

Productivity Commission's Inquiry into Data Availability and Use

This is a submission from SPUR, the Location and Innovation Hub for Western Australia, powered by Landgate and the lead organisation for implementation of the WA Whole-of-Government Open Data Policy.

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SPUR, powered by Landgate, welcomes the opportunity to contribute to this inquiry in the interests of expanding access to public sector data for a wider range of applications and to support data-driven entrepreneurial activity in the Australian economy.

We have prepared this submission in consultation with a number of government agencies and other public sector and private sector stakeholders in SPUR. This response is structured as responses to a series of questions – based on those raised on page 18 of the Productivity Commission Issues Paper – Data Availability and Use, published on 20 April 2016.

What public sector datasets should be considered high value data to the: business sector; research sector; academics; or the broader community?

Data that can be linked to location, or spatial, information, gives us the potential to understand things in ways that might otherwise be difficult to see. Although the response below is focussed on location information, the benefits outlined, and barriers discussed, apply equally to other types of data.

What specific government initiatives have been particularly effective in improving data access and use?

In April 2016 a new location data and innovation hub called SPUR was launched by the WA Government, powered by Landgate. SPUR builds on a long history in WA of data sharing through the WA Land Information System (WALIS), established in 1981, and the Shared Location Information Platform (SLIP), which was redeveloped through the Location Information Strategy for WA in 2014.

SLIP aggregates access to data created by the public sector through the business of government so that it can be-reused by others. There are some 4,000 subscribers to SLIP across the public, private and research sectors; many of whom consume SLIP data services for the purposes of linking and integrating with other data. SLIP services enable WA to share data with other jurisdictions through arrangements established under ANZLIC - the Spatial Information Council. A separate submission is also being made to this enquiry by ANZLIC, which will expand further on data sharing and aggregation arrangements under this partnership.

An addition to ANZLIC, Landgate also contributes data on behalf of WA to PSMA Australia Limited, a company owned by state, territory and Australian governments, established to coordinate the collection of fundamental national geospatial datasets and to facilitate access to this data. The Geocoded National Address File (GNAF), recently made available for re-use through data.gov.au, is an example of one of the important national datasets that has been created, and is now maintained, through this cross-jurisdictional partnership.

What benefits would the community derive from increasing the availability and use of public sector data?

SLIP is also used extensively in WA to provide a common map-based view of assets and other contextual data such as infrastructure and services for both public and private sector organisations. The ability, through SLIP, to automatically source commonly used data on a continuous basis has avoided significant costs in having to source data from multiple sources on an ongoing basis.

An example in the private sector is the use of SLIP services by the Real Estate Institute of WA (REIWA). REIWA access data of interest to the property market, such as property boundaries and the location of services via SLIP and combine this with data on property marketing and sales for their customers. REIWA are able to save time and money by not having to source the data they get through SLIP separately from multiple sources. The information is kept up-to-date automatically in the background by SLIP, sourced from the agencies that create and maintain the data. The State also realises a financial benefit through commercial use of the data by REIWA, which pays a subscription for use of the data. There are now many similar examples now in place across the public and private sectors.

In July 2015 the WA State Government launched a Whole-of-Government Open Data Policy, which leverages our long history of data sharing through WALIS and SLIP. The new WA Open Data Policy has been implemented quickly by drawing on our previous experience, and that of the other Australian States, the United Kingdom and United States; and by leveraging well established and proven cloud-based platforms. This policy and supporting documents published to data.wa.gov.au provide guidance on the criteria and decision making tools to assist government agencies in deciding which public sector data to make publicly available and how much processing to undertake before it is released. To-date some 1,000 datasets have been made discoverable through data.wa.gov.au. This is only a fraction of data that is created by the WA public sector that is potentially useful across the public sector and beyond. Based in previous experience with ANZLIC, WALIS and SLIP, the important principles of aggregating access to a critical mass of data, whilst securely managing the data at various levels – from peer-to-peer and organisation-to-organisation through to full public access, are now well established.

The experience of Landgate and its partners through WALIS over thirty years is that whilst standardised approaches to the collection of data of data have proven important in linking data from various sources, an overly heavy focus on standardisation in the sharing and release of public sector data can delay the release of potentially useful data. For example, the use of complex metadata standards has often meant data publishers wait until the data is ‘perfect’ before agreeing to release the information. The guidance provided in WA Whole-of-Government Policy and supporting documents distils the extensive experience of WA and other jurisdictions in terms of striking the right balance between standardisation and the release of data in a timely manner.

Landgate and its partners in SPUR have also developed new approaches to making data more accessible to students, as the workforce and job creators of tomorrow. Our focus is applying learning in science, technology, engineering and maths (STEM) to real-world solutions to problems through outreach via programs such as HackedED. Based on the ‘hackathon’ concept, HackedED works with small teams of students using an entrepreneurial approach to use a wide range of data to explore problems and develop potential opportunities for new information-based businesses based on how they solve these problems. Examples of some of the problems we’ve explored with students through this program are how to build and manage infrastructure in the Pilbara given long-term variability in demand for resources, and where and why renewable energy systems would be best placed to generate power and deliver this energy to the community.

Which datasets, if linked or coordinated across public sector agencies, would be of high value to the community, and how would they be used?

The concept of simple data linkage using location-based, or spatial, data is currently being extended further through research partnerships with organisations like the Cooperative Research Centre for Spatial Information (CRCSI). For example, the Epiphaneer project with the Department of Health has implemented a user-pull approach to enable researchers to run queries of potentially sensitive data without exposing the original data itself. Epiphaneer generates custom layers of data on-the-fly, based on authorised user requests – generating a dynamic abstracted layer of data and query sets for interrogation by one or more users. Multiple views of the data can be presented to users simultaneously.

Decades of experience to-date with WALIS, SLIP and previous data linkage work provide an excellent foundation on which we can make better use of data already shared. This work has also established well tested, robust and secure access to data that protects the interests of individuals. For example, SLIP provides governance and processes surrounding location-based data sharing, along with metadata standards to describe the data. Data published to SLIP for the first time does not always immediately meet the needs of those accessing the data. However, the well-established governance arrangements for SLIP enable data custodians to collaboratively address the changing requirements of data consumers over time.

Significant public funding has already been invested in the implementation of information systems to share, enable access to, and visualise data. These existing systems should be more fully utilised to extend work on data linkage, rather than investing in new systems that potentially duplicate existing capabilities.

Based on our experience with ANZLIC, WALIS and SLIP to-date, it is clear that there are still many more opportunities more fully utilise existing systems like SLIP; and to further reduce spending across the public sector on ICT development and management. Landgate is working with the Office of the Chief Information Officer in WA, and many other agencies through SPUR, to pursue these opportunities.

What are the main factors currently stopping government agencies from making their data available?

Currently only a small fraction of data created by the public sector in WA, around 1,000 datasets, are discoverable, let alone accessible, through data.wa.gov.au. This is likely to apply equally to other data.gov services across Australia. Those searching for all other data must currently contact the individuals that create and curate the data on a case-by-case basis just to discover what is potentially available; and then spend even more time and effort to seek permission to access the data on an ongoing basis.

Landgate's work with other agencies through WALIS and SLIP has demonstrated that significant amounts of time, and therefore costs, continue to be invested in manually discovering and then gaining access to most data. This is a significant barrier to the first step in data linkage, which is discovering and gaining access to data.

How could governments use their own data collections more efficiently and effectively?

Our experience through SPUR is that a culture of innovation across Landgate, and more recently in sharing our approach to innovation with other public agencies, can help bring about a step-change in data sharing to meet the needs of government. For example, Landgate and the WA Department of Lands, in consultation with a number of other agencies have leveraged SLIP to implement an improved approach to recently to facilitate the negotiation of the South West Native Title Settlement.

The experience of Landgate and its partners in SPUR is that the key barrier to data linkage is the first step in the process – finding and accessing the data itself. SPUR is driving greater interest in access to public data across the public and private sectors, and the research community. However, because only a fraction of public sector data is openly discoverable and accessible for re-use, we are currently unable to meet this demand and find innovative solutions to problems; and as a result opportunities for new information-driven businesses are being lost.

Where Landgate and its partners in SPUR have been unable to gain access to data, the most common response from those that create those data, the data custodians, is that their data is 'complex' and requires expert interpretation to be used appropriately. Expert interpretation that the custodian is best placed to provide. However, the experience of Landgate and its partners over thirty years of sharing data is that opening-up better access to the original data provides better opportunities for custodians to work with those that value the data than if access is restricted, and that the data can be enhanced as a result. In most cases sufficient guidance and advice to data users about the constraints of the data can be provided through metadata, licensing and other documentation that is part of best practice data management, no matter how widely the data is to be re-used. Indeed, in a number of cases where access to data has been restricted, those seeking access to the data have sourced lower quality data from elsewhere, leading to poorer outcomes; or they have invested in creating duplicate copies of data, therefore duplicating effort and costs.

Another common response from those that restrict access to the publically-funded data they create is that they do not have the time and resources to make the data more readily available. We argue that the managing data in a way that makes it re-usable, even just within the public sector, is an essential component in managing data as a public asset. Investment in the creation of data that cannot be re-used by anyone is a poor outcome for the public sector and the community. The (minor) costs of creating and managing data in a way that makes it re-usable should be taken into account in the costs of the business of government in order to ensure best use of public funding.