

MAJOR PROJECTS GUIDANCE FOR LOCAL GOVERNMENT

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1. Procurement options

1.1 Introduction

An important part of the business case is the development of a procurement strategy. The framework for developing a procurement strategy is set out in section 11 of Part B1, *Procurement strategy*. A key objective of the procurement strategy is to assess the procurement options for the project and select a preferred option. This Part B2 presents a range of traditional and non-traditional procurement options also referred to as project delivery models, for consideration by the project team. Each procurement option includes:

- a description of the key features
- a summary of the benefits and disadvantages of the model
- a brief discussion of suitable projects.

Part B2 by no means covers all of the delivery models available. It does, however, present the procurement options which are most likely to be suitable for major infrastructure projects and related services by local government.

Part B2 also includes a section on the procurement of long term maintenance and infrastructure services contracts (see section 15). This relates to the bundling of maintenance and infrastructure services into long term contracts, which may also include a minor capital expenditure component for the upgrade or rehabilitation of existing assets.

As described in section 11 of Part B1, *Procurement strategy*, validating the preferred procurement model through a market sounding prior to making a decision, is recommended. Validation of procurement recommendations via market sounding is a crucial means of testing the conclusions reached and assessing their deliverability. Market sounding can serve two purposes: first, to discuss with potential participants the project and its proposed technical and commercial form, and second to gather feedback and input on specific aspects of the project, including scale, contract term, other risk allocation issues and the way in which private sector finance could be used. The latter is especially important as it involves an assessment of the market's appetite to participate in a bidding process and contractual arrangement associated with the model proposed for delivering the project. If market appetite is considered to be especially weak, the delivery model may need to be refined accordingly.

1.2 Key project delivery models

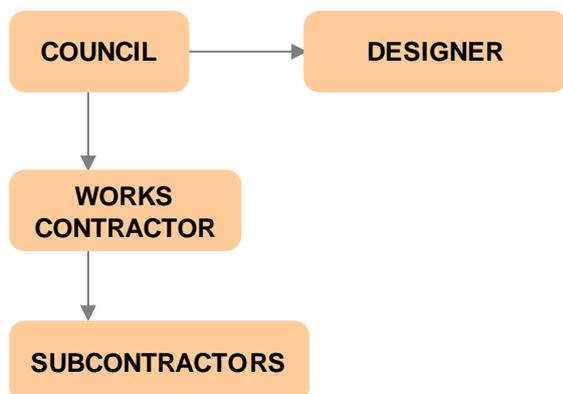
The delivery models covered in this Part B2 are:

- construct only
- design and construct
- Engineering, Procurement and Construction (EPC)
- design, construct and novate
- development agreement
- construction management
- managing contractor

- alliance
- Early Contractor Involvement (ECI)
- Design, Build, Operate and Maintain (DBOM)
- Design, Build and Maintain (DBM)
- Design, Build, Finance (DBF)
- Design, Build, Finance and Maintain (DBFM)/Design, Build, Finance and Operate (DBFO)
- Build, Operate and Transfer (BOT)/Build, Own, Operate and Transfer (BOOT) /Build, Own and Operate (BOO)
- long term maintenance and infrastructure services contracts.

2. Construct only

Figure 1: Construct only structure



Key features

- the Council directly engages the designer and the works contractor under separate contracts
- in the contract between the Council and works contractor, the Council is responsible for the design
- the works contractor is paid a lump sum, subject to adjustments permitted under the contract.

2.1 Description

Under a construct only model, the Council engages a design consultant to fully develop the design documentation for the asset to be constructed (works). The complete design documentation, including construction drawings and a detailed prescriptive specification, is provided to tenderers. Tenderers submit prices on the basis of these design documents. When the works contractor is selected, the Council enters into a separate contract with the works contractor and the design documents form part of that contract.

In the contract between the Council and the works contractor, the Council retains responsibility (and liability) for the design, including any errors in the design documentation and fitness for purpose of the design.

The works contractor is paid a lump sum price for completing the works, subject to contractually permitted adjustments. In practice, cost increases to the original lump sum are common, particularly due to variations, poor contract management and inadequate risk assessment.

2.2 Suitable projects

Construct only procurement suits projects where:

- the design and the works to be delivered are specific, simple and relatively small scale
- the Council is able to manage the design risk
- the Council requires close control over the design
- the scope is well defined and relatively impervious to change
- contractor innovation is neither sought nor required
- there is sufficient time to prepare full design documentation before tendering for the construction of the works.

2.3 Benefits and disadvantages

Table 1 summarises the main benefits and disadvantages of the construct only model.¹

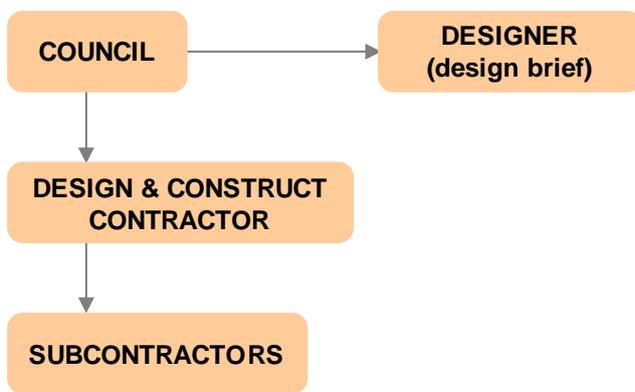
Table 1: Construct only – benefits and disadvantages	
Benefits	Disadvantages
<p>Design control: The Council selects its design team and engages them directly.</p> <p>Certainty of scope: The scope is known and full design documentation is prepared prior to tendering the works component.</p> <p>Control of the works: As contract administrator, the Council manages all contract and quality issues.</p> <p>Certainty of price: As the design is complete before tendering, the contract value is relatively certain before construction commences.²</p> <p>Low tender cost: The simple tender process means low tendering costs for the Council and tenderers.</p> <p>Stakeholder management: The high level of control throughout the project enables the Council to manage the stakeholder engagement process effectively.</p>	<p>No single line of responsibility: Separate design and construction contracts increase the potential for disputes over design deficiencies, construction defects and delays.</p> <p>Design liability/buildability: The Council assumes the risk of 'buildability', design construction coordination and fitness for purpose.</p> <p>Long lead time: The detailed design must be fully documented prior to tendering, potentially prolonging project completion.</p> <p>Cost overruns and delay: The Council may be liable for cost overruns and delays (as permitted under the contract).</p> <p>Administrative complexity: Despite appearing simple, construct only contracts can be administratively complex due to the separation of the design and construction components.</p> <p>Resource intensive: The high level of control and contract administration to be undertaken is resource intensive for the Council (often resulting in higher administration costs).</p> <p>Disincentive for innovation: Minimal opportunity for innovation.</p> <p>Cost: Limited opportunity for a value management process.</p> <p>Whole-of-life risk: The Council retains whole-of-life asset risk. There is little incentive for the designer/contractor to minimise life cycle costs.</p>

¹ Elements of this table are drawn from the *National Public Private Partnership Guidelines, Volume 1: Procurement Options Analysis*, Council of Australian Governments, (December 2008).

² The project cost for traditional delivery models such as construct only and design and construct, reportedly exceed the business case cost estimate by an average of 20 per cent. See Victoria Department of Treasury and Finance, *In Pursuit of Additional Value – A Benchmarking Study into Alliancing in the Australian Public Sector* (2009). This report was co-sponsored by the State Treasuries of New South Wales, Queensland and Western Australia.

3. Design and construct

Figure 2: Design and construct structure



Key features

- the Council prepares a detailed design brief
- the Council engages one party for both the design and construction of the project under a single contract
- the contractor is primarily responsible for the design and construction risks.

3.1 Description

A design and construct model may be alternatively described as a 'design and build contract'.

Under this model, the Council prepares a design brief specifying performance and user requirements. This is typically a detailed document setting out the Council's requirements for the design of the works and may include a preliminary design. Often the Council engages a designer or technical consultant to assist with the production of the design brief/preliminary design. It will then seek tenders for the completion of the design and construction of the works in accordance with the design brief. Payment is usually based on a lump sum price, subject to contractually permitted adjustments.

The contractor will complete the design documentation and construct the works, relieving the Council of some of the administrative burden of the project. The Council retains responsibility for approval/acceptance of the design and payment for work done.

The contractor must possess appropriate expertise such that it can manage both the design process and construction phase. The contractor usually bears the risk of fitness for the described purpose of the design, however the Council may retain responsibility for the Council's requirements and any preliminary design included in its design brief.

3.2 Suitable projects

Design and construct procurement suits projects where:

- the procurement is small to medium scale
- the Council requires some control over the design
- the scope is well defined and relatively impervious to change
- contractor innovation is not a high priority for the project
- the Council has insufficient expertise or time to manage the full design process.

3.3 Benefits and disadvantages

Table 2 summarises the main benefits and disadvantages of the design and construct model.³

Table 2: Design and construct – benefits and disadvantages	
Benefits	Disadvantages
<p>Single line of responsibility: The contractor is contractually responsible to the Council for both design and construction components. This reduces the potential for disputes over design deficiencies, construction defects and delays.</p> <p>Limited design liability: The Council shifts substantial design risk to the contractor.</p> <p>Certainty of price: A fixed, lump sum price is payable for the design and construction of the asset, subject to limited contractually agreed adjustments.⁴</p> <p>Fast track: It is possible for construction to start before the design documentation is complete. Lead time to contract award is shorter than many non-traditional models (except alliancing).</p> <p>Administrative efficiencies: Combining the design and construct elements into one contract achieves some administrative efficiencies for the Council.</p> <p>Buildability: As designer and builder, the contractor has the opportunity to consider the 'buildability' of the design and create construction efficiencies.</p>	<p>Control: The Council has less direct control over quality and design compared with the construct only model.</p> <p>Design liability: The Council may retain liability for elements of the design brief (and preliminary design).</p> <p>Cost: The Council may pay a premium to transfer design risks to the contractor.</p> <p>Limited innovation: The contractor has little input into the preliminary design and the Council requirements, limiting opportunities for innovation.</p> <p>Tender period: There is generally a longer tender period than for the construct only model, to allow tenderers to assess the scope and design risk, although there is a generally shorter tender period than for non-traditional procurement models (except alliancing).</p> <p>Cost overruns and delays: The Council may be liable for cost overruns and delays (as permitted under the contract).</p> <p>Whole-of-life risk: The Council retains whole-of-life asset risk. There is little incentive for the designer/contractor to minimise life cycle costs.</p>

3.4 Engineering, Procurement and Construction

Description

The Engineering, Procurement and Construction (EPC) model is similar to the design and construct model, although it has some distinctive features which make it suitable for different types of projects.

As with the design and construct model, the Council engages the contractor to complete the project by a specified time and for a lump sum price (subject to cost adjustments permitted under the contract). The Council provides a design brief from which the contractor develops the design. This means, the contractor is responsible for the finished design and the project being fit for the Council's described purposes.

The following key features of the EPC model distinguish it from a design and construct model:

³ Elements of this table are drawn from the *National Public Private Partnership Guidelines*, n1.

⁴ *In Pursuit of Additional Value – A Benchmarking Study into Alliancing in the Australian Public Sector*, n2.

- **Level of design development:** The design brief provided to the EPC contractor by the Council usually takes the form of an output specification that outlines the performance requirements for the asset being constructed. It will generally not regulate the design and engineering processes which the EPC contractor must use to achieve those performance requirements. By contrast, the design and construct contractor will often be provided with a more detailed design brief including some preliminary design. Sometimes this design is quite progressed and the contractor's design role is limited to developing the detailed design of the asset.
- **Commissioning:** EPC contracts are generally used for the construction of complex assets with a significant processing or production element (producing, for example, power or potable water). EPC contracts include an extensive commissioning regime which sets out the various tests to be carried out and the performance levels required to be met prior to handing the asset over to the Council. A design and construct contract typically does not include an extensive commissioning regime.
- **Performance guarantees and performance liquidated damages:** An EPC contract includes specified performance guarantees given by the contractor in relation to the output and availability/reliability of the completed asset, amongst other things. Liquidated damages are payable for failure to achieve those guaranteed performance levels. A typical design and construct contract does not include a performance guarantee regime.

Benefits and disadvantages

The benefits and disadvantages of the EPC model are generally the same as the design and construct model. The additional benefits of the EPC model include:

- **commissioning risk:** the commissioning risk lies largely with the contractor
- **innovation:** the output specification provides greater scope for contractor innovation in design development
- **buildability:** the contractor has greater opportunity to consider the 'buildability' of the design and to therefore create construction efficiencies.

The additional disadvantages of the EPC model compared with a design and construct model relate to the following:

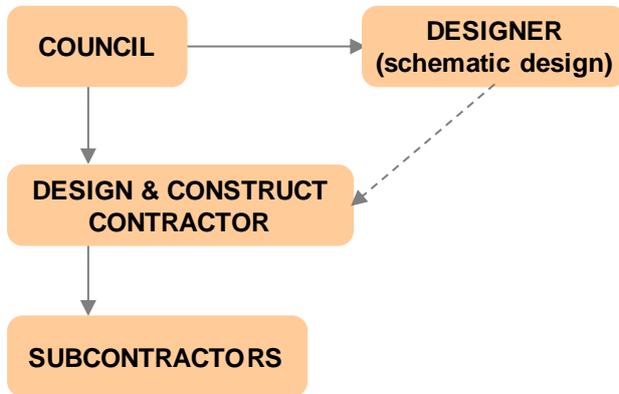
- **post construction operation and maintenance:** if the Council does not appoint the EPC contractor to perform these post construction services, there is a risk that some of the warranties under the EPC contract will be invalid
- **tender period and transaction costs:** the increased complexity of the EPC model is likely to result in a longer lead time to contract award and higher transaction costs
- **control:** the use of an output specification means the Council has less control over the quality and design works.

Suitable projects

Although similar to the design and construct model, the EPC model is suited to different kinds of projects. For example, it is suitable for the procurement of complex assets with a significant processing or production element. This will often involve the procurement of a large piece of equipment requiring installation and commissioning such as co-generation plants, wastewater facilities and other processing infrastructure.

4. Design, construct and novate

Figure 3: Design, construct and novate structure



Key features

- the Council engages a designer to produce a schematic design
- the Council separately engages a contractor to design and construct the asset based on the schematic design
- the Council novates the contract with designer to the design and construct contractor
- the design and construct contractor is primarily responsible for the design and construction risks.

4.1 Description

Under this model, the Council engages a designer to develop a schematic design (as a minimum). A design and construction contractor is separately engaged to complete the design and construction of the asset.

The contractor enters into the design and construct contract on the condition that it will accept a novation of the contract between the Council and the original designer. Through the novation, the designer becomes a subcontractor to the design and construct contractor, thereby creating a single line of responsibility between the Council and the contractor for the project. After the novation, the contractor is responsible for the design produced by the designer and payment of the designer's fees, and the Council no longer has a direct contractual relationship with the designer. This has the advantage of ensuring the continuity of the designer's involvement from project inception to the completion of construction.

Payment under the design and construct contract is usually based on a lump sum price, subject to contractually permitted adjustments. A premium may be paid to the contractor for taking on the design risk relating to the work of the designer before the novation.

4.2 Suitable projects

The design, construct and novate model is an adaptation of the design and construct model, and is suited to the same types of projects.

The key difference with the design, construct and novate model is that the Council maintains more control over the initial design phase. This model is useful where the Council:

- has a clear direction for the project's design
- seeks close control over the development of the design
- does not have sufficient time to develop full design documentation prior to tendering, or
- wants to shift the design liability to the contractor.

4.3 Benefits and disadvantages

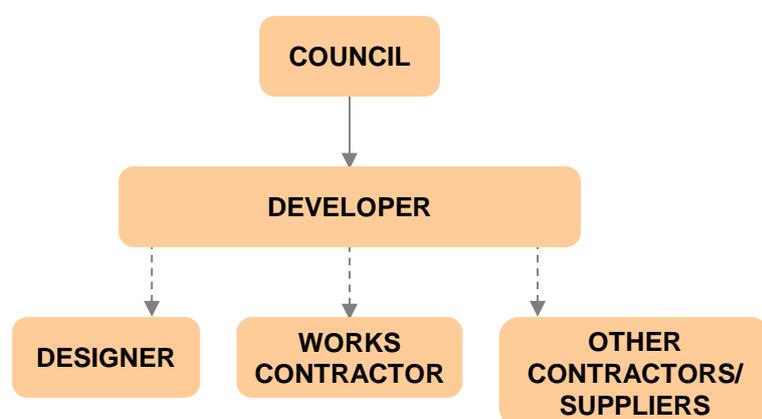
Table 3 summarises the main benefits and disadvantages of the design, construct and novate model.⁵

Table 3: Design, construct and novate – benefits and disadvantages	
Benefits	Disadvantages
<p>Single line of responsibility: The contractor is contractually responsible to the Council for both design and construction components, thereby reducing the potential for disputes over design deficiencies, construction defects and delays.</p> <p>Limited design liability: The Council shifts substantial design risk to the contractor.</p> <p>Selection of designer: The Council selects its own designer.</p> <p>Continuity: The novation of the designer ensures continuity of the designer's involvement from project inception to completion of construction.</p> <p>Design definition: Allows the Council to directly supervise/control a substantial part of the design process.</p> <p>Certainty of price: A fixed, lump sum price is payable for the design and construction of the asset, subject to limited contractually agreed adjustments.</p> <p>Fast track: It is possible for construction to start before the design documentation is completed. Lead time to contract award is shorter than for most non-traditional models (except alliancing).</p> <p>Administrative efficiencies: Combining the design and construct elements into one contract achieves some administrative efficiencies for the Council.</p> <p>Buildability: As designer and builder, the contractor has some opportunity to consider the 'buildability' of the design and create construction efficiencies.</p>	<p>Control: The Council has less direct control over quality and design compared with the construct only model.</p> <p>Design liability: The Council may retain liability for elements of the design brief and schematic design.</p> <p>Design liability: The point of transfer of design liability from the Council to the contractor may be contentious, and can be uncertain if not well documented.</p> <p>Cost: The Council may pay a premium to transfer design risks to the contractor.</p> <p>Limited innovation: The contractor has little input into the preliminary design and the Council requirements, which limits opportunities for innovation.</p> <p>Tender period: There is usually a longer tender period than for the construct only model, to allow tenderers to assess the scope and design risk. There is generally a shorter tender period than for non-traditional procurement models (except alliancing).</p> <p>Cost overruns and delays: The Council may be liable for cost overruns and delays (as permitted under the contract).</p> <p>Whole-of-life risk: The Council retains whole-of-life asset risk. There is little incentive for the designer/contractor to minimise life cycle costs.</p>

⁵ National Public Private Partnership Guidelines, n1.

5. Development agreement

Figure 4: Development agreement structure



Key features

- the Council engages a developer for the delivery of a property development project
- the procurement framework relates to broader elements of the project beyond the design and construction components, including development rights in relation to a defined site
- highly flexible delivery model.

5.1 Description

A development agreement is a flexible means of delivering a property development project. In simple terms, it is an overarching project agreement between the Council and the developer which acts as a contractual 'one stop shop' for the development of a particular site or sites. It regulates a wider range of activities than traditional project delivery models, which are focused only on the design and construction components of a project.

A development agreement may cover:

- land transfers, licences and leases (including agreements for lease)
- development obligations (design and construction), development timetable and planning requirements
- financial arrangements (rents, sale price and overage arrangements)
- marketing, property sales, advertising and stakeholder management
- miscellaneous issues such as car parking, alienation rights, and obligations regarding affected retailers and/or residents.

The developer will likely enter into a number of third party agreements in order to give effect to the development agreement. The number and nature of these will differ from project to project depending on the type of development and the nature of the developer (for example, the developer may perform the design and/or construction components or subcontract these).

The developer generally bears a high level of project development risk, and may have an interest in the project post completion. For example, the developer may take a lease of the building or a part of the building that it has refurbished.

5.2 Suitable projects

The development agreement model is suitable only for property development projects:

- involving the granting of development rights, and where the Council wants the developer to manage and deliver a range of project components including planning and property, design and construction, and property sales amongst other things
- where the Council's overall objectives are well defined, even if the project scope requires further definition
- requiring a land exchange or land transfer
- incorporating a post-construction lease to or from the Council (for example, the developer builds an office complex on the Council's land and agrees to lease a part of the building from the Council post-construction)
- integrating property sales (for example, a retirement village or high rise apartments).

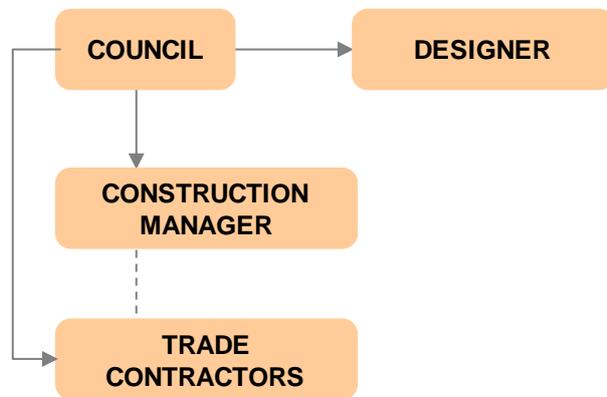
5.3 Benefits and disadvantages

Table 4 summarises the benefits and disadvantages of the development agreement model.

Table 4: Development agreement – benefits and disadvantages	
Benefits	Disadvantages
<p>Highly flexible: The Council is able to dictate the project arrangements on a wide range of commercial issues.</p> <p>Incentive for efficiency: Sharing of project risks and benefits encourages the Council and developer to meet time and cost requirements.</p> <p>Accommodates complexity: This model accommodates high risk, complex or uncertain projects which would otherwise be undeliverable under a traditional model.</p> <p>Incentive for innovation: Framework flexibility enhances opportunities for innovation.</p> <p>Administrative efficiency: Integration of broader project management activities creates administrative efficiencies.</p> <p>Stakeholder management: This framework provides flexibility to incorporate stakeholder management as a developer obligation.</p> <p>Single line of responsibility: If the project (or an element of it) fails, the developer will generally be liable, which minimises potential for disputes.</p> <p>Whole-of-life risk: Depending on the project structure, the developer may be incentivised to consider whole-of-life costs in the design and construction of the asset.</p>	<p>Lack of certainty: The framework may be too flexible where the Council does not have clear project objectives and a commercial framework, or if these are not well documented.</p> <p>Control: The Council has limited control over the design process, quality of the works, stakeholder management and other elements of the project undertaken by the developer.</p> <p>Cost: The Council may pay a premium to transfer wider project risks to the developer.</p> <p>Uncertain dispute resolution: The Council has limited recourse to resolution procedures in the event of project failure.</p> <p>Resource intensive: Senior staff are required to be involved, which may strain the Council's staffing arrangements and result in higher administration costs.</p> <p>Complex document preparation: Development agreements are bespoke to a particular project and documenting the arrangement can be complex and time consuming.</p> <p>Reliance upon developer: If the developer falls into financial difficulty, this will directly impact upon the viability of the project.</p>

6. Construction management

Figure 5: Construction management structure



Key features
<ul style="list-style-type: none"> the Council engages the designer and construction manager separately
<ul style="list-style-type: none"> the construction manager engages trade contractors as an agent of the Council
<ul style="list-style-type: none"> the Council retains overall project delivery risk
<ul style="list-style-type: none"> the construction manager provides project management services, but bears no delivery risk.

6.1 Description

Under a construction management model, the Council engages the designer directly and manages the design process. A construction manager (essentially a project manager) is separately engaged to manage the performance of construction activities. Under this model, the construction works are divided into discrete trade packages, which are tendered and performed at different stages during the construction phase.

The construction manager conducts the tender process for each trade package and enters into each trade package contract as an agent for the Council. In a variation of this model, the construction manager sometimes also engages the designer as an agent of the Council and is responsible for managing the design process as well.

The role of the construction manager usually involves planning, co-ordination and supervision of the tender process and the works. This may include responsibility for preliminaries for the trade contractors. However, the construction manager does not perform any construction work. Importantly, the construction manager bears no delivery risk, including design, defects and delay risks.

The construction manager is generally paid a fee for the services provided based on set rates (time based) or a percentage of the value of the works, or a combination of both.

6.2 Suitable projects

The construction management model suits projects:

- that are fragmented and have an uncertain scope or timeframe
- where the previous project arrangements collapsed and tendering the unfinished components of the project as a single package is inappropriate or would be too time consuming
- requiring direct Council control over the scope and duration of the works during the construction period
- where there is a compressed timeframe, as this model allows the design and construction of different elements to occur at different times during the project.

The construction management model is not the ideal model for procuring major infrastructure projects. It is, however, a useful tool, in the circumstances described above. It has been successfully used for office fit outs, and projects where the works are being performed in an operational environment (for example, airport renovations and hospital refurbishments). More commonly, it is used as an ameliorating approach where a project has failed before construction of the asset is complete.

6.3 Benefits and disadvantages

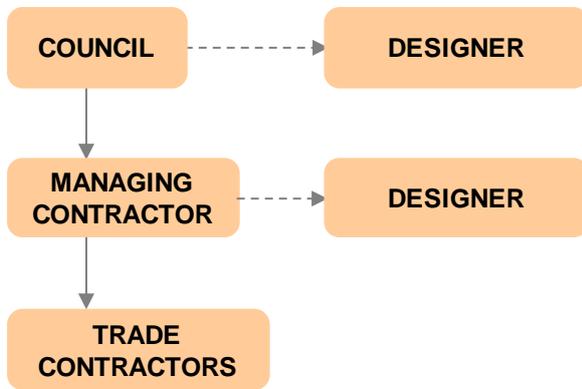
Table 5 summarises the main benefits and disadvantages of the construction management model.⁶

Table 5: Construction management – benefits and disadvantages	
Benefits	Disadvantages
<p>Control: The Council has a high degree of control, selects and manages the designer and has a direct contractual relationship with each trade contractor.</p> <p>Administrative efficiency: The construction manager administers the trade packages on behalf of the Council.</p> <p>Fast tracking: There is potential to overlap the design and construction of various trade packages, enabling some packages to be tendered and performed whilst others are still being designed.</p> <p>Price: Trade package prices should not include as much for contingencies since the trade contractors only undertake works in their area of expertise and do not have a co-ordination role.</p> <p>Expertise: The Council can outsource the management of the works to an experienced, professional project manager.</p>	<p>No single line of responsibility: If the project (or part of it) fails, it can be difficult to determine which consultant or contractor is liable. There is increased potential for disputes over design deficiencies, construction defects and delays.</p> <p>Uncertain scope: The project scope may not be fully resolved prior to the start of construction, which increases the risk of 'scope-creep'.</p> <p>Incomplete design: The detailed design is not usually complete on all elements before construction commences. This can lead to issues with integration of works, variations, programming and accuracy of costings.</p> <p>Administrative complexity: The model requires careful delineation of responsibility for the construction manager and each trade contractor. This can be resource intensive for the Council.</p> <p>Project delivery risk: This risk is largely retained by the Council.</p> <p>Cost: If the construction manager is paid a percentage of the value of the works, there is little incentive for the construction manager to minimise trade package costs.</p> <p>Cost certainty: There is no cost certainty for the Council since the tendering of trade packages is staggered throughout the construction phase.</p> <p>Limited innovation: Fragmented approach limits opportunities for innovation.</p> <p>Whole-of-life risk: The Council retains whole-of-life asset risk. There is little incentive for the construction manager/trade contractors to minimise life cycle costs.</p>

⁶ National Public Private Partnership Guidelines, n1.

7. Managing contractor

Figure 6: Managing contractor structure



Key features

- the Council engages a managing contractor who enters into contracts directly with the trade contractors
- high level of managing contractor responsibility with performance based incentives for achieving cost savings
- managing contractor shares some of the project risks with the Council.

7.1 Description

The Council engages a managing contractor as a head contractor to deliver the works, which is divided into trade packages. Unlike the construction management model, the managing contractor enters into the trade contracts in its own capacity and not as an agent of the Council.

The Council usually appoints the managing contractor early in the project to monitor the design services. The managing contractor may be responsible for some or all of the design activities, and may appoint a design team to assist with this component.

The managing contractor is typically paid a lump sum management fee and may also receive payments for any design services or works performed. Management services include project planning, co-ordination and monitoring, preliminaries, security, insurance, tendering trade packages and managing the trade contractors.

The Council and the managing contractor collaborate to determine the scope of the trade packages and the development and approval of trade package designs. However, the managing contractor is ultimately responsible for trade package documentation and selection of tenderers, and may warrant the project completion date.

The managing contractor may be responsible for paying the trade contractors directly (and then being reimbursed by the Council), or the Council may pay the trade contractors directly at the direction of the managing contractor.

A target cost for each trade package usually forms the basis of the budget. Many managing contractor contracts have a Guaranteed Maximum Price (GMP) payment structure. Under a GMP structure, the Council is liable for the cost of the works up to the GMP, and beyond the GMP the managing contractor bears any cost overruns (subject to specified adjustments to the GMP permitted under the contract). Conversely, if the cost falls below the GMP, the managing contractor is paid a percentage of the savings achieved. This provides a strong incentive to the construction manager to achieve cost savings.

7.2 Suitable projects

The managing contractor model suits projects that:

- are complex and have an uncertain scope or timeframe
- involve uncertain risks and technology
- need to be fast tracked
- can benefit from early contractor involvement.

As with the construction management model, the managing contractor model has been utilised for office fit outs and projects in operational environments (such as airport renovations and hospital refurbishments).

7.3 Benefits and disadvantages

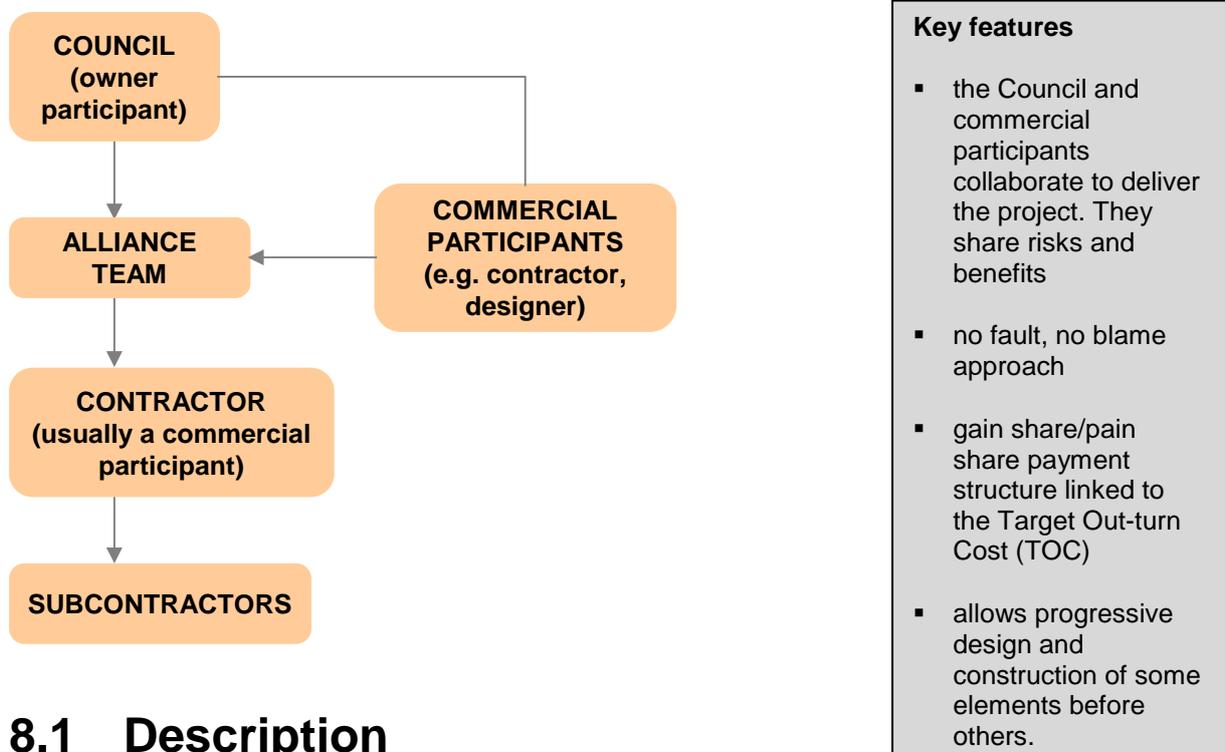
Table 6 summarises the main benefits and disadvantages of the managing contractor model.⁷

Table 6: Managing contractor - benefits and disadvantages	
Benefits	Disadvantages
<p>Design control: The Council maintains a role in the development and approval of the design throughout the project.</p> <p>Design risk: The managing contractor may bear some design risk.</p> <p>Fast track: The Council can fast track a project as some trade packages can be tendered and constructed whilst others are still being designed.</p> <p>Cost certainty: Where a GMP payment structure is used, the Council has relatively high cost certainty with some cost overruns borne by the managing contractor.</p> <p>Incentives for cost reduction: The Council may achieve lower than expected costs as the managing contractor is incentivised to achieve savings below the GMP.</p> <p>Administrative efficiency: For the construction component, the Council is relieved of the burden of tendering and contract management of the trade packages. The managing contractor bears the risk of trade contract documentation and performance.</p> <p>Buildability: Early involvement of the managing contractor allows the managing contractor to consider the 'buildability' of the design and potentially create construction efficiencies.</p>	<p>Cost certainty: Setting cost targets for trade packages and the GMP is difficult with an uncertain scope and incomplete design. The Council shares some of the risk of cost overruns, particularly up to the completion of project design.</p> <p>Uncertain scope: The scope may not be fully resolved for the whole project, prior to the start of construction. This increases the risk of 'scope-creep'.</p> <p>Incomplete design: The detailed design is not usually complete on all elements before construction commences. This can lead to issues with integration of works, variations, programming and accuracy of costings.</p> <p>Resource intensive: The collaborative approach can be resource intensive for the Council and requires a reasonably high level of expertise in the relevant field.</p> <p>Cost: The Council pays a premium for the managing contractor to bear the risks associated with this role.</p> <p>Limited innovation: Fragmented approach limits opportunities for innovation.</p> <p>Whole-of-life risk: The Council retains whole-of-life asset risk. There is little incentive for the managing contractor/trade contractors to minimise life cycle costs.</p>

⁷ National Public Private Partnership Guidelines, n1.

8. Alliance (single TOC)

Figure 7: Project alliance structure



8.1 Description

Alliance contracting is a form of procurement where the Council and commercial participants (also referred to as 'non-owner participants' – typically a designer, contractor and/or key supplier) enter into an agreement for the delivery of a project. Under an alliance, the aim is to align the participants' objectives to maximise performance, proactively manage risk, reduce time and cost, and achieve innovative solutions.

The alliance single TOC model is a highly collaborative process. An alliance is typically characterised by:

- **collective assumption of all risk:** all participants jointly assume and manage every risk relevant to the success of the project
- **no dispute:** a 'no fault, no blame' regime enables the alliance leadership team to ensure tensions are resolved amongst participants, and excludes the ability to issue legal proceedings against each other, except in the case of wilful default
- **Target Out-Turn Cost (TOC):** all participants develop a project proposal which specifies the TOC to be achieved during the delivery phase. The owner-participant (the Council) is responsible for the cost of the project up to the TOC
- **compensation framework:** provides for:
 - direct cost reimbursement on an open book basis
 - a fee to contribute to the participants profit and corporate overhead
 - a gain share/pain share (or risk/reward) regime where cost savings and cost overruns against the TOC are shared equitably among participants.

- **good faith:** all participants are required to act in good faith and with integrity to make unanimous, best-for-project decisions.

There are various forms of alliances, including:

- **project alliances:** suitable for the construction/design and construction of a single project
- **program alliances:** suitable for bundled projects where the specific number, scope, definition and budgets of the projects are unknown
- **services alliances:** suitable for the long term provision of service where the Council wishes to bring in external expertise (for instance, asset operations and maintenance)
- **sub-alliances:** subordinate to an alliance and an alternative to a subcontract, or sub-consultancy agreement.

An effective alliance requires a positive, no-blame culture and willing participants. Accordingly, selection of project participants is critical for the success of any alliance project.

8.2 Suitable projects

Alliances are likely to deliver enhanced value for money where a traditional risk strategy is not appropriate. Creating alliances may be suitable where there is one or more of the following characteristics:

- the project is complex and involves unpredictable risks, which if transferred to the private sector using traditional delivery methods, would be cost prohibitive
- the scope cannot be clearly defined at the outset which makes traditional pricing difficult
- there is a compressed delivery programme which requires a flexible approach to incorporate economic, political or stakeholder considerations
- the project involves emerging technology or innovative solutions that need to be further explored
- the Council is well resourced and has sufficient expertise to participate in the alliance with the commercial participants.

An alliance approach was used successfully by local government in Queensland (originally six Councils) for the Southern Regional Water Pipeline. The project involved the construction of a 100 kilometre water pipeline between Ipswich and the Gold Coast. Key project risks included land acquisition for the pipeline, environmental approvals and a high level of uncertainty as to whether the design would be a one way flow or a 'duplex configuration'. An alliance approach was adopted due to the uncertain project scope, complex stakeholder issues and the inability to transfer certain risks to a contractor.⁸

Brisbane City Council's Go Between Bridge is another good example of a local government alliance project. A case study of this project is included in Annexure 5, *Case Studies*.

Alliancing should not be used to remedy shortfalls in project planning or documentation, mitigate time pressures arising from poor project planning or solely as a means to attract industry participation. Alliancing may also be unsuitable where a potential commercial participant's product is an integral part of the project.⁹

⁸ *Procurement Guidance Series, Alliance Contracts: Relational Procurement Options – Alliance and Early Contractor Involvement Contracts*, Queensland Government Chief Procurement Office (1 July 2008) p 18.

⁹ *Procurement Guidance Series, Alliance Contracts: Relational Procurement Options – Alliance and Early Contractor Involvement Contracts*, see n8, p 20.

8.3 Benefits and disadvantages

Table 7 summarises the main benefits and disadvantages of the single TOC alliance model.¹⁰

Table 7: Alliance (single TOC) – benefits and disadvantages	
Benefits	Disadvantages
<p>Shared design responsibility: The Council shares responsibility with other alliance participants to ensure the design is appropriate.</p> <p>Highly flexible: Alliancing arrangements accommodate significant scope changes and design modification during construction.</p> <p>Incentive for efficiency: The sharing of both risks and benefits encourages the Council and other participants to work together to meet time and cost targets.</p> <p>No-blame culture: Adversarial processes are discouraged, minimising time and cost delays.</p> <p>Accommodates complexity: This method accommodates high risk and uncertain projects, which may otherwise be undeliverable.</p> <p>Incentive for innovation: Early involvement of non-owner participants provides opportunities for innovation.</p> <p>Administrative efficiency: Can be achieved through integration of project management.</p> <p>Stakeholder management: The structure enables good stakeholder management.</p> <p>Buildability: Early contractor and designer involvement allows all participants to consider the 'buildability' of the design, and creates construction efficiencies.</p> <p>Commitment to best solutions: Participants are incentivised to achieve 'best for project' solutions by the payment structure.</p> <p>Early commencement: It is relatively quick and easy to commence project development, as there is scope to resolve design and construction issues after commencement.</p>	<p>Collaboration risk: Success is contingent upon maintaining a good relationship between all participants, and being committed to collaboration, open communication and teamwork. For long term service alliances, this risk is exacerbated by staff turnover at the Council and the commercial participants over time.</p> <p>Resource intensive: Creating and maintaining alliance relationships is potentially expensive and resource intensive for all involved parties. It also requires the involvement of senior staff members .</p> <p>High risk: The Council is largely liable for cost and other unspecified risks.</p> <p>Uncertain costs: There is limited cost certainty.¹¹</p> <p>Design risk: The Council is liable for design risk, including fitness-for-purpose risk.</p> <p>Dispute resolution: The Council has limited recourse to dispute resolution procedures in the event of project failure.</p> <p>Less competitive project cost: The complexity of the project may attract a smaller pool of tenderers and result in less pressure to deliver value for money. Tenders for commercial participant roles may be overly focused on non-financial criteria.</p> <p>Whole-of-life risk: The Council retains whole-of-life risk. There is little incentive on commercial participants to minimise life cycle costs.</p>

¹⁰ See n9.

¹¹ Project costs for the alliance delivery model reportedly exceed the business case cost estimate by an average of 50 per cent; see n2 (although this may be because the alliance model is often used for projects with an uncertain scope or uncertain risks).

8.4 Competitive alliance

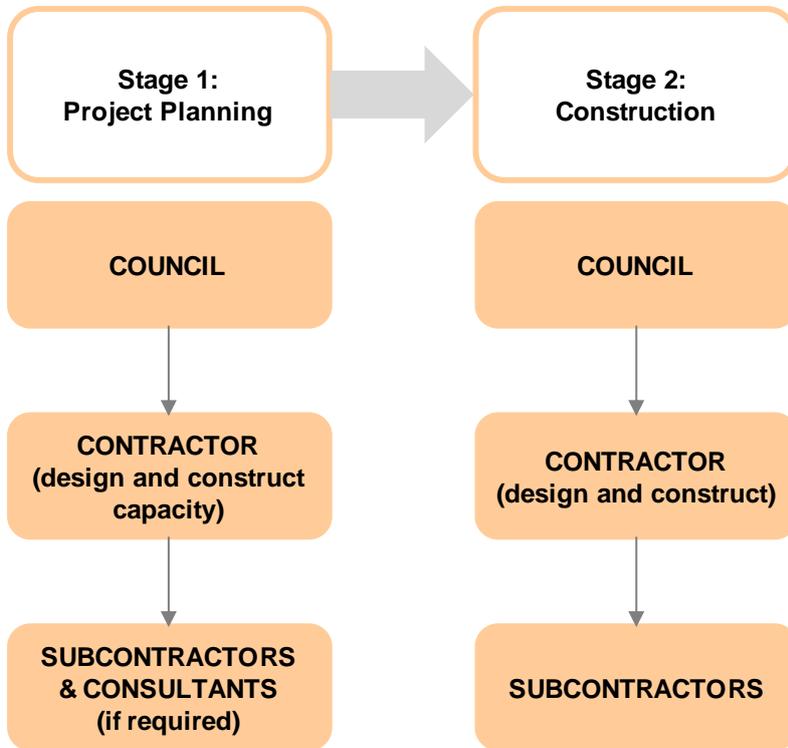
A modified alliance model has developed in response to criticisms of the 'pure' or 'single TOC' alliance model described above. This is referred to as the competitive alliance model. It shares features with the single TOC alliance, with the key difference being that under a competitive alliance, price tension is maintained between potential alliance participants as they have to include a TOC in their tender for the role. This is then evaluated by the Council – as part of the tender process – and forms a key criterion in the appointment of a commercial alliance participant.

The benefits and disadvantages of the competitive alliance model are summarised in Table 8.

Table 8: Competitive alliance – benefits and disadvantages	
Benefits	Disadvantages
<p>As for single TOC alliance except:</p> <p>Competitive pricing: The TOC is developed in a competitive tender process, potentially achieving better price outcomes.</p> <p>Performance incentives: Performance measures are developed in a competitive tender process, potentially achieving better value for money.</p> <p>Time: The completion date is determined in the competitive tender process, potentially achieving quicker project completion.</p> <p>Certainty of scope: For the purposes of tendering, the scope needs to be more developed than under a single TOC alliance.</p>	<p>As for single TOC alliance except:</p> <p>Longer lead time: Preparation for tendering will require more input from the Council and a longer lead time than under a single TOC alliance.</p> <p>Tender process cost: The cost of the tender process will be higher than under a single TOC alliance.</p> <p>Innovation: The requirement for a more developed scope may diminish opportunities for innovative solutions compared with a single TOC alliance.</p>

9. Early Contractor Involvement (ECI)

Figure 8: ECI structure



Key features

- the Council appoints the contractor early in the project development stage
- The contractor is selected on non-price criteria
- A two stage procurement process is adopted
- stage 1: the contractor and the Council collaborate to produce a design and agree a cost (similar to an alliance)
- stage 2: the contractor is appointed to complete the design and construction of the works (similar to a design and construct contract)
- the contractor is paid on a costs incurred basis for stage 1, and on a lump sum or schedule of rates basis for stage 2.

9.1 Description

The Early Contractor Involvement (ECI) model is a two stage procurement process developed to capture the benefits of alliancing during the project planning phase and the certainty of the design and construct approach during the construction phase.

Its introduction in Australia is relatively recent, however it has been used for some time in the United Kingdom by the Highway Authority. It was developed, in part, to address concerns regarding the highly resource intensive nature of alliancing for the public sector.

Stage 1 is similar to an alliance arrangement. A contractor is appointed at the beginning of the project planning stage, often as soon as the approval of the business case. The contractor is generally selected based on non-price criteria (such as capability, capacity, technical expertise, experience) and is sometimes also appointed on price (including rates for personnel and plant, and margin for overhead and profit).

During stage 1 the contractor is usually paid on the basis of an hourly rate or some other fixed rate of remuneration.

The contractor and the Council work together to develop the project scope and produce a design to the point where it can be accurately priced. Project risks are identified and allocated for the purposes

of stage 2, and a program for delivery is developed. The Council is heavily involved in stage 1.¹² At the end of stage 1, the contractor submits a price, known as the 'risk adjusted price', to undertake the design and construction works in stage 2.

Stage 2 relates to design completion and the construction phase of the project, and in the ECI model it is akin to a design and construct arrangement. As such, the contractor completes the design and constructs the works at the agreed risk adjusted price, subject to variations. Payment is usually based on a lump sum price or a schedule of rates, depending on the risk profile of the project. The Council's involvement in stage 2 is less intensive than in stage 1. For this reason, the Council need only maintain a small project team, much the same as for a design and construct model.

There are a number of common variations applied to the ECI model, including:

- a single ECI contract covering stages 1 and 2, or an ECI contract for stage 1 and a separate design and construction contract/deed for stage 2
- basing the stage 2 contract on a managing contractor model, rather than a design and construct model. This means there is less price certainty for the Council, yet potentially more incentive for innovation and cost savings
- the appointment by the Council of two preferred contractors during stage 1 to maintain competitive tension (although the benefits of this need to be weighed against the cost to the Council of running simultaneous stage 1 processes, including the costs payable to the contractors and the pressure on Council resources)
- Early Tender Involvement (ETI) which involves selecting two or three potential contractors to participate in a value engineering and refinement process for the project. This is followed by the bidding of a schedule of rates or lump sum price based on the refined design (which may mean that stage 2 is more akin to a construct only model than a design and construct approach).¹³

9.2 Suitable projects

The ECI model may be particularly useful for large and complex projects where a traditional risk strategy is not appropriate, including those:

- with variable scope which would benefit from the early involvement of a specialist contractor
- where emerging technology or innovative solutions need to be further explored
- likely to involve construction risks which are manageable and/or can be affordably priced
- where the Council is well resourced and has sufficient expertise to participate in the stage 1 alliance-type process with the contractor.

The ECI model is complex and does not suit small to medium projects or projects involving highly uncertain or unpredictable construction phase risks. It has been used most extensively in Australia by the Main Roads authorities in Queensland and Western Australia.¹⁴

¹² *Fact Sheet: Early Contractor Involvement (ECI)*, Queensland Department of Main Roads (March 2007).

¹³ *Discussion Paper on ECI and ETI Procurement, Reimbursement of Tendering Costs to Competing Contractors*, M Wilson and S Abson, Queensland Major Contractors Association (October 2010).

¹⁴ For example, the Great Northern Highway Kimberly Project, Main Roads Western Australia. See also n12.

9.3 Benefits and disadvantage

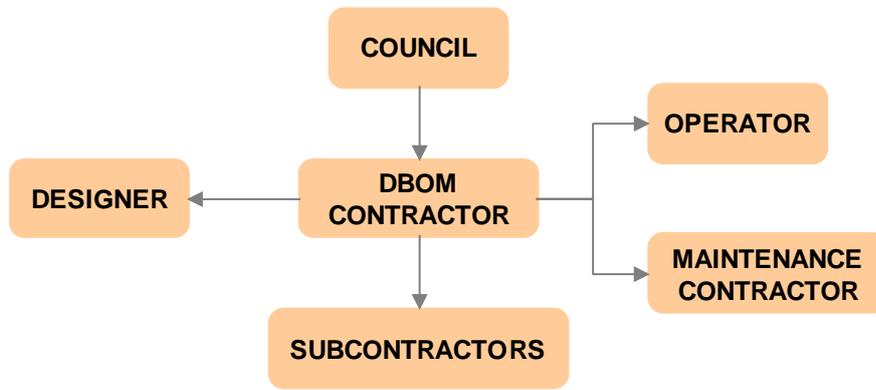
Table 9 summarises the main benefits and disadvantages of the ECI model.¹⁵

Table 9: ECI – benefits and disadvantages	
Benefits	Disadvantages
<p>Shared design responsibility: The Council shares responsibility with the contractor to ensure the design is appropriate.</p> <p>Flexibility: Arrangement accommodates significant scope changes and design modification during stage 1.</p> <p>Collaborative: Stage 1 is highly collaborative, with the Council and the contractor working together to develop the scope, design, program, risk allocation and price, arguably minimising the potential for disputes during stage 2.</p> <p>Cost certainty: The cost becomes relatively certain before construction commences.</p> <p>Accommodates complexity: This method accommodates a level of uncertainty and complexity during stage 1.</p> <p>Incentive for innovation: Early involvement of the contractor provides opportunities for innovation.</p> <p>Resourcing: During stage 2 (construction), there is limited demand on the Council's resources.</p> <p>Buildability: Early contractor involvement allows the contractor to consider the 'buildability' of the design and create construction efficiencies.</p> <p>Early commencement: It is relatively quick and easy to commence project development as there is scope to resolve design and construction issues after commencement.</p> <p>Time: Once stage 1 is complete, there can be a relatively seamless progression to stage 2 (with no separate tender process for the construction stage).</p>	<p>Collaboration risk: Success is contingent upon maintaining a good relationship with the contractor and being committed to collaboration, open communication and teamwork.</p> <p>Resource intensive: Creating and maintaining a partnering approach during stage 1 is potentially expensive and resource intensive for all parties. This will require the involvement of senior staff.</p> <p>Uncertain costs: During stage 1, the cost to the Council for the contractors' services is uncertain. In addition, there is little certainty regarding project costs until the end of stage 1, when the risk adjusted price is confirmed.</p> <p>Design risk: The Council may retain some design risk for specified requirements and the extent of its contribution to the development of the design.</p> <p>Time: Sufficient time must be allowed for stage 1 or benefits of the process may be lost.</p> <p>Less competitive project cost: The complexity of the project may attract a smaller pool of tenderers and result in less pressure to deliver value for money. Tenderers may be overly focused on non-financial criteria.</p> <p>Whole-of-life risk: The Council retains whole-of-life risk. There is little incentive for the contractor to minimise life cycle costs.</p>

¹⁵ See n14.

10. Design, Build, Operate and Maintain (DBOM)

Figure 9: DBOM structure



Key features

- the Council prepares a detailed design brief
- the Council engages a single contractor to design, construct, operate and maintain the asset
- the contractor is primarily responsible for design, construction and operation risks
- the life cycle costs are considered
- the Council retains ownership of the asset.

10.1 Description

The DBOM model is similar to a design and construct model except, as the name suggests, it also includes operation and maintenance activities to be undertaken once the asset has been constructed. The operation of the asset is transferred back to the Council at the end of a specified operations and maintenance period.

The Council manages the production of the design brief, either itself or via external consultants. Following this, the Council engages the DBOM contractor to design and construct the asset for a fixed, lump sum price, and to operate the asset and perform maintenance services for a specified period at an agreed price or remuneration basis. The DBOM contractor does not own the asset, but is contractually licensed to operate and maintain it for a specified period. The Council funds the project without a capital contribution from the DBOM contractor.

10.2 Suitable projects

The DBOM model is only suited to projects where the completed asset has some operational capacity and where:

- the Council requires some control over the overall design, but not the detailed design
- the scope (including operational elements) is well defined and relatively impervious to change
- whole-of-life efficiencies are a priority or advantage.

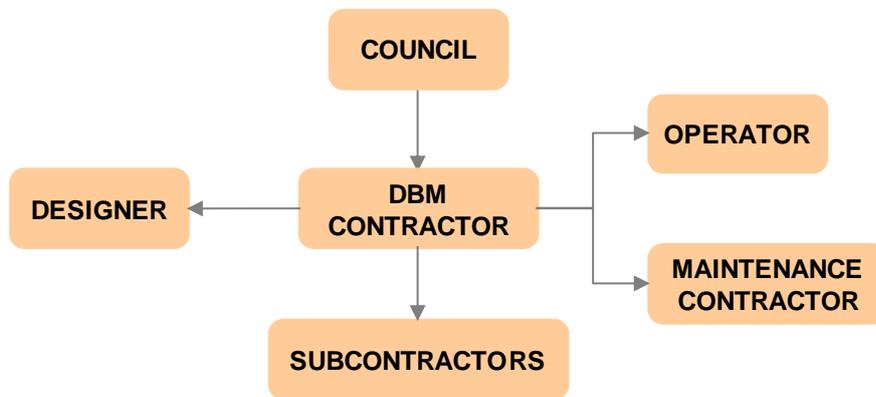
10.3 Benefits and disadvantages

Table 10 summarises the main benefits and disadvantages of the DBOM model.

Table 10: DBOM – benefits and disadvantages	
Benefits	Disadvantages
<p>Single line of responsibility: The contractor is responsible for the design, construction, operation and maintenance of the asset, reducing the potential for disputes over design deficiencies, construction defects and delays, and operating/maintenance errors.</p> <p>Fast track: It is possible for construction to start before the design documentation is completed.</p> <p>Administrative efficiencies: Combining the design, construction, operation and maintenance elements into one contract achieves a high level of administrative efficiencies for the Council.</p> <p>Limited design liability: The Council shifts substantial design risk to the contractor, generally including fitness for purpose.</p> <p>Certainty of price: A fixed, lump sum price is payable for the design and construction of the asset, subject to limited contractually agreed adjustments. The price or remuneration basis of operation and maintenance services is fixed well before the asset is complete. This provides long term cost certainty to the Council.</p> <p>Buildability: As designer and builder, the contractor has some opportunity to consider the 'buildability' of the design and create construction efficiencies.</p> <p>Whole-of-life cost/quality: The contractor bears some of the whole-of-life risk and is incentivised to contemplate ongoing operating and maintenance costs in the design.</p> <p>Operational risks: The contractor bears some or all of the operating risks (depending on the operational period and the design life of the asset).</p>	<p>Control: The Council has less direct control over the quality and design than for a construct only or design and construct model. The Council has less control over the operation of the asset post-construction.</p> <p>Council liability: The Council may retain liability for elements of the design brief (including any preliminary design).</p> <p>Cost: The Council may pay a premium to transfer design, construction, operation and maintenance risks to the contractor.</p> <p>Limited innovation: The contractor has little input into the project's scope and the Council's requirements, limiting opportunities for innovation.</p> <p>Tender period: The tender period is generally longer than for the construct only or design and construct models. This allows tenderers to assess the scope and design risks as well as the operation and maintenance risks.</p> <p>Cost overruns and delays: The Council may be liable for some cost overruns and delays (as permitted under the contract).</p> <p>Pool of tenderers: The pool of potential tenderers may be reduced by combining the design, construction, operation and maintenance roles.</p>

11. Design, Build and Maintain (DBM)

Figure 10: DBM structure



Key features

- the Council prepares a detailed design brief
- the Council engages a single contractor to design, construct and maintain the asset
- the contractor is primarily responsible for design, construction and maintenance risks
- the life cycle costs are considered
- the Council retains ownership of the asset.

11.1 Description

The DBM model is similar to the DBOM model except that the contractor does not operate the asset post-construction. Like the DBOM model, the contractor provides maintenance services for a specified period at a basis of remuneration agreed in the tender period.

11.2 Suitable projects

The DBM model is suited to the same types of projects as the DBOM model except that:

- the asset constructed is not an operational facility and requires ongoing maintenance (for example, a roads project), or
- the asset constructed is an operational facility and the Council wishes to operate the facility itself or via a separate specialist contractor (for example a museum, kindergarten or leisure centre with a co-generation plant), and will benefit from the contractor providing ongoing maintenance services.

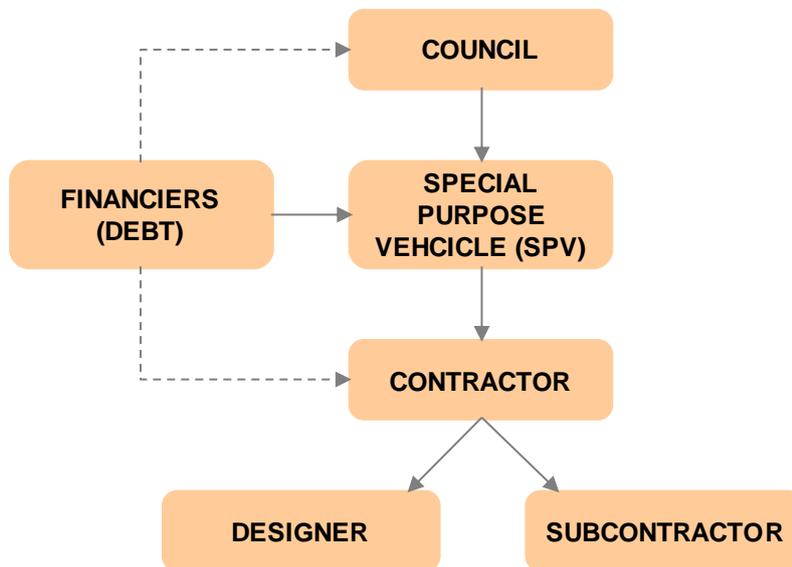
11.3 Benefits and disadvantages

The benefits and disadvantages of the DBM model are summarised in Table 11.

Table 11: DBM – benefits and disadvantages	
Benefits	Disadvantages
<p>Single line of responsibility: The contractor is responsible for the design, construction and maintenance of the asset, thereby reducing the potential for disputes over design deficiencies, construction defects and delays and maintenance errors.</p> <p>Fast track: It is possible for construction to start before the design documentation is completed.</p> <p>Administrative efficiencies: By combining the design, construction and maintenance elements into one contract, the Council achieves administrative efficiencies.</p> <p>Limited design liability: The Council shifts substantial design risk to the contractor, generally including fitness for purpose.</p> <p>Certainty of price: A fixed, lump sum price is payable for the design and construction of the asset, subject to limited contractually agreed adjustments. The price or remuneration basis of maintenance services is fixed well before the asset is complete providing long term cost certainty to the Council.</p> <p>Buildability: As designer and builder, the contractor has some opportunity to consider the 'buildability' of the design and create construction efficiencies.</p> <p>Whole-of-life cost: The contractor bears some of the whole-of-life risk and is incentivised to contemplate the ongoing maintenance costs in the design.</p> <p>Operational control: The Council has control over the operation of the asset post-construction and the quality of services provided to the community.</p>	<p>Control: The Council has less direct control over the quality and design than for a construct only or design and construct model.</p> <p>Design liability: The Council may retain liability for elements of the design brief (including any preliminary design).</p> <p>Operation risk: The Council bears the operational risks.</p> <p>Cost: The Council may pay a premium to transfer design, construction and maintenance risks to the contractor.</p> <p>Limited innovation: The contractor has little input into the scope development and the Council's requirements, limiting opportunities for innovation.</p> <p>Tender period: A longer tender period is usually required than for the construct only or design and construct models. This allows tenderers to assess the scope and design risks and the maintenance risks.</p> <p>Cost overruns and delays: The Council may be liable for some cost overruns and delay (as permitted under the contract).</p> <p>Pool of tenderers: The pool of potential tenderers may be reduced by combining the design, construction and maintenance roles.</p>

12. Design, Build and Finance (DBF)

Figure 11: DBF structure



Key features

- the Council defines its requirements in a performance specification
- the Council enters into an agreement with the project company to design, construct and finance the asset
- the project is typically 100 per cent debt financed by the project company
- the Council retains ownership of the asset
- the project company is paid either progressively throughout the construction period (with the bulk of the price being paid upon practical completion) or at practical completion.

12.1 Description

The DBF model is a form of Public Private Partnership (PPP).¹⁶

Under the DBF model the Council enters into an agreement with a project company to design, construct and finance an asset. The project company is typically set up as a Special Purpose Vehicle (SPV) by the contractor and the financier, and is responsible for arranging the debt financing for the project.

The Council's requirements for the project are set out in a performance (output) specification.

Ownership of the asset is retained by the Council at all times, with access rights granted to the project company for the purposes of construction.

The bulk of the construction fee is not paid until the project company reaches practical completion. This incentivises the project company to complete construction on time and in accordance with the specification.

The project company arranges finance for the upfront capital expenditure. Such financing is generally comprised of 100 per cent debt financing, without the equity contribution common to other PPP models.

By way of example, payment may be structured such that the Council:

- pays the bulk of the construction fee (for example 90 per cent) on practical completion and the balance on the expiration of the defects liability period, or

¹⁶ This model has been successfully used on many local government major projects in Ontario, Canada.

- makes progressive payments throughout the construction period (for example up to 50 per cent of the construction fee), a bulk payment on practical completion (for example 40 per cent) and the balance on the expiration of the defects liability period.

The transaction costs involved in setting up a DBF procurement are significantly less than the costs for more typical PPP arrangements. This is because there are fewer participants (no separate equity participants) and the DBF model is less complex as it does not include a maintenance and/or operations component.¹⁷

12.2 Suitable projects

The DBF model is a less complex type of PPP as it does not include a maintenance or operations component. The reduced complexity of this model provides additional advantages when compared with traditional PPP models, including lower establishment costs, shorter procurement processes and simplified contractual arrangements.

The DBF model suits projects that:

- involve the refurbishment or expansion of an existing asset, making it difficult to transfer the post construction maintenance and operation risks (and the overall whole-of-life risks) to the contractor – this is the most common reason supporting the use of the DBF model
- derive little benefit from engaging the private sector to undertake operation and maintenance services post completion, or if the Council wishes to engage a specialist contractor for the operation and maintenance services
- necessitate the development of complex or high risk social infrastructure
- require a large scale asset development or a series of bundled smaller capital works projects
- are well suited to the private sector, in terms of capability and capacity
- can realise private sector efficiencies or expertise relevant to the design and construction phases
- have a relatively certain scope of the construction works, and can be measured and priced
- can allocate key design, construction and financing risks to the private sector.

¹⁷ *Alternative Financing and Procurement in Ontario, Canada*, David Livingston, President and CEO of Infrastructure Ontario, www.infrastructureontario.com.ca.

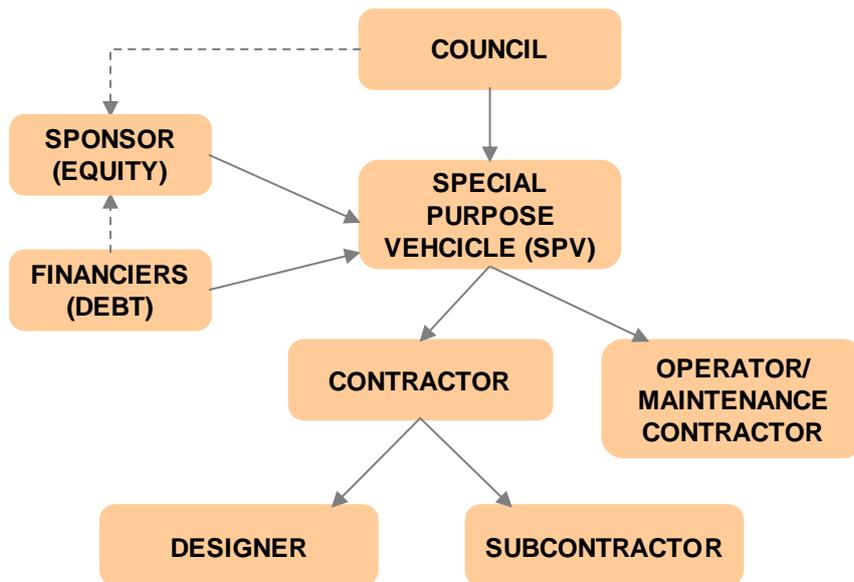
12.3 Benefits and disadvantages

The benefits and disadvantages of the DBF model are summarised in Table 12.

Table 12: DBF – benefits and disadvantages	
Benefits	Disadvantages
<p>Single line of responsibility: The project company is responsible to the Council for the design, construction and financing of the asset, thereby reducing the potential for disputes over design deficiencies, construction defects and delays.</p> <p>Tender period: The tender period is significantly shorter and less complex than for other PPP arrangements due to the model not including maintenance or operational components.</p> <p>Tendering costs: Likely to be less than for other PPP models.</p> <p>Operational control: The Council has control over the operation/maintenance of the asset post-construction.</p> <p>Administrative efficiencies: By combining the design, construction and financing elements into one contract, the Council can achieve some administrative efficiencies.</p> <p>Transfer of risk: Substantial risk is shifted to the project company until the completion of the construction phases of the project including design and fitness for purpose risk, and the construction and financing risks.</p> <p>Incentive to complete: By linking payment to the completion of milestones or handover of the asset, and by placing the construction financing risk on the contractor, a significant incentive exists to complete the project on time and to the satisfaction of the Council.</p> <p>Affordability: The Council does not have to make a capital contribution to develop the asset until the asset is complete.</p> <p>Buildability: As designer and builder, the project company can consider the 'buildability' of the design and realise construction efficiencies.</p> <p>Stakeholder engagement: Can be driven by the private sector party.</p>	<p>Control: The Council has less direct control over the quality and design of the project than for other models.</p> <p>Project cost: The Council is likely to pay a premium to transfer the design and construction risks to the project company, and to cover higher private sector financing costs.</p> <p>Resource intensive: The project establishment and tendering phases are resource intensive for the Council.</p> <p>Pool of tenderers: May be reduced by combining the design, construction and finance obligations.</p> <p>Variations: The Council's ability to direct variations is limited once the contract has been awarded. Variations may result in significant cost increases.</p> <p>Stakeholder engagement: The Council may have less control over the stakeholder engagement process.</p> <p>Project failure: If the project fails, the Council may need to exercise its 'step-in' rights and take over the construction phase using public funds.</p> <p>Affordability: On handover of the asset, the Council must fund the capital costs of design and construction of the asset as well as the ongoing operating and maintenance costs.</p> <p>Whole-of-life risk: The Council retains whole-of-life asset risk. There is little incentive for the designer/contractor to minimise life cycle costs.</p>

13. Design, Build, Finance and Operate (DBFO) and Design, Build, Finance and Maintain (DBFM)

Figure 12: DBFM/DBFO structure



Key features

- the Council defines its requirements in a performance specification
- the Council enters into a long term agreement with the project company to design, construct, finance and operate/maintain the asset
- the project is financed by the project company through a combination of sponsor equity and debt finance
- the Council retains ownership of the asset and grants rights to the project company under a long term lease, licence or concession
- the project company is paid an availability charge or service fee during the operation/ maintenance period.

13.1 Description

The DBFO and DBFM arrangements are a form of PPP.¹⁸

Under the DBFO/DBFM model, the Council enters into a long term agreement with a project company to design, construct, finance and maintain and/or operate an asset for a specified period. The project company is typically set up as a Special Purpose Vehicle (SPV) by a private sector consortium of sponsors, who contribute equity to the project company. Debt financing is arranged by the project company for the project. The Council's requirements for all phases of the project are set out in a performance based or output specification, rather than a prescriptive specification. This provides an opportunity for private sector innovation in the design, construction and service elements.

The Council retains ownership of the asset and grants rights to the project company under a long term lease, licence or concession. The operation/ maintenance period (service period) may be as short as 10 years, but is usually much longer, say 15 to 50 years, to enable the project company to meet ongoing operation/maintenance expenses, repay the debt financing, and return a profit to the sponsors. At the end of the service period, the Council takes over the operation/maintenance of the asset or enters into a new contract. In some cases the facility may be redundant.

¹⁸ In New South Wales, the 'Department of Local Government Guidelines on the Procedures and Processes to be followed by Local Government in Public-Private Partnerships' (September 2005) must be followed for local government PPP projects.

Under this arrangement, the Council is usually not required to make any upfront payment for the design or construction of the asset. The project company finances the upfront capital expenditure and recovers these costs by way of an availability charge or service fee, payable by the Council during the service period. The basis of such charges is agreed at the outset of the project. The availability charge/service fee is paid on a regular basis (for example monthly or annually) to the project company provided that specified performance criteria are being achieved. Where performance criteria are not being achieved, there will usually be an abatement mechanism in the contract to reduce the service fee payable by the Council.

The initial transaction costs in setting up a DBFO/DBFM arrangement can be high. This needs to be included as part of the overall value for money assessment of this delivery model.

13.2 Suitable projects

The DBFO/DBFM model is a type of PPP that is well suited to local government major projects, which are often social infrastructure projects that can be funded over the long term by the payment of an availability charge/service fee during the service period. In summary, the DBFO/DBFM model suits projects:

- involving the development of complex or high risk infrastructure, requiring large scale asset development and associated service provision, or a series of bundled smaller capital works projects and associated services over a long term
- involving significant capital investment in an asset which does not generate revenue (or generates a minimal or unpredictable revenue stream), but the project involves significant post construction operations or maintenance activities
- where the asset developed has a life span of at least 10 to 15 years
- where there is strong private sector capability and capacity to undertake the project
- where private sector efficiencies or expertise are an advantage
- that present an opportunity for innovation
- where the risk adjusted whole-of-life cost delivered by the private sector provides value for money compared with the cost to the Council of public delivery
- where significant project risks can be allocated to the private sector, although it is not appropriate or affordable to allocate demand/patronage risk
- for which the scope of the service output is relatively certain and can be measured and priced.

As with the DBF model, a DBFO/DBFM arrangement is useful in bringing forward projects the Council might not otherwise be able to fund due to large upfront capital expenditure, but where the Council can afford the long term service or availability charges.

The model can be applied to the development of a single large scale asset. It has also been successfully used for the long term maintenance of a Council's local road network where the project included a series of smaller capital works projects. See the Mornington Shire Council's Safer Local Roads case study in Annexure 5, *Case studies*.

Sometimes, it may be appropriate to use a hybrid arrangement that combines elements of the DBFM/DBFO model and another model. For example, a project may allocate some patronage risk to the private sector and offset this either with a balloon payment to the project company at the end of the construction period, or with a payment of smaller periodical availability payments during the operations phase.

13.3 Benefits and disadvantages

The benefits and disadvantages of the DBFM and DBFO models are summarised in Table 13.

Table 13: DBFM and DBFO – benefits and disadvantages	
Benefits	Disadvantages
<p>Single line of responsibility: The project company is responsible to the Council for the design, construction, financing and maintenance/operation of the asset, thereby reducing the potential for disputes over design deficiencies, construction defects and delays.</p> <p>Innovation: The use of a performance specification provides greater opportunity for innovative solutions.</p> <p>Long term cost savings: Private sector efficiencies and the integration of the project design, construction, financing and operation/maintenance can lead to long term cost savings when compared with traditional procurement.¹⁹</p> <p>Administrative efficiencies: By combining the design, construction financing and operation/maintenance elements into one contract, the Council achieves administrative efficiencies.</p> <p>Limited liability and transfer of risk: Substantial risk is shifted to the project company including design and fitness-for-purpose risk, construction, financing and operation/maintenance risks.</p> <p>Accelerated development: This approach may enable the Council to bring forward projects (and the associated community services), which would otherwise not be possible.</p> <p>Affordability: The Council does not have to outlay the upfront capital to develop the asset and is not required to make service payments until the asset is operating to the required standards. Payments by the Council are spread over the service period.</p> <p>Certainty of operating/maintenance costs: A pre-determined service fee or pricing structure is agreed for the operation and/or maintenance of the asset, providing long term cost certainty to the Council. This is an advantage for the Council's forward budget planning.</p>	<p>Limited control: The Council has less direct control over the quality and design of the project than for other models.</p> <p>Reduced output flexibility: The output specification is established at the outset of the project and can only be changed through processes set out in the contract.</p> <p>Performance specification: The success of the project is highly dependent on the quality of the performance specification prepared by the Council.</p> <p>Reduced budget flexibility: Requires a long-term commitment of Council funds, which reduces the flexibility of future Council policy and budgets.</p> <p>Project costs: The Council is likely to pay a premium to transfer project risk to the project company.</p> <p>Financing costs: The cost of borrowing is higher for the private sector than it is for the Council, and financing costs (such as interest costs, facility and establishment fees, financier legal costs etc.) will be a project cost factored into the bid by the project company for the project.</p> <p>Tender period: Given the complexity and long term nature of the arrangement, there is a longer lead time and tender/negotiation period compared with other models. This allows tenderers to assess the project scope and risks.</p> <p>Transaction costs: This method of financing generally involves high transaction costs (although this needs to be evaluated in the context of the overall value for money of the project).</p> <p>Resource intensive: During the project development and tendering stages, the project is resource intensive for the Council. It will require large teams, the involvement of high level staff and the appointment of external advisers and consultants.</p>

¹⁹ See for example the Mornington Peninsula Shire Council (Victoria) Safer Local Roads Project in Annexure 5, *Case studies*. The project cost for PPP style models such as DBFM, DBFO, BOOT, BOT and BOO reportedly exceed the business case estimate by an average of 5 per cent. This is lower than the traditional models (20 per cent) and alliance models (50 per cent) also assessed in the same study. See n2.

Table 13: DBFM and DBFO – benefits and disadvantages

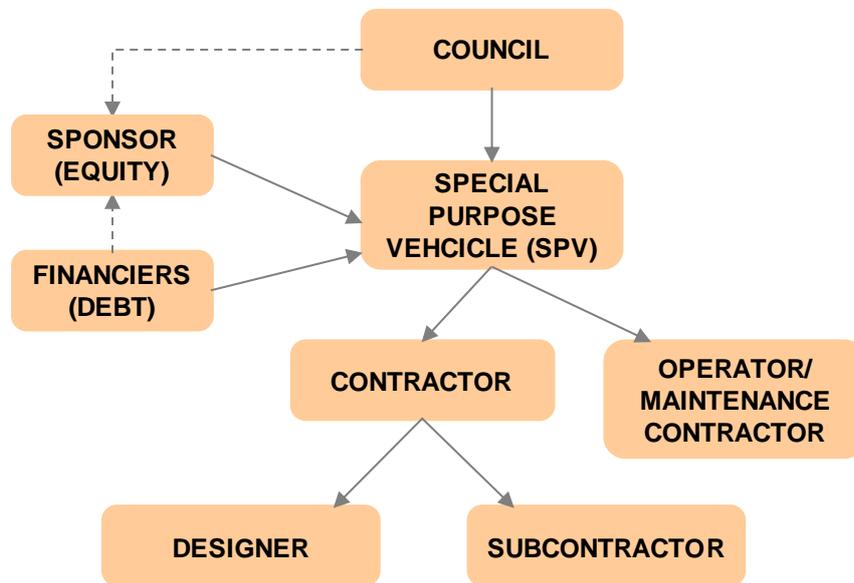
Benefits	Disadvantages
<p>Standard of services: The abatement regime incentivises the project company to maintain a high standard of services during the operating period.</p> <p>Control of core services: The Council may wish to retain control of its core services – this model provides scope for this.</p> <p>Buildability: As designer and builder, the project company can consider the 'buildability' of the design and create construction efficiencies.</p> <p>Whole-of-life risk: The project company bears the whole-of-life risk and, therefore, is incentivised to produce a high quality design that takes into account the ongoing operation and maintenance costs, and to deliver high quality construction work.</p> <p>Council resources: During the service period, there is only limited pressure on the Council's resources in relation to the project (although it is more intensive than for a BOT, BOOT or BOO as the Council must assess performance by the project company during the operating period, calculate abatements if required and make periodic payments).</p> <p>Stakeholder engagement: Can be driven by the private sector party.</p> <p>Refinancing risk: Depending on the length of the concession period, the refinancing risk may be borne by the project company.</p>	<p>Pool of tenderers: May be reduced by combining the design, construction, finance and operation/maintenance obligations.</p> <p>Variations: The Council's ability to direct variations is limited. Variations may result in significant cost increases.</p> <p>Operational control: The Council does not have direct control over the operation/maintenance of the asset post-construction.</p> <p>Stakeholder engagement: The Council may have less control over the stakeholder engagement process.</p> <p>Residual project risks/project failure: If the project company becomes insolvent or defaults on the financing, the Council may 'step-in' and asset and associated operation and maintenance obligations may be transferred to the Council, thereby increasing pressure on public funds and resources.</p> <p>Accounting: It is unlikely that the Council could achieve off-balance sheet treatment for any social infrastructure PPP.²⁰</p>

For further discussion on PPPs, see section 6 of Part B3, *Public private partnerships – private sector project financing*. This includes an overview of the financial elements of a PPP and a discussion of 'social infrastructure' and 'economic infrastructure'.

²⁰ For further information see *Infrastructure, Finance and Funding Reform*, Infrastructure Finance Working Group (IFWG) (April 2012) and the National PPP Guidelines, Practitioners Guide (December 2008) p 48-50.

14. BOT, BOOT and BOO

Figure 13: BOT/BOOT/BOO structure



Key features

- the Council defines its requirements in a performance specification
- the Council enters into a long term agreement with the project company to design, construct, finance, maintain and operate the asset
- the project is financed by a combination of sponsor equity and debt finance
- the project company usually owns the asset during the concession period
- the SPV transfers the asset back to the Council at the end of the concession period (except for a BOO project)
- the project company is entitled to the revenue generated by the asset during the concession period and retains the patronage risk during the concession period.

14.1 BOT and BOOT

Description

The Build, Operate and Transfer (BOT) and Build, Own, Operate and Transfer (BOOT) models²¹ are a form of PPP similar to the DBFO model²². Like the DBFO model, the Council enters into a long term agreement with the project company (of 10 to 50 years) to design, construct, finance, maintain and operate an asset for a specified period (concession period). The project company is typically set up by a private sector consortium of sponsors (which likely includes the construction contractor and operator). The sponsors contribute equity to the project company, and the project company arranges debt financing for the project. Also like the DBFO model, the Council's requirements for the project are set out in a performance or output based specifications (rather than a prescriptive specification) which provides an opportunity for innovative delivery of the project requirements.

The key distinguishing features of the BOT/BOOT models are that:

- generally the project company owns the project assets during the concession period and must transfer those back to the Council at the end of that period (although in some BOT projects, the Council may retain ultimate ownership of the asset and rights to deliver the associated services)

²¹ BOT and BOOT are often used interchangeably. Some jurisdictions most commonly refer to BOT projects, however in Australia this model is more often referred to as BOOT. Put simply, the difference is that in BOOT projects, the project company always owns the project assets, whereas in a BOT arrangement the project company does not always own the asset, yet is still entitled to revenues generated by the project.

²² In New South Wales the *Department of Local Government Guidelines on the Procedures and Processes to be followed by Local Government in Public-Private Partnerships'* (September 2005) must be followed for local government PPP projects.

- the project company is entitled to charge consumers to use the infrastructure. Under the concession agreement, asset tolls, user fees, rental and other charges are permitted, and this revenue is used to meet ongoing operation and maintenance expenses, to repay the debt financing, and to return a profit to sponsors.

This arrangement does not usually require a capital contribution from the Council to the upfront design and construction costs. Although a true BOT or BOOT model does not involve any contribution by the Council during the operational period, some projects will require a form of contribution from the Council by way of an availability charge to make the project viable. Alternatively, the private sector may not accept certain risks and the Council may be required to make a contribution during the operations period where certain risks materialise. This has been the case recently with some State toll road projects where the private sector has resisted bearing demand risk on such projects.

Suitable projects

The BOT/BOOT model suits projects:

- that involve the development of complex or high risk economic infrastructure
- that require a large scale asset development and associated service provision, or a series of bundled smaller capital works projects and associated services, over a long term
- where the asset developed has a life span of at least 10 to 15 years
- that have significant post construction operation and service components
- where the asset developed is capable of generating a revenue stream and the project company can derive of revenue directly from end users of the project or third parties (rather than government), and that revenue is capable of servicing debt and providing a return on equity contributions
- where it is practical and makes sense for the project company to own the asset
- where there is strong private sector capability and capacity to undertake the project
- where private sector efficiencies or expertise are an advantage
- that provide opportunity for innovation
- where the risk adjusted whole-of-life cost delivered by the private sector provides value for money compared with the cost to the Council of public delivery
- where substantial project risks can be allocated to the private sector, and it is appropriate and affordable to allocate demand/patronage risk to the private sector
- where the scope of the service output is relatively certain and can be measured and priced.

While this approach has been used successfully by State Governments in Australia to develop economic infrastructure, the model has rarely been used by local government. It may be useful for the construction and operation of large commercial car parks, the development of a commercial marina or the refurbishment of a regional airport.

As noted above, for some BOT/BOOT projects, asset generated revenue may need to be subsidised with availability or service charges paid by the Council (which is really a hybrid of the BOT/BOOT and DBFM/DBFO models.)

Benefits and disadvantages

The benefits and disadvantages of the BOT and BOOT models are the same as for the DBFO model except that:

- there can be added benefits in the Council not retaining the ownership risks (benefit)
- BOT and BOOT models are usually less resource intensive for the Council than the DBFO approach, particularly where there are no availability charges to be administered by the Council (benefit)
- this model does not provide much scope for the Council to retain control of its core services or otherwise maintain flexibility for future shifts in policy (disadvantage).

14.2 BOO

Description

The BOO model is similar to the BOT and BOOT models except that at the end of the concession period the project company does not transfer the asset back to the Council, rather it retains ownership. This means the project company retains the residual value of the assets at the end of the concession period.

Suitable projects

As with the BOT and BOOT models, the BOO arrangement is suited to projects involving the development of economic infrastructure where there is the capacity for the project company to derive a revenue stream from end users and third parties (rather than from government). However, given that the project company retains ownership of the asset at the end of the concession period, the BOO model is suitable where:

- the useful design life of the asset is covered by the concession period and the Council assesses that there is limited value in refurbishing or renewing the asset at the expiry of that period
- there is a business opportunity for the private sector participants in exploiting the asset at the end of the service period, which the Council would not/could not pursue
- the residual value of the asset at the end of the service period is used to abate any availability or service charges payable by the Council during the service period.

The BOO model has been successfully used for water treatment plants.

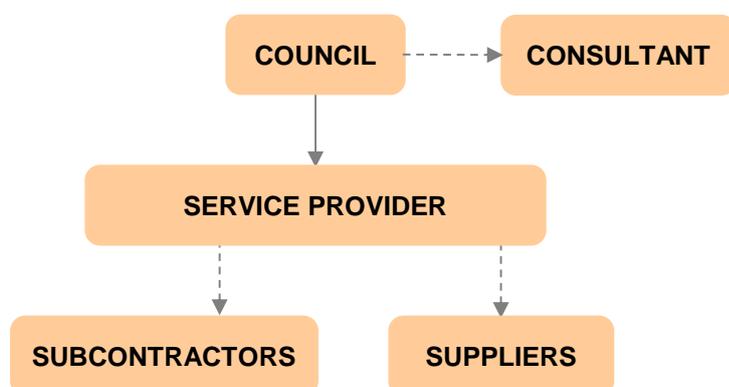
Benefits and disadvantages

The benefits and disadvantages of the BOO model are the same as for the BOT and BOOT models. In addition, there may be some benefit to the Council in not bearing the ownership risks at the end of the concession period.

For further discussion on PPPs, see section 6 of Part B3, *Public private partnerships – private sector project financing*. This includes an overview of the financial elements of a PPP and a discussion of 'social infrastructure' and 'economic infrastructure'.

15. Long term maintenance and infrastructure services contracts

Figure 14: Example maintenance and infrastructure services structure



Key features

- the Council or a group of Councils bundle associated services into a single contract/project
- the Council prepares a services specification (prescriptive or performance based)
- the Council enters into a long term services contract for the provision of maintenance and infrastructure services
- the service provider is primarily responsible for the risks associated with the provision of the services
- the Council retains ownership of any relevant assets.

15.1 Description

This section relates to long term contracting for bundled maintenance and infrastructure services. Unlike the other procurement models in this Part B2, this model does not include the construction of major infrastructure assets, although the contract may include minor upgrade or rehabilitation works during the term of the contract.

Under this model, the Council develops a specification for the services to be provided, either itself or via external consultants. Depending on the nature of the services and the project objectives, this may be developed as a prescriptive specification detailing each of the services to be delivered and the timing of the provision of those services. Alternatively, the Council may produce a performance or output based specification with a detailed KPI and abatement regime similar to a DBFM model. The services may include one or more of the following:

- routine and preventative maintenance
- repair and restoration
- condition reporting
- facilities management
- operational services.

The Council engages a service provider to perform the services for a specified period and at an agreed price or an agreed basis of remuneration. To achieve value for money outcomes, this will generally require the contract term to be at least 8 to 10 years. The service provider does not own the asset, but is contractually licensed to manage, operate and/or maintain it for a specified period. Payments may be based on services rendered in a particular period according to agreed prices or rates, or may be based on set periodic payments over the term of the contract (similar to an availability payment under the DBFM model).

These types of arrangements may also include a relatively small capital works component. Depending on the structure of the contract, the cost of any such capital works may be borne by the Council once the work is complete or may be financed by the service provider and recouped via ongoing periodic payments.

This is a flexible model which may take a number of forms. It can be applied to maintenance and infrastructure services in relation to a single large scale asset, and may also be used for the maintenance of a portfolio of assets such as the Council's local road network or the Council's building. It may involve a single Council bundling together a range of services under a single long term contract, or a number of Councils collaborating on the project by bundling together related services.

An example of where a single Council has used this approach is the Mornington Peninsula Shire Council's Safer Local Roads Project in Victoria. In this case the Council bundled routine road maintenance, periodic reseal/rehabilitation for roads, car parks and paths, maintenance and repair of stormwater pits and open drains over a 15 year period. The project also included a series of small capital works projects financed by the service provider. Payment for the services and the capital works projects were combined into a smooth, monthly availability payment. For further details, see the Mornington Shire Council's Safer Local Roads case study, Annexure 5, *Case studies*.

Another example is the St George Region of Councils' Waste Services project in New South Wales (NSW), where four Councils collaborated in relation to their waste collection and recovery services. There was no capital works component and the Councils collectively developed the project and jointly conducted the tendering process. However, the Councils entered into separate service contracts with the successful tenderer for differing terms to accommodate their existing contractual commitments (8 to 10 years). For more information, see the St George Region of Councils' Waste Services case study in Annexure 5, *Case studies*.

15.2 Suitable projects

Long term maintenance and services contracts are suited to a range of infrastructure service delivery projects. However, in each case, the overall project value and the term of the contract need to be substantial enough to attract the types of service providers who will be able to deliver on an optimal risk transfer for the Council and provide value for money through economies of scale. The approach may suit:

- maintenance and minor upgrades of the local road network
- street lighting
- building maintenance (either a single Council's buildings or, more likely, the bundling of building maintenance of two or more Council's)
- waste collection services
- water and sewerage maintenance, management or operation
- stormwater harvesting
- any other services supplied by the Council provided that there is sufficient value in the bundled services.

These types of arrangements are best suited to projects where there is a level of certainty that the demand for the services will be relatively stable or increase over the proposed contract term. The scope of the services to be provided (including operational elements where relevant) need to be well defined and relatively impervious to change over the contract term.

15.3 Benefits and disadvantages

Table 14 summarises the main benefits and disadvantages of long term maintenance and infrastructure services contracts.

Table 14: Long term maintenance and infrastructure services contracts – benefits and disadvantages	
Benefits	Disadvantages
<p>Single line of responsibility: The contractor is responsible for the operation and/or maintenance services under a single long term contract.</p> <p>Administrative efficiencies: By bundling services together under a single long term contract, the Council achieves a high level of administrative efficiency.</p> <p>Council resources: Once the contract has been awarded, there is only limited pressure on the Council's resources during the service period, when compared with annual or short term contracting.</p> <p>Certainty of price: The price or remuneration basis is fixed for the term of the contract, providing long term cost certainty to the Council. This benefits the Council's forward budget planning.</p> <p>Value for money/long term cost savings: Private sector efficiencies and the bundling of services over a long contract term can result in better value for money outcomes when compared with traditional procurement.</p> <p>Simplicity of contracting structure: The contracting structure is relatively simple.</p> <p>Transfer of risk: There is an opportunity to transfer some or all of the service risks to the service provider for the term of the contract.</p> <p>Supply chain management: Supply chain management is largely the service provider's risk for the term of the contract. This creates potential for cost savings and other efficiencies on the basis of the bundled services (increased volume) or long term nature of the contract.</p> <p>Depth of understanding: The long term nature of the arrangement usually means that the service provider has a deeper understanding of the local area, the requirements of the Council and the nature of the services required.</p> <p>Quality of services: Depending on how the contract is structured, the long term nature of the arrangement means there is potential to</p>	<p>Control: The Council may have less direct control over the services and/or the operation of the asset.</p> <p>Council liability: The Council may retain liability for the services specification.</p> <p>Limited innovation: If the service specification is prescriptive (rather than output based) the service provider has little input in scope development, thereby limiting opportunities for private sector innovation.</p> <p>Tender period: There is generally a longer tender period than for simple, short term service contracts to allow tenderers to assess the scope and risks.</p> <p>Heavy reliance on the quality of the specification: Failure to properly or fully specify the services exposes the Council to additional costs.</p> <p>Changes in technology/methodology: One of the key risks in long term contracting is that it can be hard to accommodate changes/improvements in technology or methodologies when providing the services during the contract term (although this may only be relevant to certain types of services).</p> <p>Variations: The Council's ability to direct variations is limited. Additionally, variations may result in significant cost increases.</p>

Table 14: Long term maintenance and infrastructure services contracts – benefits and disadvantages

Benefits	Disadvantages
<p>incentivise the contractor to provide good quality services/parts to minimise future maintenance requirements and replacement costs.</p> <p>Limited innovation: If the service specification is output based (rather than prescriptive) there is an opportunity for private sector innovation.</p> <p>Quality of tenderers: The quality of potential tenderers may be improved by bundling services into a larger, higher value contract.</p>	

16. Further resources

Commonwealth

Infrastructure Planning and Delivery: Best Practice Case Studies, Department of Infrastructure and Transport, Australian Government (December 2010).

National Public Private Partnership Guidelines, Volume 1: Procurement Options Analysis, Commonwealth of Australia, Infrastructure Australia (December 2008).

Victoria

Best Practice Procurement Guidelines 2013, Department of Planning and Community Development (2013).

In Pursuit of Additional Value – A benchmarking study into alliancing in the Australian Public Sector, State of Victoria, Department of Treasury and Finance (October 2009).

Local Government Procurement Strategy (September 2008), Department of Planning and Community Development.

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NSW Public Private Partnership Guidelines, New South Wales Treasury (August 2012).

Public Private Partnerships, New South Wales Treasury, www.treasury.nsw.gov.au/ppp.

Tendering Guidelines for NSW Local Government, Division of Local Government, Department of Premier and Cabinet, (October 2009).

Queensland

Capital Management Framework: Policy for managing risks in the planning and delivery of Queensland Government building projects, Department of Public Works (October 2012).

Capital Works Management Framework: Procurement Strategy and Contract Selection, Department of Public Works (November 2008).

Procurement Guidance: Planning for Significant Procurement, Queensland Government Chief Procurement Office, Department of Public Works (June 2010).

Procurement Guidance Services, Alliance Contracts: Relational Procurement Options – Alliance and Early Contractor Involvement Contracts, Queensland Government Chief Procurement Office (1 July 2008).

South Australia

Procurement: Good Practice Guide, Government of South Australia (undated).

Policies and Guides, Government of South Australia, State Procurement Board, www.spb.sa.gov.au/site/policies_guides.aspx.

Northern Territory

Procurement Directions, Northern Territory Government, Department of Business (March 2013).

Tasmania

Purchasing Goods and Services: A Guide for Government Buyers, Department of Treasury and Finance, Procurement and Property Branch (May 2013).

Western Australia

Infrastructure Procurement Options Guide, Centre for Excellence and Innovation in Infrastructure Delivery, Government of Western Australia (2010).

Procurement Practice Guide: A Guide to Products and Services Contracting, for Public Authorities, Government of Western Australia, Department of Finance, Government Procurement (January 2013).

General

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Vincec, C., 'It's a two way street: Competitive dialogue's ability to promote flexibility and fairness in public procurement' *Building and Construction Law Journal* (2011) Vol 27 Part 4, 221.