

## Construction procurement models: which one is right for your project?

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**Robert Lonergan - Senior Associate**

The construction industry has developed a number of different models for allocating and managing the key construction risks of timeliness and cost of completion as between principals and contractors.

The most appropriate model for a particular project will depend on the principal’s confidence in its own ability to retain and manage risk, the scope and nature of project risks and the project’s financing structure. For example, a limited recourse (project finance) structure invariably requires a substantially enhanced transfer of risk to the contractor.

Principals’ perceptions of the risk models available to them in a New Zealand context are sometimes limited by the fact the New Zealand Standard construction contracts (NZS3910:2003 and its variants) do not include a number of common contracting structures.

### The traditional or conventional procurement model

In the traditional procurement model, the design process is separated from construction, and full documentation is generally required before a contractor is invited to tender.

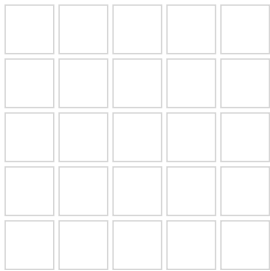
The principal maintains control over design, quality and standards through its consultants, while design and construction are sequential processes. As a result, programming tends to be a relatively long process.

In this model, the principal has reasonable certainty on construction costs, as the contract sum is known at the outset (although it may be adjusted), and speculative risks are balanced between the parties depending on the form of traditional procurement risk model adopted.

It can be a relatively low-risk procurement option for a principal but the project will likely take longer to complete.

This model uses three main mechanisms for determining a contract price:

- lump sum contracts, where the contract sum is largely determined before full construction starts;
- measurement contracts, where the contract sum is not finalised until after completion by a re-measurement of the works on a previously agreed basis; and
- cost reimbursement contracts, where the contract sum is determined on the actual cost of labour and materials, with an amount added to cover overheads and profit.



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**Matthew Cockram - Partner**

Each of these mechanisms represents an incremental increase in the level of pricing risk assumed by the principal.

### **The design and build procurement model**

Under this procurement model, the contractor undertakes both the design and construction of the work for an agreed price.

The principal may retain control over the design elements included as part of its statement of requirements (or may transfer design risk in those elements to the contractor) but does not have direct control of the development of the contractor’s detailed design.

As design and construction may proceed in parallel, this could result in a shorter overall project timeframe. The principal will have reasonable certainty over construction costs because the contract sum is known at the outset.

In this model, the speculative risks lie largely with the contractor, but this balance can shift depending on the level

of design responsibility retained by the principal and the manner in which the contract price is calculated. In New Zealand, design build procurement is often used in conjunction with a cost risk sharing mechanism, described in more detail below.

In terms of cost and time, this is a relatively low-risk procurement option for a principal, as most forms of design and build contract (particularly in the context of limited recourse financing) have a relatively onerous balance of risk in favour of the principal.

### **The management procurement model**

In this model, overall design is the responsibility of the principal’s consultants, while the contractor is responsible for managing the performance of the works through separate trade contracts.

The principal appoints the consultants and prepares the project drawings, specifications and cost plan, and retains overall design control through its professional team.

As detailed design can proceed in parallel with construction work, the length of the project programme may be reduced.

However, there is no certainty over costs at the outset and works proceed on the basis of a contract cost plan. Final costs are not known until the last trade contract is let. Speculative risks lie largely with the principal.

This form of procurement model requires in-house expertise and a good working relationship with trade contractors. In terms of design and quality, this is a

relatively low-risk procurement option for principals, but high risk in respect of costs and time.

There are two principal forms of management procurement model.

In management contracting, a management contractor undertakes to perform the works through trade contractors who are contractually accountable to the management contractor.

However, the management contractor is not strictly liable for the consequences of any default by trade contractors – as long as the management contractor has complied with its management obligation (generally a skill and care obligation) under the management contract, although there may also be incentive elements in the fee payable to the management contractor.

In construction management, a construction manager undertakes to manage the works through trade contractors but the principal remains involved in directing the project and trade contracts are made directly with the principal.

## Other risk management mechanisms

### Alliancing

Alliancing allows all major contractors and consultants to become “stakeholders” in a project and share in the gain or loss arising, measured against identified goals.

The principal, contractor and other project “stakeholders” form a co-operative group in which everyone involved

shares representation and risk. The intent is to generate an environment of innovation and co-operation rather than confrontation.

Generally the principal, consultants and the contractor/s form a committee to manage the project. All project matters, including disputes, will be referred to and decided by the committee, and its members will agree a common approach to the project, the assessment of project cost, and a reasonable time for completion.

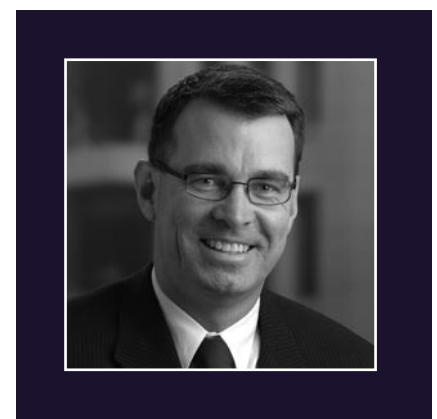
Members of the committee will often agree that they will make no claims against each other, with certain exclusions. Alliance costing is generally “open book” – usually all members of the committee have access to project cost information.

Principals often favour alliancing because they believe it will achieve savings by giving greater latitude in design and construction to the alliance team process, focusing on collective objectives and incentivising team members through risk-and-reward mechanisms. In addition, it is a flexible process that can vary significantly in its applications to different projects.

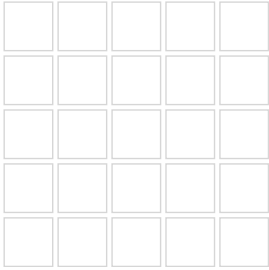
Alliancing has had considerable success in achieving cost reductions for principals, and its approach to risk (or rather, risk sharing) constitutes a major departure from traditional contracting models.

Contractors and principals can share risks that would otherwise be traditionally borne solely by contractors, and contractors can eliminate certain risks from their pricing analysis.

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**Mark Crosbie - Partner**



“A key issue is the adequate definition of a target cost or GMP at the time of contract signature and the basis on which the target cost or GMP will be subject to adjustment as circumstances vary. “



**David Chisnall - Partner**

However, the extent to which other incentive structures are used to modify the “Law of the Jungle” that can often apply to construction contracting and claims varies widely between alliances.

In order to be a robust structure – that is, one that operates as an effective incentive even if the other participants are altruistic “knights” or self-interested “knaves” – it is critical that the alliance incentivise contractors to perform in a manner consistent with the principal’s goals of timeliness and cost.

In order to produce a robust structure, alliancing is often used in conjunction with a target cost mechanism, and establishing the target cost is therefore a key aspect of the alliancing contract.

**Cost risk sharing: target cost and guaranteed maximum price**

A target cost contract occupies the middle ground between a lump sum contract (where the contractor substantially takes the risk that the contract sum might not cover the cost of the works) and a reimbursement contract

(where the price risk falls on the principal as the contractor’s costs are reimbursed in full).

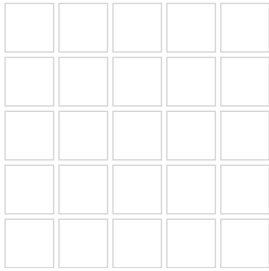
With a target cost contract, the actual cost of completing the project is compared with an agreed target cost. If the actual cost exceeds the target cost, some of the cost overrun will be borne by the contractor.

If the actual cost is lower than the target cost the contractor will share the saving with the principal. In each of these scenarios, costs will be allocated in accordance with a previously agreed formula. Cost sharing may be under a conventional procurement structure, or an alliancing structure, or both.

This approach helps to align the interest of the parties since both have an interest in working together to reduce the cost of the project. It is vital, however, that there is clarity as to the categories of costs that are not to be included in the definition of actual cost and target cost. Close consideration should therefore be given to contingencies, overheads and profit, and risks which are not shared.

A guaranteed maximum price (GMP) contract is a species of target cost contract commonly encountered in New Zealand. Under a GMP contract, a principal shares in upside cost risk (by sharing in cost savings where actual cost is less than the GMP) while passing downside cost risk to the contractor (in that the contractor will not be paid its actual cost to the extent the same is in excess of the GMP).

Target cost and GMP contracts can provide an answer in situations that are rapidly changing or difficult to quantify, but they require excellent project management.



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A key issue is the adequate definition of a target cost or GMP at the time of contract signature and the basis on which the target cost or GMP will be subject to adjustment as circumstances vary. Neither target cost nor GMP contracts are a simple answer to the issue of cost risk. Both still require a rigorous assessment of the risk allocation in the underlying contract to ensure the target cost or GMP is an effective mechanism for transferring cost risk to a contractor.

For example, a target cost or GMP is a weak transfer mechanism for speculative risks if under an NZS3910:2003 form of contract the contractor is entitled to an upward adjustment of the target cost or GMP for a material divergence in actual quantities from that stated in a schedule of prices or for unforeseen site conditions.

### Conclusion

There are a number of approaches to construction procurement. The most appropriate approach for any given project will depend on a number of factors:

- Degree of control by principal: should design be wholly in the hands of the principal's consultants, and to what extent should the principal have control over programming?
- Certainty of cost: is a lump sum contract preferred?
- Programming flexibility: is this desirable?
- Start and completion times: is a "fast track" project with the shortest overall programme your priority?

- Changes during construction: can the contractor easily accommodate variations, and is there the likelihood of design changes during the course of the works?

Principals need to carefully (and honestly) assess which procurement model is right for their project. Choosing the wrong model may merely be a recipe for disputes or lead to poor value for money.

For further information, please contact your usual Bell Gully adviser or:

#### Auckland

Matthew Cockram	matthew.cockram@bellgully.com	64 9 916 8911
Mark Crosbie	mark.crosbie@bellgully.com	64 9 916 8916
Robert Lonergan	robert.lonergan@bellgully.com	64 9 916 8671

#### Wellington

David Chisnall	david.chisnall@bellgully.com	64 4 915 6966
Michael Spooner	michael.spooner@bellgully.com	64 4 915 6513

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**Auckland**  
Vero Centre, 48 Shortland Street  
PO Box 4199, Auckland, New Zealand, DX CP20509, www.bellgully.com  
Telephone 64 9 916 8800, Facsimile 64 9 916 8801

**Wellington**  
HP Tower, 171 Featherston Street  
PO Box 1291, Wellington, New Zealand, DX SX11164, www.bellgully.com  
Telephone 64 4 473 7777, Facsimile 64 4 473 3845

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