



## Achieving construction productivity gains by adopting Building Information Modelling (BIM)

This guide is part of a series of guides developed by the New Zealand Ministry of Business, Innovation and Employment (MBIE) to support New Zealand public sector agencies ('agencies') in using good practice when planning construction procurement. This guide can help support the planning phase of a project.

### What is BIM?

BIM is a digital representation of the physical and functional characteristics of a building. It serves as a shared knowledge resource for information about a building, and forms a reliable basis for decisions throughout its lifecycle. BIM is broader than a single act or process, and much more than just creating a 3D model of a project.

### How does BIM add value?

New Zealand Government agencies spend over \$7 billion every year on construction and infrastructure projects. Unprecedented recent growth in construction means it is timely to provide agencies with construction procurement guidance.

Using BIM improves the information management of the Government's assets, and enables a much more integrated supply chain.

The construction industry is unique. It is typically project-based and requires extensive collaboration with a variety of agencies, consultants and contractors. Global good practice suggests that there are significant gains to be made by the wider use of BIM tools and processes.

### Why should I use BIM?

BIM has the potential to deliver productivity benefits in the following areas:

- Improved coordination and collaboration
- Improved stakeholder engagement by providing realistic visualisations
- Improved data management and enhanced communication
- Seamless flow of information from construction into asset and facilities management
- Early clash detection and mitigation
- Better understanding of long term maintenance and operating costs.

### BIM Resource

The *BIM Handbook* was developed by the Productivity Partnership, and the Ministry of Business, Innovation and Employment (MBIE) recommends its use. It is aimed at public sector agencies, and private sector consultants and contractors, working within the public sector. It is available online at:

[www.buildingvalue.co.nz/BIM-in-NZ](http://www.buildingvalue.co.nz/BIM-in-NZ)

The handbook defines a common BIM language, aligned with the construction lifecycle. It gives guidance for 21 specific uses for BIM, from cost estimation to space management and tracking.

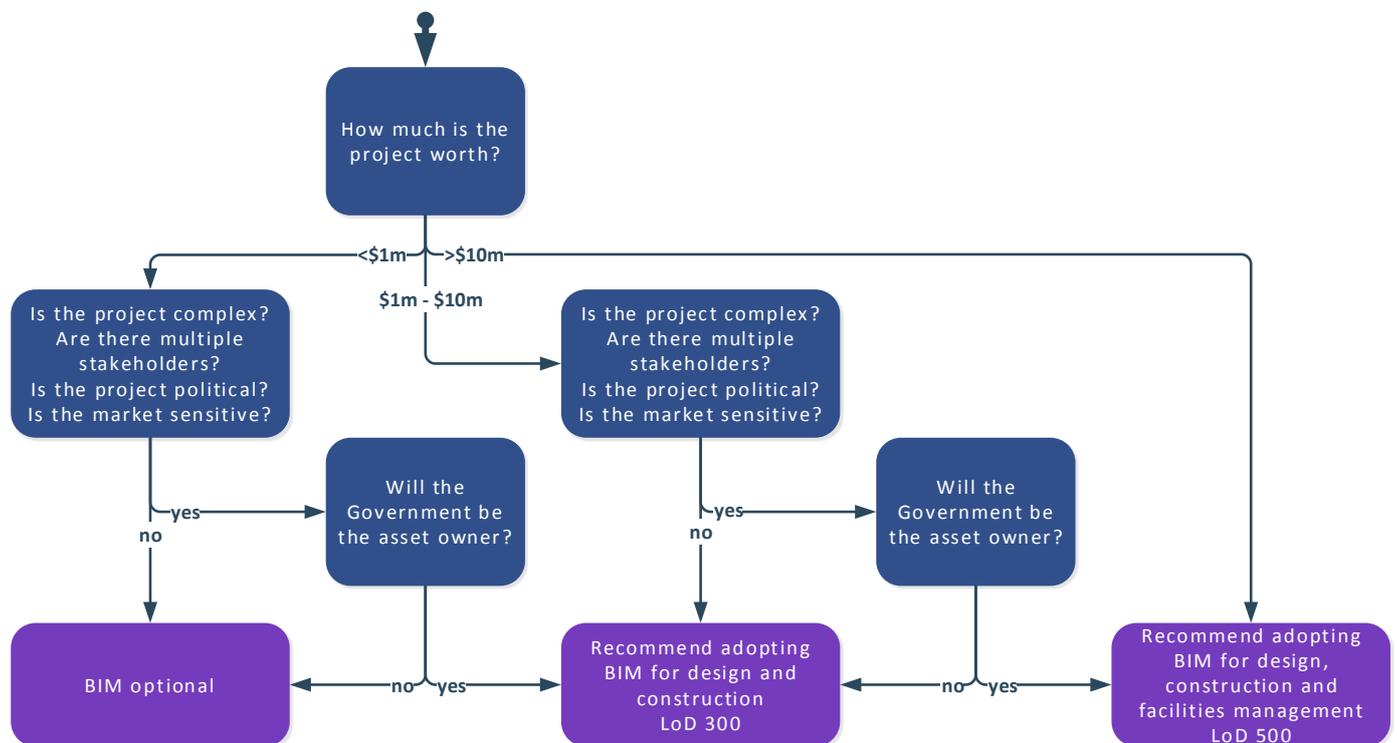
The handbook also outlines a Level of Definition (LoD) framework to help users to determine what level of BIM is appropriate for the type of project.

## When should I use BIM?

Using BIM is encouraged, but not compulsory. Government projects:

- should use BIM for all new build and major refit projects, and
- can use BIM for smaller projects, after considering the benefits and value of BIM for the design and construction phases against the cost of BIM.

Work through the questions in the diagram below to help decide when to use BIM, and to what level.



## Getting started

The *BIM Handbook* provides you with Project BIM Brief and Execution Plan templates. These tools are useful for capturing and communicating your BIM requirements.

The client should develop a Project BIM Brief (see Section 3 of the *BIM Handbook*) before engaging the consultation team, and use it to communicate in plain language the client’s desired project outcomes to tenderers. In addition, the client needs to decide whether to use BIM as a tool just during the design and construction phase, or for asset and facilities management for the building’s entire lifecycle.

## Acknowledgements

MBIE would like to acknowledge the Building and Construction Productivity Partnership and the BIM Acceleration Committee, for the publication of this handbook.

