

# Spatial Information Access Guidelines

Part of Victoria's Spatial Information Management Framework

Second Edition

The Victorian Spatial Council was established under the Victorian Spatial Information Strategy 2004-2007 to support the advancement of Victoria's social, economic and environmental goals through the provision and application of spatial information. It does this by providing a coordinated approach to spatial information policy, development and management, and facilitating opportunities for greater partnership building, collaboration, cooperation and education.



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## VSC CHAIRMAN'S FOREWORD

The Victorian Spatial Information Management Framework consolidates the policies, principles and guidelines for information management that were articulated by both the Victorian Geospatial Information Strategy 2000-03 and the Victorian Spatial Information Strategy 2004-07.

The Framework aims to support the effective use of spatial information to support Victoria's social, environmental and economic goals through the establishment of institutional arrangements for developing spatial information; creating and maintaining spatial information; making spatial information accessible and available; and strategic development of technology and applications.

The custodian of spatial information is at the heart of the Spatial Information Management Framework. Its policies set out the minimum requirements for custodians to manage their datasets, while a set of underlying principles provide the foundation for enabling them to maintain these datasets and ensure all Victorians are aware of and have ready access to them.

These principles address all elements of the Spatial Data Infrastructure of Victoria: *governance, custodianship, framework information, business information, quality, metadata, awareness, access, pricing and licensing, and privacy.*

The Framework is accompanied by ten Guideline documents to assist custodians in the implementation of these policies and principles. These *Access Guidelines* provide an introduction to Victoria's approach to access: how it is defined, how it is managed, what it comprises, and the principles and mechanisms to facilitate the delivery of spatial information.

The Guideline documents are also intended to be accessible to the general reader by setting out fully the basis on which the Framework will be delivered.

The Victorian Spatial Council is Victoria's principal coordinating body for spatial information, with a mandate to develop policy and promote best practice for spatial information management. These *Access Guidelines* are a key contributor to the Spatial Information Management Framework's objective to make spatial information accessible and useable. It is intended that they will be informed by practical experience, and contributions to future editions are welcome from practitioners and readers alike.



Olaf Hedberg

Chair, Victorian Spatial Council

# INTRODUCTION

## The Spatial Information Management Framework

The Spatial Information Management Framework is Victoria's best practice approach for establishing and retaining consistency in the management of spatial information across all organisations – whether public or private – with a role or interest in doing so.

Its objective is that spatial information be made as accessible as possible.

The Victorian Spatial Council has endorsed the development of the Framework because a coordinated approach to information management will provides the greatest opportunity to:

- reduce duplication of datasets, systems and processes, and increase consolidation, leading to more efficient spending on spatial information
- optimise investment and develop partnerships across the spatial information community (public, private and academic sectors)
- deliver higher quality datasets
- improve access to spatial information

Management of spatial information by participants in the Framework should facilitate its effective use, based on four key principles: that the spatial information will:

- represent the definitive and authoritative source of the data it contains
- be managed by designated custodians
- be accessible and available to all members of the community, except where confidentiality and commercially sensitive conditions apply
- be able to be combined with other spatial information products for the purposes of analysis and decision making

The Spatial Information Management Framework provides a holistic approach to managing spatial information in Victoria, encompassing the

1. **institutional arrangements for developing spatial information;**
2. requirements for **creating and maintaining spatial information;**
3. mechanisms for **making spatial information accessible** and available; and
4. **strategic development of technology and applications.**

Together, these components of the Framework create Victoria's Spatial Data Infrastructure (SDI).

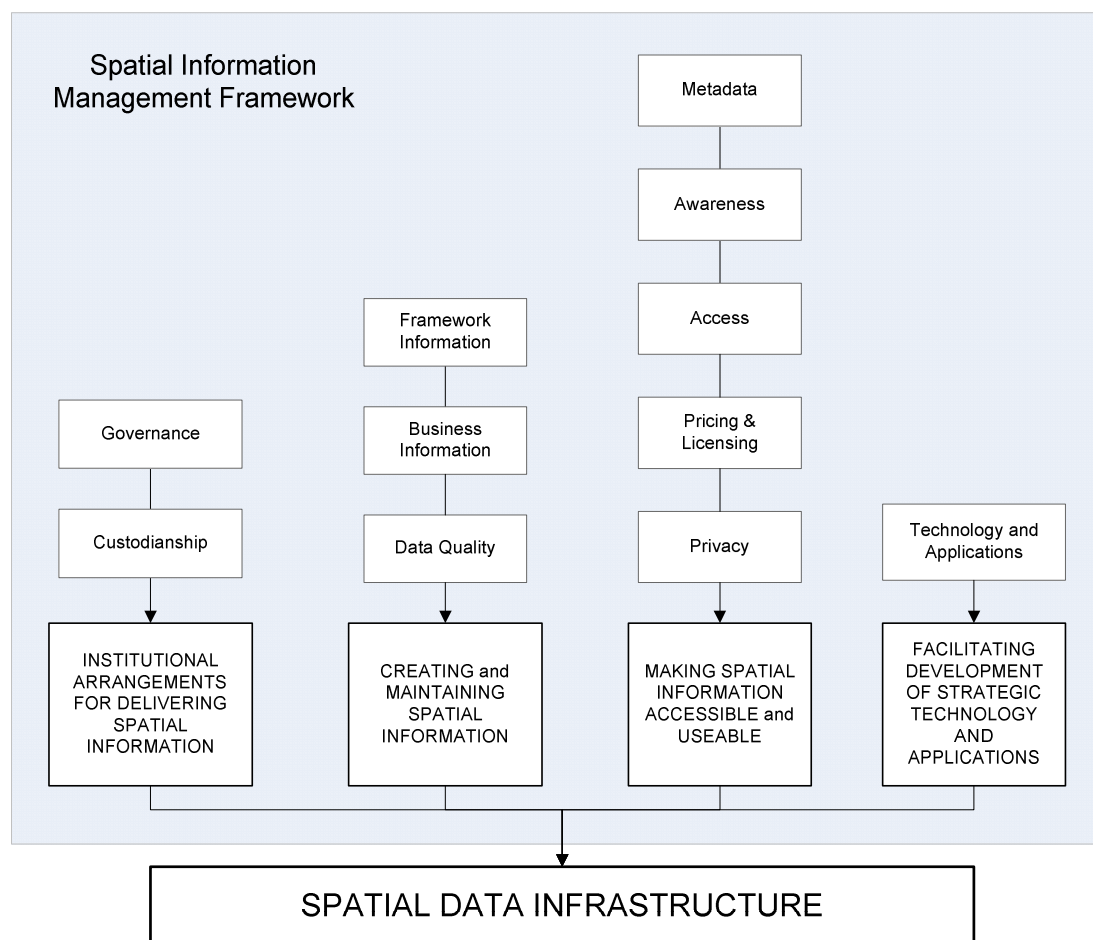
The SDI is an enabler – a mechanism for making data available and for sharing and exchanging it to enhance the achievement of social, environmental and economic goals. Behind it are the myriad of activities that create the conditions in which that sharing and exchange can take place, ie the development of the data, technology, policies, institutional arrangements and capacity building (ie equipping people to use the technology and information).

The Framework allows for the management of these elements in an integrated way to provide an environment for the effective use of spatial information.

This integrated approach is illustrated in Figure 1.

The Framework is supported by policies and guidelines that provide the formal requirements for implementing it, and tools and resources to support those responsible for that task.

**Figure 1: The Victorian Spatial Information Management Framework**



Separate Guidelines have been prepared for the following components of the Framework:

- Governance
- Custodianship
- Framework Information
- Business Information
- Data Quality
- Metadata
- Awareness
- Access
- Pricing and Licensing
- Privacy

The purpose of the Guidelines is to explain the policies and principles outlined in the relevant component of the Framework, and to describe activities that will support their application in implementing it.

It is envisioned that these Guidelines will vary over the life of the Framework as new information, policies, and procedures are developed, and as new issues arise.

## **This Document**

It is intended that the Guidelines be read in conjunction with the document '*Victoria's Spatial Information Management Framework and Directory of resources*', also produced by the Victorian Spatial Council.

These Access Guidelines have two sections.

- Part A defines 'access', and outlines the information management policy for it.
- Part B sets out key principles for ensuring access to spatial information and highlights some of the key means by which it is being provided.

# THE GUIDELINES

## PART A – INTRODUCTION

### Background

If data cannot be accessed it cannot be used. This is not limited to State Government data, but also to that held and managed by Local Government and the private sector. For a vibrant and strong spatial information community, access to the most appropriate data, and the minimisation of data duplication, is a necessity.

Increasing accessibility of spatial information means a stronger requirement for coordination and integration to ensure that it can be used effectively. Spatial information must be available to all – the more information is used the greater the benefits, while broadest possible use also reduces the potential for unnecessary costs by preventing duplication of information resources

An access infrastructure should provide a simple, effective means of locating and obtaining spatial information.

Simple, effective access maximises use, and reduces the potential for duplication, discrepancies and errors. The starting point for access is metadata. While metadata is the prerequisite for access, the main objective is delivery, ie placing information in the hands of users.

An effective access infrastructure maximises use.

### Definition

There are several elements involved in making spatial information ‘accessible’ – metadata (discovery), awareness, access (delivery), pricing and licensing, and the emerging issue of privacy. The focus of these Guidelines is *access (delivery)*. Separate policies and accompanying Guidelines have been published for the other elements, and are available from [www.victorianspatialcouncil.org](http://www.victorianspatialcouncil.org).

The means by which spatial information is delivered can vary according to each custodian’s own management arrangements. The overall principle however is that a coordinated approach to access to, and delivery of, spatial information is essential if its potential as a tool for decision making is to be maximised.

Current methods of delivery include direct to users, via data service providers or value-added resellers, or online. By developing multiple access and delivery processes, and ensuring coordination between them, users of spatial information will be able to access data more readily, and its use will become more widespread.

### Access Policy

The basis of the coordinated spatial information management environment provided through the Spatial Information Management Framework is custodianship. The role of custodians is to manage the spatial datasets for which they are responsible, incorporating their description, quality, metadata, pricing and licensing arrangements, as well as access.

The goals for access are expressed in the policies set out in the Framework:

The Victorian Spatial Data Directory (VSDD) will be the central access point for all Victorian spatial information.

Custodians of spatial information will publish metadata for their datasets in the VSDD.

Multiple access and distribution mechanisms will be developed to make spatial information available to all types of users.

A consistent approach to data licences and other agreements will be adopted.

## PART B – THE ACCESS INFRASTRUCTURE

### Principles for ensuring access to spatial information

Under the Spatial Information Management Framework, access to spatial information should be simple and effective. Achievement of this goal can be influenced by the ability to ‘discover’ the information required, the technology that delivers the information, or by commercial or liability concerns.

Metadata is the starting point for access; it provides the means for ‘discovery’ of spatial information. The Victorian Spatial Data Directory (VSDD) will be the primary directory for discovery of information.

A multi-faceted approach to delivery of information, catering for all types of users from the highly sophisticated (eg through advanced software and databases) to the non-technical (eg through browser applications, on-line delivery of mapping products, embedding mapping in desktop applications), is being promoted through the Framework.

Under Framework’s Access Infrastructure:

- The VSDD will be the central access point for all Victorian spatial information.
- Custodians of spatial information will publish metadata for their datasets in the VSDD.
- A consistent approach to data licences and other agreements will be adopted.
- Multiple access and distribution mechanisms will be developed to make spatial information available to all types of users.

Each of these components is described below.

#### ***1. The Victorian Spatial Data Directory will be the central access point for all Victorian spatial information.***

A spatial data directory enables a user to find a dataset, to assess its suitability for the proposed use, and to gain access to the dataset. The directory may also enable the user to preview the data, to order the data via the web and even download the data directory via the web.

The Victorian Spatial Data Directory (VSDD), a public resource available online, is maintained as the primary directory for Victorian spatial information. The Victorian Government ensures that public access is provided to the VSDD and maintains a list of all participating agencies (see [www.land.vic.gov.au/vsdd](http://www.land.vic.gov.au/vsdd)). The VSDD contains over 770 metadata records from different government agencies that describe both current and archived data that originates or may be of use in Victoria. With the expansion of custodianship, an increase in the number of metadata records in the VSDD, and an increase in the number of agencies and organisations recording their metadata, should be achieved over time.

The agencies managing spatial data directories within a jurisdiction, and around Australia, try to ensure that all spatial data directories are linked.

The DPI and DSE Corporate Spatial Data Library (CSDL) contains over 130 significant datasets that support natural resource planning and management in Victoria. The CSDL links directly into the VSDD.

The VSDD is a node of the Australian Spatial Data Directory (ASDD), a national initiative supported by all governments under the auspices of the Australia New Zealand Land Information Council (ANZLIC). All datasets included in the VSDD will be listed in the ASDD. The ASDD enables a user to simultaneously search spatial directories maintained by Commonwealth agencies, States and Territories, and commercial organisations. The ASDD currently has 28 nodes providing access to almost 42,000 spatial datasets.

## 2. *Custodians of spatial information will publish metadata for their datasets in the VSDD.*

Custodians will provide, for each information product they administer, a complete description (metadata) that complies with the requirements of the Spatial Information Management Framework. The requirements for establishing compliant metadata are detailed in the *Spatial Information Metadata Guidelines*.

Through metadata, potential users are made aware of the assumptions and limitations inherent in the data and are able to evaluate the data's applicability for their purpose.

Custodians will need to maintain their metadata. Metadata for archived data is unlikely to change. However, metadata for dynamic datasets must be kept current through the application of a regular review schedule.

To assist custodians with the creation of metadata, ANZLIC has developed ANZMet Lite, a metadata collection tool to facilitate the creation of an ANZLIC-compliant metadata record. It is a stand alone application that can be downloaded from the ANZLIC web site at <http://www.anzlic.org.au/read/2469370794.html>.

## 3. *A consistent approach to data licences and other agreements will be adopted.*

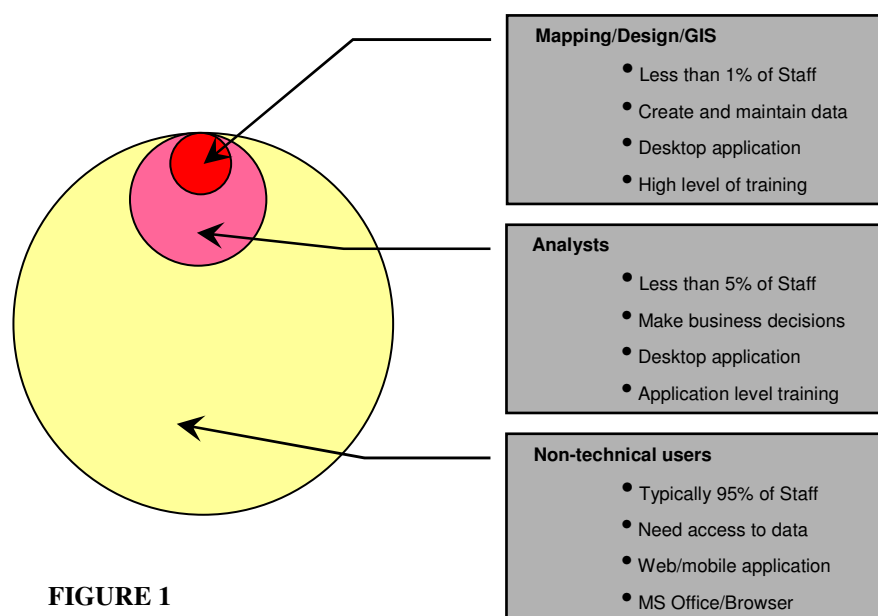
Unlike the case with most other products and services, users do not purchase spatial information products and services; rather they enter into licensing or other such agreements with the custodian to use that information. These licences set out the terms and conditions that apply to such use and protect the intellectual property that results from the development and maintenance of the spatial information.

Custodians of spatial information should ensure that its distribution and use is in accordance with licences, agreements or other appropriate mechanisms that effectively manage the risks associated with the use of the information. The custodian of spatial information maintains intellectual property rights over that information. The organisation acting as a data custodian will be responsible for maintaining copyright provisions and ensuring that use of the information does not infringe any privacy or confidentiality requirements.

For further information on data licences, and to view a generic spatial information licence agreement, consult the *Spatial Information Pricing and Licensing Guidelines*.

## 4. *Multiple access and distribution mechanisms will be developed to make spatial information available to all types of users.*

Figure 1 has been used on many occasions to illustrate the way the use of spatial information is distributed. Users of spatial information range from the 'expert', with in-depth knowledge of spatial information, its uses and applications, to 'non technical', who just want a map of an area of interest to appear via the internet or mobile phone, from big companies to individuals. A range of access mechanisms are required to meet the needs of this varied audience.



Fewer than 1% of users can be classed as mapping/design/GIS 'experts'. Typically these users create and maintain data, have had a high level of training and use specialist GIS software as part of their day to day activities.

Analysts make up fewer than 5% of users. These users make business decisions, have usually had application level training and use specialist GIS software as part of their day to day activities.

The remaining 95% are typically non-technical users, who would access the data through the web or other mobile applications using browsers or standard desktop software (such as Microsoft Office).

In the past there has been a narrow focus on the access to and distribution of data, mainly towards mapping/GIS staff, and, to a lesser extent, spatial analysts. New techniques and applications are now providing access to spatial information for the non-technical users. The variety of spatial information access mechanisms available to all types of users are detailed below and on the next page.

### **Large volumes of data**

Victoria's Data Service Provider (DSP) and Value Added Reseller (VAR) network provides for businesses and individuals who require large volumes of data, and/or customised solutions to access information. DSPs and VARs have a selection of datasets. These providers deliver a range of services, such as customising the area, format and delivery of required information, and providing ongoing support to the customer.

### **Download small volumes of data**

If a user requires only small volumes of data, online services provide the capacity to select and download a dataset. The users can then use this information on their own computer, combine it with their own information, and interrogate the dataset. These services are also aimed at users who require little assistance in using that data.

### **View data online**

A variety of online services have been developed to allow users to select, view and/or download data and datasets. These services vary from online maps where the users can select the datasets of interest which are then displayed. The user can zoom, pan, and investigate the information in detail, however s/he cannot view the actual database or tables.

Advances in technology, and the adoption of spatial technology by online service providers, has seen the ability of individuals with no spatial knowledge to view and interrogate spatial information. Services such as Google Earth and Microsoft Virtual Earth and Virtual Earth 3D allow users to view and interact with spatial information whilst having no specialist knowledge of it. This technology is continually being extended by the prevalence of GPS. Mobile phone users can now request information about selected services within their area, and have a map displayed on their phone. In-car navigation systems are increasingly becoming standard features. The combination of pre-installed data, a GPS chip, and user friendly interface allow users with no prior knowledge to use spatial information and technologies.

### **Online access to hard-copy maps**

Hard copy maps topographic maps have been an essential for hikers and campers, as well as for emergency service personnel in rural and regional areas. Users can now go online and purchase a topographic map that is created over their selected area using the most recent information available, and have it delivered as a PDF file suitable for use on a hand-held device, or to be printed as a hard-copy map in A3 or A4 format. Traditional 1:50,000 and 1:25,000 scale maps can also still be purchased over the counter.

**Spatial Smart-tag**

Microsoft Office products incorporate a 'smart-tag' that allows the user to verify an address in a document. This has been adapted in Victoria into the 'spatial smart tag' which enables a user to insert a map or image with the click of a mouse-button. The user does not need any specialised skills to use this function.

**Data Directories**

Not all access to data needs to be via the internet or through automatic applications. Custodians who do not have the capability, capacity, or user demand to provide these types of access for their dataset can still ensure access to their dataset by publication of metadata through a Data Directory, such as the VSDD. While users may not be able to access the data immediately, they know that the data exists and who to contact to obtain it.

## FURTHER REFERENCES

Victorian Spatial Information Strategy: [www.victorianspatialcouncil.org](http://www.victorianspatialcouncil.org)

Spatial Information Guidelines series: [www.victorianspatialcouncil.org](http://www.victorianspatialcouncil.org)

Victorian Spatial Data Directory: [www.land.vic.gov.au/vsdd](http://www.land.vic.gov.au/vsdd)

Australian Spatial Data Directory: [asdd.ga.gov.au/asdd/](http://asdd.ga.gov.au/asdd/)

Department of Sustainability and Environment Corporate Spatial Data Library: [www.land.vic.gov.au/cgdl](http://www.land.vic.gov.au/cgdl)

ANZMet Lite Metadata Entry Tool: <http://www.anzlic.org.au/read/2469370794.html>

## GLOSSARY

Access infrastructure	The way in which spatial information may be located and accessed. It broadly includes the policy framework, the physical network infrastructure and the spatial industry marketplace.
Custodian	The entity responsible for a dataset, ie the organisation formally responsible for ensuring accuracy, currency, storage, security, and distribution of the data. The custodian need not be directly involved in maintaining or supplying the data, but should be in a position to direct such activities.
Data	The base level of information stored in electronic or other databases. Data can exist in many formats including digital data, imagery such as aerial photographs and satellite images, and hardcopy products such as maps or plans.
Data product	Dataset that conforms to a data product specification.
Data product specification	Detailed description of a dataset that will enable it to be created, supplied to and used by another party.
Dataset	Identifiable collection of data.
Data Service Provider	A Data Service Providers (DSP) is a private sector company licensed to distribute Government spatial data, at this time primarily Victoria's Framework Information (Vicmap), and/or provide value added products and services that utilise this data. There are two categories of DSPs:  <b>'Resellers'</b> : DSPs who are licensed to on-sell Vicmap and other available government spatial data in its raw or basically unchanged state  <b>'Value Added Resellers'</b> : DSPs with specialist applications that have Vicmap and other government spatial data integrated within products and services.
Information	The result of manipulating, analysing and interpreting data to produce a result which adds value or utility to the original data
Metadata	Data about data
Spatial Data Infrastructure	The technologies, policies and institutional arrangements that facilitate the availability of and access to spatial data.
Spatial Information Infrastructure	The spatial information essential to the social, economic, and environmental development of Victoria.
Spatial Information Management Framework	Victoria's best practice approach for establishing and retaining consistency in the management of spatial information. It provides a holistic approach to managing spatial information, encompassing the institutional arrangements for developing spatial information; requirements for creating and maintaining spatial information; mechanisms for making spatial information accessible and available; and strategic development of technology and applications.
Victorian Spatial Data Directory (VSDD)	The directory of metadata that describes data sets that originate, or may be of use, in Victoria. It is a public resource available on the Internet. It includes both current and archived data.