# CanConstructNZ

CanConstructNZ is an MBIE-funded research and development programme to establish an enduring facility for reliable views of sector workload and the capacity and capability of the sector to deliver it. We are creating a tool to gather supply and demand information, incorporating shocks and stresses uncertainties, able to make comparisons and provide targeted information and predictions for a variety of users.

Our fundamental aim is to bring security and balance to the sector, benefiting all New Zealanders.
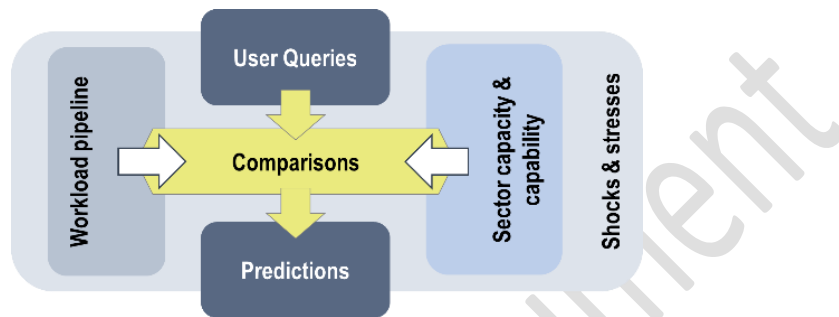
The principles are straight-forward - the devil is in the detail
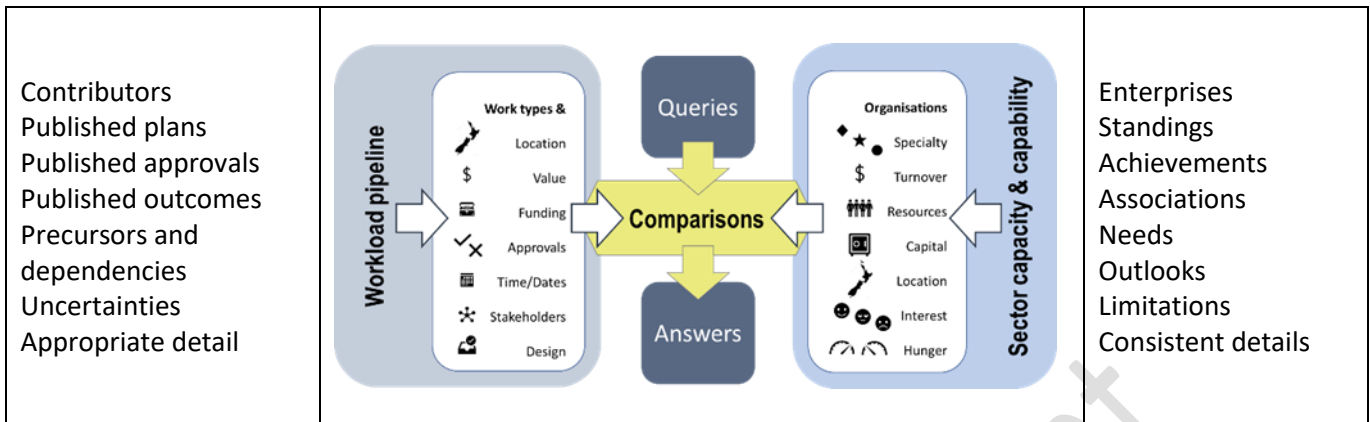
Who will use it?

There will be many users, each with different perspectives and needs, such as, a local authority wanting to know whether roading in the draft 10-year plan will cause too much pressure local contractors, or a leader in the sector wanting an objective view of impending residential work in their region over the next five years, and so on.

What do users think?

Many potential users across our network respond very positively to the concept, commonly saying: 'NZ needs this, make it happen.'

Data Models

For the CanConstructNZ tool to function it needs reliable pipeline and sector information including key identifications and values (data) to enable quantification and delineation of programme/project work type(s), and capacity and capability of corresponding portion(s) of the sector to enable comparisons and output information. This looks complicated in the following diagram.

CanConstructNZ
Balance in the sector

Contributors Published plans Published approvals Published outcomes Precursors and dependencies Uncertainties Appropriate detail		Enterprises Standings Achievements Associations Needs Outlooks Limitations Consistent details

Both workload and sector have many potential identifiers

Reduce the complication

However, our initial research and comparator mechanism development leads us to believe that only some 10-12 identifiers and values are needed to enable useful demand-supply comparisons both for projects, and for sector organisations, and perhaps less for shocks and stresses.

Neither are the identifiers and values complex, nor do they need to present sensitive information nor disclose specific project or sector organisations.

In summary terms therefore, we believe it is surprising how little needs to be known before useful, sound comparisons can be made. We believe there are no insurmountable barriers to project sponsors or sector organisations sharing information once our models and mechanism are understood.

Project model

For the pipeline of projects, we begin with a simplistic representation of an individual project, throughout its lifecycle from the realisation of need, through to on-going maintenance of the completed project, together with a set of assumptions and calculations of turnover and workforce. Our hypothesis shown overleaf will be evaluated over coming months by research interviews and data sourcing.

Projects

Projects

The pipeline is comprised projects and programmes of projects, which we need to identify to enable use case comparisons with capacity and capability of relevant parts of the sector.

The following is CanConstructNZ current model for project data, a list of identifiers enabling the comparator mechanism, with values to be set to each (one or more as appropriate).

- Unique project identifier, created by CanConstructNZ, kept throughout the life of the project
- Location expressed as GPS Latitude and Longitude, which is needed for geographic analysis.
- Location within Local Government region, ditto.
- Project Value as the construction-only estimated or contracted $ value and rounded up as follows. These would not be individually reported but used for multiple project supply and demand comparisons.

Project value	Up to $20m	$20m to $100m	$100m to $250m	$250m to $1bn	Over $1bn
Value for model	Nearest $1m	Nearest $5m	Nearest $10m	Nearest $10m	Nearest $50m

- Project Type (also used to identify the specialisation of sector organisations), as one or more of Civil, Commercial, Environmental, Housing, Industrial, Institutional, Utilities
- Status, being the current phase of the project, selected from the sequence of project life: initial concept, concept, approvals, design, contract, construction, completion, maintenance.
- Priority (one of: ASAP, scheduled, flexible)
- Funding (one of: unfunded, funding approved)
- Procurement (One or more of: unknown, undecided, bid, negotiated, early contractor involvement, collaborative)
- Start date (The start normally related to the construction phase but may be attached to other phases, depending on the nature and status of the project. Expressed Year and quarter)
- Duration (A calculation by the comparator mechanism, based on Type and Value)
- Risk (A risk factor selected from a matrix of Start date delay units (quarter year), based on Project Type, Funding, Status, and Value. The proposed matrix has not yet been generated, and is subject to discussion)

Data collection

It is expected that a collection mechanism will be needed to establish values for this data in future. This might include annual or more frequent industry-wide surveys or statistical returns, required by formal obligations, supported by legislation.

Project and shocks and stresses identifiers

We have similar work for project and shocks and stresses identifiers which will be described in a separate document, and later, with use case inquiries.