

Building Information Modelling – draft policy and principles for Queensland

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Introduction

Building Information Modelling (BIM) is the digital representation of physical and functional characteristics of a building or piece of physical infrastructure. BIM serves as a shared knowledge resource for information about an asset throughout its lifecycle – supporting decision making – from strategic appraisal and planning, design and construction to operation, maintenance and renewal.

BIM enables a collaborative way of working using digital processes to enable more productive methods of planning, designing, constructing, operating and maintaining assets through their lifecycle.

Governments in Australia recognise the importance of BIM in the delivery and management of infrastructure assets as it offers many benefits throughout the asset lifecycle and has the potential to drive efficiency, value for money, productivity, innovation and safety.

To maximise the benefits from its application of BIM to infrastructure projects within its annual capital program, this framework will support the effective use of BIM across Queensland Government infrastructure delivery agencies. A focus of the framework includes BIM capability development across government and industry.

Scope

The BIM – policy and principles for Queensland apply to:

- all Queensland Government departments, agencies and statutory authorities.
- the full lifecycle of all new state infrastructure assets, including all vertical (e.g. buildings such as hospitals and schools) and linear infrastructure (e.g. roads and railways).
- smaller new projects and existing assets where cost effective.

Objectives

- To provide a framework that enables the use of BIM on the full lifecycle of state infrastructure assets by 2023, delivering measurable benefits which include:
 - more efficient and on-time project delivery
 - reduced project risk
 - improved safety
 - improved built outcomes
 - improved asset management
 - reduced costs.
- To increase capacity and capability within the public sector to maximise value from the use of BIM on state infrastructure projects.
- To identify ways for BIM to be incorporated into the regulatory and procurement environments.
- To promote consistency and interoperability in the information requirements for state infrastructure projects to facilitate a harmonised approach for industry.

Audience and application

The BIM – policy and principles for Queensland have been produced for use by officers within the Queensland Government including departments, agencies, bodies and statutory authorities and, in particular, those who are involved in the planning, procurement, design, contract management, construction, maintenance or operation of state infrastructure assets.

Principles

Open

The Queensland Government will use Open BIM¹ so that BIM information, systems, standards and processes, enable interoperability and interconnectivity.

BIM information will connect with other relevant information, e.g. geographic information systems, and offer easy and efficient accessibility and re-use.

Managed

BIM information will be managed securely at least for the life of the infrastructure asset (from conception to demolition) in a central repository by the asset owning/maintaining agency (or an agency such as Queensland State Archives or CITEC).

The lifecycle of BIM information will be actively managed (i.e. information is regularly accessed and kept current for asset maintainers) and maintained in up-to-date software versions.

Effective

The Queensland Government will use BIM on infrastructure projects and, as appropriate, on existing infrastructure projects.

Queensland will work collaboratively with all jurisdictions and the private sector to drive best practice in the use of BIM on Queensland Government initiated public infrastructure development.

The Queensland Government will utilise the NATSPEC National BIM Guide, for infrastructure projects in consultation with industry and recognise asset class-specific standards.

The Queensland Government will develop specific approaches to advance the use of BIM in the regulatory areas of workplace health and safety, and heritage conservation by 2020 to support a more pro-active and efficient approach to regulation in these areas.

¹ buildingSMART Australasia has defined 'Open BIM' as a process where the digital BIM prototype is structured in a non-proprietary, open-standard format and the associated processes are supported by industry-standard tools for managing information exchange between proprietary software tools and open access to standardised object libraries that host manufacturer's product data. These open formats support collaboration and provide customers with the freedom to choose any BIM software solution, which meets their business needs, knowing that they can share their BIM data easily with others who use different software solutions.

The Queensland Government agencies will continuously improve their BIM capability through to 2023. This will include agency endorsed employer information requirements and BIM management plans that outline the use of fully federated models which include scheduling, costing and the use of BIM for asset management.

Supported

Relevant expertise and capability will be developed and maintained by agencies (such as the Department of Transport and Main Roads, Queensland Health and the Department of Education and Training).

The Department of Housing and Public Works will assist and facilitate internal capacity building and development of Employer's Information Requirements (EIRs) for other agencies as required.

The Queensland Government will work with education, training and research providers to support the development and maintenance of a BIM-skilled workforce including state government officers.

The Queensland Government will foster a Centre of Excellence for training and skilling of BIM users.

BIM policy will be incorporated into and align with relevant infrastructure project planning, procurement and assessment frameworks across government.

Implementation and alignment of principles

- a. The Queensland Government will use its best endeavours to apply these principles.
- b. The Queensland Government will develop and update an implementation plan for the use of BIM.
- c. To evaluate the outcomes of implementing BIM, the costs and benefits will be measured and reported by agencies to the Queensland Government, with an initial focus on pilot projects.
- d. These principles align with the National Digital Engineering policy principles and the National Archives of Australia Digital Continuity 2020 policy to ensure consistent approaches for industry across jurisdictions.
- e. A communications plan will be implemented to facilitate widespread understanding and adoption of these principles by government.
- f. The Queensland Government will ensure its contractual arrangements provide for the delivery of a BIM model of the asset as built when the asset is handed over to the asset owner/maintainer.
- g. The Queensland Government will implement a plan to develop relevant expertise and capability within government and industry.
- h. These principles will be reviewed by the Queensland BIM Working Group within 12 months of their adoption, to incorporate project learnings.

