



DSITI's open data strategy 2016–17

October 2016

Security classification: PUBLIC

This publication has been compiled by the Department of Science, Information Technology and Innovation (DSITI).

© State of Queensland, 2016.

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 4.0 Australia (CC BY) licence.

Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.

You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

For more information on this licence, visit <https://creativecommons.org/licenses/by/4.0/>.

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibility for losses, damages, costs and other consequences resulting directly or indirectly from using this information.



Contents

Purpose.....	4
Audience.....	4
Executive summary.....	5
Advance Queensland.....	5
Our program.....	6
Open data principles.....	6
Governance.....	8
Scope of responsibility.....	8
Types of data held.....	9
Corporate datasets.....	11
Revenue generating datasets.....	11
Overarching data identification process.....	11
Data released and standards.....	12
Our roadmap.....	14
Our achievements.....	14
Our objectives.....	16
Performance measures 2016–17.....	17
Economic and social benefits.....	17
Contact information.....	20
References.....	21



Purpose

The purpose of this document is to outline the strategic direction for open data in the Department of Science, Information Technology and Innovation and demonstrate the department's commitment to the wider open data community.



Audience

The intended audience for this document includes business and industry; universities; research institutions; not-for-profit organisations; local, state and federal government bodies; communities and the public. The intent is for this document to be used in the wider open data community to enhance the knowledge economy within Queensland.



Executive summary

This strategy identifies the Department of Science, Information Technology and Innovation's (DSITI) plan to deliver the Queensland Government's open data initiative.

It aligns with the Queensland Government's priority to ensure its information is publicly available through open data, providing Queenslanders with the opportunity to create applications, establish research programs, start new businesses and assist with improving government service delivery.

DSITI is responsible for leading the development of the Queensland Government's open data initiative. This is appropriate given our leadership of the Advance Queensland innovation agenda, digital government, information and communication technology modernisation, administration of Crown copyright and other intellectual property, innovation, digital economy and startup programs across the government.

In 2016–17, DSITI will:

- lead the development of a whole-of government open data policy including technical standards
- manage a funding agreement with Open Data Institute Queensland to assist the Queensland Government to maximise the benefits of open data
- continue to improve the maturity of its internal open data practices in line with its open data maturity assessment.

Advance Queensland

Advance Queensland is a comprehensive suite of programs, based on international evidence of 'what works', designed to create the knowledge-based jobs of the future.

The programs will drive innovation, build on our natural advantages and help raise our profile as an attractive investment destination.

Advance Queensland will position Queensland as a place where entrepreneurs, industry, universities and government collaborate to turn great ideas into commercial products and businesses that create jobs.

DSITI plays the lead role in delivering academic research, science translation, commercialisation, business and industry support programs under Advance Queensland.

DSITI's open data strategy 2016–17 supports Advance Queensland by providing for the continued release of new and enhanced datasets to enable startups, entrepreneurs, industry and universities to:

- co-create new services and products
- contribute to improving the delivery of better government services
- create jobs of the future.

Our strategy also contributes to developing knowledge and skills for jobs of the future by supporting startup and open data events with financial and in-kind sponsorship. Open data events encourage people from government, industry, academia and the public to come together to develop innovative ways to use and re-use open data.

Our program

DSITI’s *open data strategy 2016–17* is based on our commitment to deliver open data value to Queenslanders through the following outcomes:

Government aims for open data:	DSITI open data value outcomes:
Support Queensland’s developing digital economy and the creation of knowledge-based jobs of the future	Providing datasets to the research sector and industry to support new services and business models
Improve government service delivery	Greater customer service co-creation
Capture the public interest	Open data awareness to enhance skills and usage by developers and the public
Increase the openness and transparency of government and its processes	Greater customer trust in DSITI and services based on open data
Be used and analysed by researchers or non-government organisations	Make user-friendly datasets available e.g. APIs, easy to find and use
Report on customer feedback and experience	Staff culture change focussed on customer benefits and need to share
Promote public debate	Citizen engagement on government policy and service development

Open data principles

DSITI’s approach to open data will be guided by the principle of ‘share first’. Other key guiding principles are:

- Government data will be available for open use where practicable—we will make government data available under flexible licences, allowing for reuse by the public including by business, researchers and individuals.
- Government data will be available free—we will make our data available free, except if the charge is statutory or cost recovery related and has a clear net benefit for the Queensland community.
- Government data will be in open and documented formats and easy to find—we will make our data easily discoverable through data.qld.gov.au in accessible formats that promote its re-use.
- Government data, where not provided through an open API, will be refreshed regularly and consistently to allow third parties to build on and rely on the data.

- Government data will be released within set standards and accountabilities—we will make our data available in a timely manner unless it is restricted or closed for reasons of privacy, public safety, security, commercial confidentiality or compliance with the law. Each business unit will be accountable for the release of appropriately licensed data in accordance with set standards.
- Government data will be promoted for use by Queensland business, entrepreneurs and governments—we will look to engage with Queensland businesses, entrepreneurs (particularly startups), researchers and government agencies to use open data to develop new products and services that benefit Queensland.
- Government data will be prioritised for release based on economic and social benefits—we will look to engage with our stakeholders and customers to identify and track economic and social benefit.

DSITI recognises the importance of making government information accessible to the community and is committed to the open data agenda. The department will implement and continually review the appropriate data access processes and mechanisms to ensure the confidentiality, integrity and availability of our data.

DSITI has responsibility for a significant amount of important and sensitive information and commits to develop, document, implement, maintain and review datasets for release to the public where appropriate by:

- identifying all its current datasets and assessing their respective appropriateness for release to the public
- establishing and promoting an appropriate data release culture within the department
- implementing a data release process and data preparation guide to provide departmental officers involved in the process with the tools to make appropriate decisions to release data
- satisfying the department's information security requirements—only information that has been [assessed and appropriately classified](#) as PUBLIC by information owners can be released as open data.
- adhering to all legal and legislative requirements.



A group of representatives from business areas across the department meets regularly to oversee the implementation of this strategy.

Periodic progress reports will be submitted to the Board of Management / Information Steering Committee to ensure effective implementation of the strategy and address issues or gaps as they arise.

Scope of responsibility

DSITI is responsible for a wide range of policies, programs and whole-of-government roles including:

- leading the Queensland Government open data initiative including the development of a whole-of-government open data policy
- the consistent management of open data across the Queensland Government
- science and innovation policy
- strategy and investment in relation to science
- digital economy policy and services
- business and government innovation services
- environmental and natural resource science and research
- interstate, national and international science collaborations
- the consistent management of Crown intellectual property including copyright across government
- government enterprise architecture policy and security frameworks
- government ICT project assurance
- government ICT services and delivery
- government ICT infrastructure and solution services
- significant government records of enduring value for historical or other reasons
- delivery of services to business, industry and the public (e.g. climate information)
- corporate services to the rest-of-government cluster of departments
- documenting the story of Queensland and providing library visitor and information services.

DSITI works closely with a diverse range of stakeholders and customers including:

- businesses
- associations
- community groups
- universities and research organisations
- local, state and federal government organisations
- the Queensland public
- Queensland public service staff.

DSITI strives to be a highly innovative agency, with the goal to be the model agency for efficient and responsive services, particularly digital services, to customers internal and external to government.

The department plays an important role in enabling and adopting innovation and digital practices in government, in business and in the community.



Types of data held

DSITI holds the following types of data:

- Economic and social data—datasets that have the potential to create economic and social opportunities and statistics relevant to Queensland government agencies
- Big data—ICT industry data, research and development (R&D) data, scientific, research and collections data, as well as historical public records
- Performance data—government products and services, service delivery timeframes and costs, and financial data
- Satisfaction and experience data—client satisfaction data with government products and services.

DSITI is a data-rich agency, with services delivered to external and internal clients. Most of this data is in the form of digital information or digital infrastructure. These services also form part of information-rich value chains between our suppliers and end consumers.

The opportunity for sharing data with customers, partners and suppliers to improve outcomes for government and the public is therefore significant.

Much of this data is presently held in information systems at individual business unit level. Longer-term transformational benefits will accrue as we migrate to new and/or enhanced systems that are designed around accessible data and services, and co-created by more digitally aware staff, customers and suppliers.

Data held by DSITI that has been generated through the collection of payment card transactions (e.g. *personal* credit cards) cannot be released as open data.

The following table summarises the key data held by different DSITI business units to deliver value to customers.

Major customers	Major value proposition	Key data/datasets held
Strategic ICT (ICT Strategic Procurement)		
Queensland Government agencies, ICT industry/suppliers	ICT procurement support services	ICT contracts in use
Queensland Shared Services		
Queensland Government agencies	Corporate information services	Agency/staff/payment, etc. service use
Change and Operations (Corporate Services)		
DSITI divisions	DSITI corporate services	Corporate services use
Digital Productivity and Services (Digital Economy and Productivity)		
Small-to-medium enterprises, associations, universities, councils	Digital productivity tools and advice	ICT industry data
Digital Productivity and Services (Queensland State Archives)		
Public, researchers, Queensland Government agencies	Government records custodian	Archival collection information including name indexes
Digital Productivity and Services (One-Stop Shop Strategy and Implementation Office)		
Public, Queensland Government agencies	Customer service Channel efficiency	Customer experience metrics Service/channel use
Strategic Policy and Innovation		
Small-to-medium enterprises, industry associations, startups, entrepreneurs, universities and Queensland Government agencies	Innovation tools and advice and information on the commercialisation of IP Crown IP management Funding and stakeholder information	Grants, industry and agency data
Science (Science Delivery)		
Local, state and federal government, universities, private industry, CSIRO and other research organisations	Scientific information, including environmental and natural resource assessment, modelling, monitoring and analysis	Environmental/natural resource science and research related to air, soil and water quality, wave and storm tide monitoring, water hydrology, climatic variability wetlands, land use mapping and native vegetation
Science (Science Development)		
R&D organisations, collaborators and investors in Queensland science, universities	R&D priorities and support including Queensland Science Capability Directory	Research data, grants and funding data, Queensland Science Capability Directory
State Library of Queensland		
Public research community, industry	Public access to information	Historical information, collections, library corporate and research data
Queensland Government Chief Information Office		
Queensland Government agencies	Queensland Government ICT strategy and governance	Government ICT performance
Office of the Queensland Chief Scientist		
Science organisations, academia, government	Science investment priorities	R&D expenditure

Corporate datasets

In addition to the above, all business units hold corporate datasets such as operational performance, service delivery, financial and customer satisfaction data.

A number of DSITI annual reporting requirements must be published as open data on data.qld.gov.au: consultancies, overseas travel and Queensland Language Services policy performance information. This data must be published by the time the annual report is tabled in parliament. Further details on annual reporting open data requirements can be found in the [Annual report requirements for Queensland Government agencies guide](#).

Revenue generating datasets

DSITI has two business units that generate revenue from the sale of data:

- CITEC Information Brokerage does not collect its own datasets but accesses agency datasets such as land titles, and packages them to registered commercial users for a fee. These are closed datasets and cannot be shared.
- The Science Division is the Queensland Government's trusted source of scientific knowledge, information and advice that underpins decision making for environmental and natural resource management. The division models, monitors and analyses data for various purposes, primarily related to the legislative obligations of other Queensland Government departments. Whilst most of the science data is open, some is either shared or closed data due to contractual and/or legal obligations.

Overarching data identification process

DSITI's overarching data identification process includes:

Staff engagement through:

- monthly meetings of the DSITI Open Data Strategy implementation working group
- the use of DSITI's internal staff communications, including Yammer to share activities and to identify new ideas
- the promotion of open data through involvement in internal and external open data competitions including identifying new open datasets and potential uses for our datasets
- collaboration with other agency open data leads and teams to identify opportunities and improvements
- the provision of specialist assistance to help train staff, identify datasets and format datasets to comply with open data release standards.

Customer engagement through:

- the invitation to suggest ideas via data.qld.gov.au and through other forms of communication (where used by business areas) such as social media, satisfaction surveys and blogs
- regular engagement with business and industry associations, university and research organisations and Queensland's startup community
- supporting open data events, e.g. national events like GovHack and startup weekends.

Data released and standards

An interim *Data release management policy*, procedure and checklist is currently under review for use until a Queensland Government open data policy is developed. These documents will establish underlying principles concerning data releases and describe the mandatory requirements for, and minimum standards to be met by the department data custodians when determining how to release data.

The [release program](#) for DSITI business units will be updated regularly and published as a dataset on data.qld.gov.au.

New datasets will be assessed for publication based on their suitability, viability and potential value to business and the community.

Each dataset will be endorsed by the the Director-General or delegated authority and then self-published by the dataset owner on data.qld.gov.au under the [Queensland Government's data publishing standards](#) and with descriptive metadata.

Spatial datasets available on data.qld.gov.au and published on [QSpatial](#), [Queensland Globe](#) or QGIS are released under the ANZLIC metadata profile based on the established Australian/New Zealand and international standards. This approach facilitates interoperability within and between agencies and jurisdictions, both within the region and internationally by providing a consistent basis for communicating information about resources.

The department is guided by the privacy principles in Queensland's *Information Privacy Act 2009* (IP Act) and Queensland's *Right to Information Act 2009* (RTI Act) which support the delivery of government services and open government while regulating the collection, handling and disclosure of personal information. Personal information is defined in the IP Act and includes any information in any form, which is associated with/and or identifies an individual. It is important that datasets are de-identified prior to disclosure to ensure that staff are not at risk of breaching the IP Act principles.

If DSITI becomes aware that a published dataset inadvertently breaches privacy, public safety, security or commercial confidentiality or legislation, the data custodian will remove the data set immediately and notify opendata@dsiti.qld.gov.au.

Information delivered through the portal will be provided through a spectrum of release methods ranging from:

- links to external data sets
- hosted datasets
- data APIs.

Information delivered through the portal will be provided for reuse by third parties undertaking application development or data analysis in documented machine-readable formats.

In addition to the raw datasets released through this strategy, the department will also continue to provide data in a visual and user-friendly manner on Queensland government websites, e.g. [Queensland Government ICT dashboard](#).

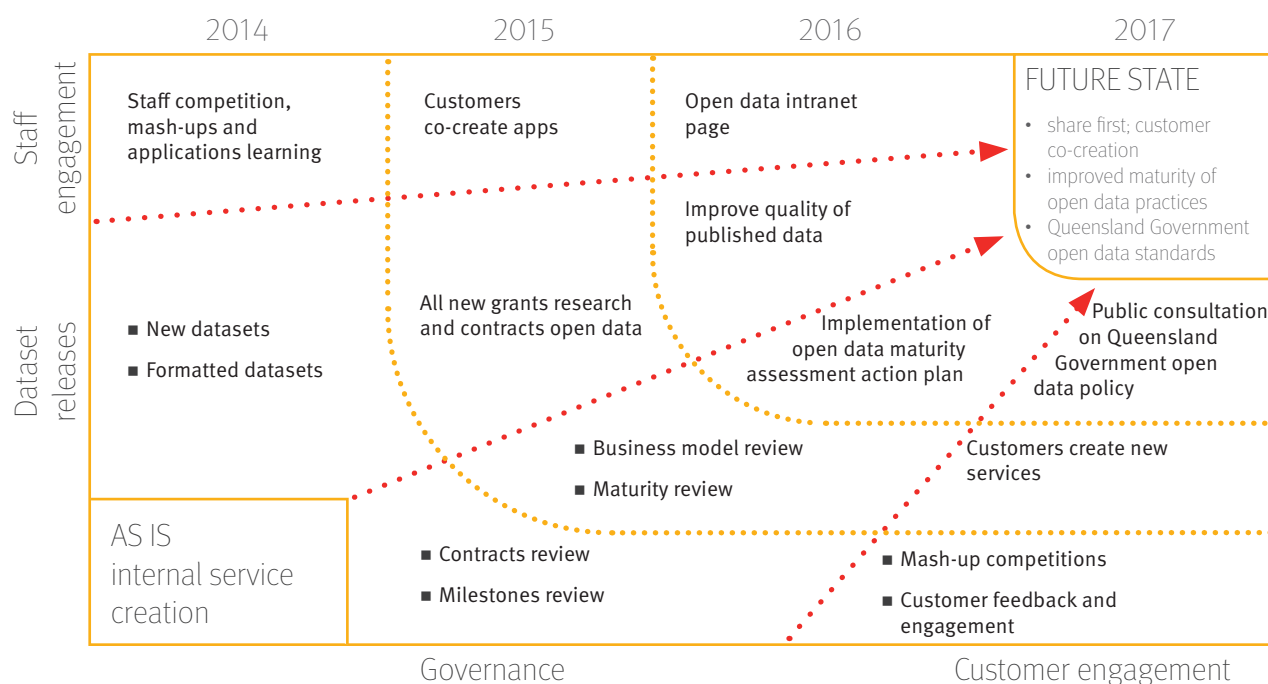
The Queensland Government has an intellectual property framework in place governing the release of public sector information, which includes the Queensland public sector intellectual property principles and an information licensing framework for copyright material, including data.

The default licence applied to open data content will be the [Creative Commons Attribution License 4.0 \(CC-BY\)](#) with other licences being applied to content that requires restrictions. The CC-BY licence permits users to distribute, remix and build upon a work, even commercially, as long as they credit (attribute) the original creator/s (and any other nominated parties).

The department is leading the development of a Queensland Government open data policy that will include technical standards for all Queensland Government open data. The department is focused on improving the quality of the data it publishes in line with best practice.

Our roadmap

The following diagram shows DSITI's roadmap to increase open data maturity in the department and across the Queensland Government. It shows where we have been and where we want to go in terms of staff engagement, dataset releases, governance and customer engagement.



Our achievements

Between 2013 and 2016, DSITI focused on:

- making data it held open including scientific, historical, cultural, grants and corporate data
- establishing governance process and sharing expertise internally
- delivery of a science open data competition
- developing and releasing the [Queensland Government ICT dashboard](#), a leading example of a government service which directly consumes open data published by all departments
- including open data provisions in all new DSITI contracts, research and grants
- sponsoring challenges at the annual GovHack competition, the world's leading open data based hackathon.

In 2016, DSITI undertook an open data maturity assessment process to identify how effectively it publishes and consumes open data. The maturity assessment considered open data activities performed across DSITI. The department's overall maturity was assessed at 40 per cent.

The maturity assessment was facilitated by the Open Data Institute Queensland (ODIQ) and resulted in an action plan that outlines how to improve the department's open data practices.

The action plan contains 26 recommended actions that primarily focus on improving data management processes, knowledge and skills and customer support and engagement activities.

The department commenced implementing the action plan including:

- creating an open data intranet page to provide a place to store and discover knowledge about DSITI's open data practice and promote online training opportunities
- continuing to publish a department data releases program monthly
- providing open data updates to senior management via the DSITI Board of Management and Information Steering Committee
- identifying data published in proprietary formats and reviewing for potential to be converted to non-proprietary formats
- promoting open data through dedicated social media channels
- conducting an online survey of the Queensland Government data portal to better understand demand for open data
- Science Division and Queensland State Archives worked with the School of Information Technology and Electrical Engineering, University of Queensland to assist students to design and develop data delivery and visualisation solutions based on DSITI open data.

The department also continued to lead the Queensland Government open data initiative including:

- entering into a \$400,000 funding agreement with the Open Data Institute Queensland. Projects that will be supported under this agreement include:
 - facilitating public consultation on a Queensland Government open data policy
 - identifying high-value Queensland Government data and developing a tool to automate the [certification](#) of open data
 - developing and delivering open data training workshops for small to medium enterprises.
- managing data.qld.gov.au and making a number of improvements including:
 - allowing optional user registration and the ability to be notified when datasets are updated
 - adding an attribution statement advising users how to attribute the dataset correctly
 - improving feedback functionality via a 'contact us' button
 - incorporating data API tracking to measure actual usage of data
- being the key sponsor of the 2016 GovHack competition and sponsoring and providing data for three individual challenges.

Our objectives

In 2016–17, the department will aim to deliver the following internal and whole-of-government activities:

... in DSITI

Continue to implement the open data maturity assessment action plan* including:

- proactive identification of datasets for release and opportunities to present at external events
- finalise interim data release management policy and procedures
- develop a departmental open data communications plan
- focus on improving the quality of the data it publishes in line with accepted Queensland Government and international standards
- continue to embrace the principles of ‘share first’ using open data to design new and improved policies and services with key partner organisations.

... whole-of-government:

- prepare a Queensland Government open data policy including whole-of-government technical standards for consideration by Cabinet
- encourage uptake of Advance Queensland fellowships in data science and related disciplines
- investigate opportunities to leverage winning entries in the GovHack 2016 competition to improve government service delivery
- continue to manage and implement improvements to data.qld.gov.au
- lead the coordination of the Queensland Government Open Data Senior Officers Working Group
- manage the funding agreement with Open Data Institute Queensland
- lead the Queensland Government input into the Australian Open Government Partnership [National Action Plan](#)
- represent the Queensland Government at relevant national and interstate open data forums
- lead Queensland Government involvement in International Open Data day on 4 March 2017.

* A number of actions from the maturity assessment are dependent on the development of the whole-of-government open data policy, in particular technical standards. Progress to improve the department’s open data maturity will be measured by the Open Data Institute Queensland.

Performance measures 2016–17

Data management processes in DSITI:

- achieve a minimum bronze level open data certification for all DSITI datasets
- identify high-value datasets
- approve interim data release management policy and procedures.

Internal knowledge and skills in DSITI:

- develop a communications plan to promote open data awareness, training and resources to DSITI staff
- maintain an open data intranet page.

DSITI customer support and engagement:

- encourage Advance Queensland fellowship applications in data science and related disciplines
- adopt revised Queensland Government metadata standards once developed
- adopt and achieve whole-of-government data.qld.gov.au service standard
- promote DSITI open data case studies externally.

Lead Queensland Government open data initiative:

- prepare Queensland Government open data policy for Cabinet consideration
- leverage outcomes of GovHack 2016 and participate in GovHack 2017
- conduct an online survey of data.qld.gov.au users and consider opportunities to implement findings.

Economic and social benefits

DSITI will engage with stakeholders and customers to enable us to track the economic and social benefit of open data and:

- identify who uses Queensland Government open data
- how often they use it
- what types of data they want
- how they use it
- how to make the data better meet user needs.

Datasets published by DSITI are being used to produce economic and social benefits:

- Open datasets improve service delivery for customers—[State Library of Queensland](#) uses open data to populate and validate Queensland addresses entered into its online membership registration form.
- Economic benefit for business and social benefit for their customers: Major family history providers such as 'Find my Past' and 'Ancestry.com' are, or are planning to, use Queensland State Archives and State Library of Queensland open datasets as part of service offerings to their customers. This ensures that Queensland is well represented in these major resources used across the world.

Other jurisdictions use DSITI open data to extend service offerings to their customers: Air quality datasets published by DSITI are sourced from data.qld.gov.au to feed into a world-wide map—[Real-time air quality index visual map](#).

The department was an active participant of the 2016 GovHack competition which was held in August. The department released a new dataset of Advance Queensland grant recipients as part of its support for the 2016 GovHack competition. This data set was used to [create a web portal](#) that showcases the Australian innovation industry as well as the government bodies, private investors and general public who are supporting and growing this diverse industry.

Science Division sponsored a challenge to improve government service delivery using environmental and natural resources science data sets. The winning team [created an app](#) that informs users of the levels of air pollution in real-time on an interactive map using air quality data published by DSITI.



Using weather data to assist farmers schedule their irrigation

‘Having access to the data has significantly improved our ability to represent local weather.’

Steve Attard

AgriTech Solutions

AgriTech Solutions, a specialist provider of irrigation management and agronomy consulting services, uses the Scientific Information for Land Owners application (SILO) to gather weather information for predictive crop modelling.

Sharing Queensland wildlife data

‘Access to WildNet data lets us develop a fuller understanding of the overall health of our biodiversity.’

Dr John LaSalle

Director, Atlas of Living Australia



The Atlas of Living Australia, a major national partnership of Australian museums, herbaria, the CSIRO, a range of government agencies and other entities with biological collections, accesses Queensland’s wildlife information (WildNet) using the wildlife data API.



Using soil datasets to inform client decision-making

‘Quick, reliable access to soil datasets is critical in my day-to-day work.’

Jon Walton

Senior Soil Scientist, o2 Environment + Engineering

O2 Environment + Engineering, a specialist provider of soil and water consulting services to Queensland’s mining, gas, infrastructure and development industries, accesses soil and mapping datasets to complete environmental assessments on behalf of their clients.



Contact information

Strategic Policy and Innovation Division
Department of Science, Information Technology and Innovation
GPO Box 5078
BRISBANE QLD 4001
Telephone: 13 QGOV (13 74 68)
Email: opendata@dsiti.qld.gov.au
Website: <http://www.qld.gov.au/dsiti/>

Executive Manager Discovery, CD
State Library of Queensland
PO Box 3488
South Brisbane QLD 4101
Telephone: 3840 7666
Email: opendata@slq.qld.gov.au
Website: <http://www.slq.qld.gov.au/>

Further information

- Queensland Government departments open data strategies: <https://www.publications.qld.gov.au/>
- Queensland Government Open Data portal: <https://data.qld.gov.au/>
- Published datasets: <https://data.qld.gov.au/dataset>
- Publishing standards: <https://publications.qld.gov.au/dataset/publishing-standards-data-qld-gov-au>
- Information for developers: <https://data.qld.gov.au/article/for-developers>
- Case studies: <https://data.qld.gov.au/article/case-studies>



References

The following references are relevant to this document and are current at the time of publication.

Queensland legislation

- Right to information Act 2009: <https://www.legislation.qld.gov.au/legisln/current/r/rightinfoa09.pdf>
- Information Privacy Act 2009: <https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/I/InfoPrivA09.pdf>

Office of the Information Commissioner

Guidelines on datasets and privacy adherence:

- Dataset publication and privacy: <https://www.oic.qld.gov.au/guidelines/for-government/access-and-amendment/proactive-disclosure/dataset-publication-and-privacy>
- Dataset publication and risk assessment: <https://www.oic.qld.gov.au/guidelines/for-government/access-and-amendment/proactive-disclosure/dataset-publication-and-risk-assessment>
- Dataset publication and de-identification techniques: <https://www.oic.qld.gov.au/guidelines/for-government/access-and-amendment/proactive-disclosure/dataset-publication-and-de-identification-techniques>

Access and licensing frameworks

- Australian Government's Open Access and Licensing framework: <http://www.ausgoal.gov.au/>
- Creative Commons Australia: <http://creativecommons.org.au/about>

Other resources

- Queensland Public Sector Intellectual Property Principles <http://www.qld.gov.au/dsiti/assets/documents/ip-principles.pdf>
- Queensland government website: <http://www.qld.gov.au/> and publications portal <https://publications.qld.gov.au/>
- Queensland Government Chief Information Office: <http://www.qgcio.qld.gov.au/products/information-licensing>
- Information access and use policy: <https://www.qgcio.qld.gov.au/products/qgea-documents/548-information/2333-information-access-and-use-is33-info>

