprisesolutions@dpc.vic.gov.au](mailto:enterprisesolutions@dpc.vic.gov.au)

# Appendix A: Plan structure

The following is a proposed structure for an enterprise data management plan:

Section	What goes here?	Rationale
Principles	A set of guiding behaviours, expectations and rules for the use of organisational data and data management practice. These should align with the principles of the WoVG Information Management Policy and DataVic Access Policy, as well as any relevant or agency-specific legislative obligations.	To clearly state the department's views on how its data should be managed, ensuring a consistent understanding and commitment.
Strategic alignment	A description of how the department's data and data management practice aligns with and supports organisational and government strategic objectives.	To ensure that the activities undertaken to improve data and data management practice specifically support the goals and strategic directions of the department, and government more broadly.
Business drivers	The drivers for an enterprise-level data management plan. The internal or external influences on the business (department and government) leading to the need to improve its data and data management practices across the whole organisation.	To identify the forces and demands on the business which require the department's data to be managed strategically and at an enterprise level.
Objectives	The specific goals that the enterprise data management plan sets out to achieve.	To translate the broader principles and strategic alignment into more defined, achievable and relevant steps towards improving the department's data and data management practice.
Current state	Research and analysis of the current state of data and data management within the department, including (but not limited to) key sources of data, known duplication, costs, problem areas, issues, gaps and opportunities for improvement.	To evaluate the status quo in order to identify the strengths and weaknesses of the current data environment, and inform the subsequent needs analysis and prioritisation of initiatives.
Future need	Research and analysis into the future data and data management needs of the organisation, taking into account best practice across industry and the private sector. This may involve a gap analysis using the findings of the current state, and include new data collection and acquisition, improvements in discoverability, accessibility and data quality and	To take a systematic approach to assessing the future requirements for the organisation's (and government's) data assets and data management capability. This analysis informs the areas of focus and prioritisation of initiatives to best align with the drivers and objectives of both the

Section	What goes here?	Rationale
	increased capability for integration and exchange.	enterprise data management plan and the organisation as a whole.
Initiatives	A listing of initiatives relating to data and data management (both commenced and planned) including at least: description, status, priority and benefits.	To outline the effort and activities required to achieve identified future needs, with an emphasis on supporting strategic objectives and the associated benefits.
Governance model	An outline (or reference to) the department's information management (IM) governance model as it applies to data; including governance groups, custodianship, risk and issue management and legislative and administrative compliance.	To explain how the department's IM governance model specifically applies to data; expanding on any data-specific aspects not covered by the broader IM governance provisions.
Data architecture and modelling	The business around enterprise data architecture and modelling artefacts including: <ul style="list-style-type: none"> <li>• how they are developed, reviewed and approved</li> <li>• the standards to be used e.g. TOGAF, UML</li> <li>• links to key artefacts such as the enterprise data architecture and enterprise conceptual data model.</li> </ul>	To raise the profile and visibility of data architecture and modelling activities, promoting the usefulness of these artefacts in visualising current data holdings, highlighting gaps and duplication and opportunities for simplification and re-use.
Metadata	Documents metadata standards, schemas and classifications approved for use, as well as any departmental data dictionaries, metadata registry or metadata management tool.	To ensure data is consistently described across the department, enabling enterprise search and discovery and supporting privacy and security through appropriate classifications.
Data quality	An outline of the data quality approach across the department, including the parameters or dimensions of data quality and expectations for: <ul style="list-style-type: none"> <li>• data quality planning</li> <li>• roles and responsibilities</li> <li>• procedures and processes</li> <li>• data quality statements, metrics and reporting.</li> </ul>	To ensure data quality management activities are consistently applied across the department's data assets, conveying and improving quality and integrity to allow confident decisions on fitness for purpose.
Reference data	Details of reference data sets (and their authoritative sources) approved	To promote the standardisation of reference data throughout the

Section	What goes here?	Rationale
	for use. Details principles and business rules for creating and updating, and required metadata elements such as effective dates.	department; to improve consistency and efficiency in collection, and facilitate more accurate integration, analytics and insight.
Master data	Details of existing and/or planned master data sets across the department, including their related business processes, sources and contributors and integration between systems.	To provide visibility of, and mandate, the sharing of key master data sets across the department, and providing a 360° view of these concepts (e.g. employees, clients and services) to break down operational silos and provide powerful business insights.
Data standards	A list of the data standards approved for use within the department. This may include classification, structure, format and data types, conventions on naming and definitions, business rules and validations, minimum datasets and interchange standards.	To promote the standardisation of data collection, creation, storage and exchange in order to improve its quality and potential for re-use, enable integration (both operational sharing, and analysis) and more accurate reporting and benchmarking.
Access, security and privacy	Documents the department's policies, procedures, roles and responsibilities for the security, privacy and confidentiality of its data. This may include links to the Protective Data Security Plan (PDSP) <sup>15</sup> or similar artefacts required by the assurance model of the <a href="#">Victorian Protective Data Security Framework (VPDSF)</a> , and expectations for when these capabilities will be engaged (e.g. privacy by design and a PIA for new systems).	To ensure the department's obligations are met with respect to security, privacy and data protection and risks to personal and sensitive data are managed appropriately.
Data as a record	Documents the department's mechanisms for compliance with the <a href="#">Public Record Office Victoria (PROV) standards and specifications</a> and the <a href="#">Public Records Act 1973 (Vic)</a> , with respect to its data assets, e.g. retention and disposal.	To provide assurance that the department is focused on complying with its legislative and administrative obligations with respect to its structured data, not just its information (i.e. unstructured data).
Technology	A list of the systems (or refer to a system register / configuration management database (CMDB) / enterprise architecture artefacts) in which the department's critical data assets reside – potentially including links to/from the IAR. Major technologies/platforms used including	To provide visibility of where the department's data is located, in which systems and using what technology, aiding decisions around integration, procurement and solution design, and security and risk management.

<sup>15</sup> VPDSF Assurance Model, Commissioner for Privacy and Data Protection, 2017, <https://www.cdp.vic.gov.au/menu-data-security/victorian-protective-data-security-framework/data-security-assurance-model>



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<b>Section</b>	<b>What goes here?</b>	<b>Rationale</b>
	enterprise databases, data warehouses, data management tools and data integration platforms.	

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