RICS PRACTICE INFORMATION

Developing a construction procurement strategy and selecting an appropriate route

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RICS®

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1 Introduction

This practice information covers construction procurement routes and the development of a procurement strategy, and explains procurement strategy and routes. The strategy will relate to the decisions affecting the selection of the team(s) and how they relate to each other; the route selected will identify who is responsible for each element of the project. The guidance aims to help the professional choose an appropriate route by setting out the various possibilities, with their advantages and disadvantages, and by indicating the factors that should be used in the decision-making process.

In this practice information, procurement includes the selection of an appropriate strategy and procurement route, but excludes tendering and contract selection which are addressed by other RICS publications.

The first part of this practice information covers the various routes that can be chosen. The second part deals with the practical application of the differing factors to be taken into consideration in establishing a procurement strategy, including identifying the client's primary objectives. The third part considers various practical considerations, and, indicates how to draw up a project execution plan. Appendix A comprises checklists to aid the professional advising a client on the selection of a route.

Guidance is given under the following headings, which conform to the Assessment of Professional Competence (APC):

- General principles (Level 1 – Knowing)
- Practical application (Level 2 – Doing)
- Practical considerations (Level 3 – Advising).

The aim of a procurement strategy is to identify the best way of achieving the objectives of the client. Project risks should be taken into account, as should any constraints established by the client or perhaps their funders.

It should be remembered that the construction project itself may only be a relatively small part of the entire life cycle of a building or facility as a whole. The procurement strategy for the construction project therefore also needs to take into account where and how the construction project sits in relation to that wider picture. The issue of 'sustainability', particularly in respect of public sector works, is a major factor that needs to be considered at this stage. An appropriate procurement strategy will help ensure that the client obtains the right project at the right price and level of quality in the right time.

The strategy adopted by the client and project team will affect both the procurement route selected and the relationships between those engaged in the initiation, design and construction of the project. In particular, it may affect how these participants are selected, the nature of their role and the extent of their responsibility.

To ensure that the most appropriate strategy is selected, the RICS member should first identify the relative importance of the client's primary objectives and the extent of the client's attitude towards associated risk. For example, the procurement team will need to identify what the client's attitudes and key drivers are, and state them in a way and in a language that is understood by the entire project team.

Fundamental to the process is understanding what the client requires from the project, together with some key information as to how much it wishes to spend, what quality it is seeking to achieve, and by what time it requires the project to be completed. This process may take considerable time but is of vital importance. In many cases the procurement team assist the client with the formulation of their own 'brief' for the project.

Every project will have a business case justifying it and explaining how it fits with the client's business. Various factors, relating to the strategic fit of the project within the client's business and financial structure, will underpin the project. These may include:

- **funding:** both the total funds at the client's disposal for the project, and the availability or readiness of these funds as the project progresses, with regard to contractual obligations to make payments
- **time:** the required completion date, any important interim milestones when certain stages must be achieved, and any flexibility between the desired completion date and the absolute last delivery date. This can be critical in some sectors, for example where a school or college project must be completed in line with published term dates
- **performance:** the required functional performance of the final product and any indications of standards of quality
- **capital versus operational costs:** whether a balance is to be struck between capital and running costs or whether initial capital cost is the primary factor
- **risk:** the likely impact to the client organisation of risks inherent in the project processes associated with time, cost and function
- **legislative requirements and environmental factors:** the potential impact of legislation, national or local planning or procurement policy which might lead to a particular procurement route or render development in a particular location more or less attractive, and
- **type of project:** the nature of the project may influence the procurement strategy. For example, a relatively simple factory unit on a greenfield site will require different considerations to a complicated city-centre refurbishment of an operational retail facility.

Some of these factors may be in tension dependent upon the extent of their weighting: greater emphasis on speed or on the certainty of a completion date may influence project cost and may affect design development; emphasis on cost certainty or price level may have an impact on speed to completion or design quality; while an emphasis on project performance may affect both cost and project pace.

This is illustrated in Figure 1. Also shown is the tendency for emphasis to change during the project, from the initial focus on performance, followed by an emphasis on the cost of the project, to a focus on when the project will be completed. Once completed, it will again be the performance of the building that is most important.

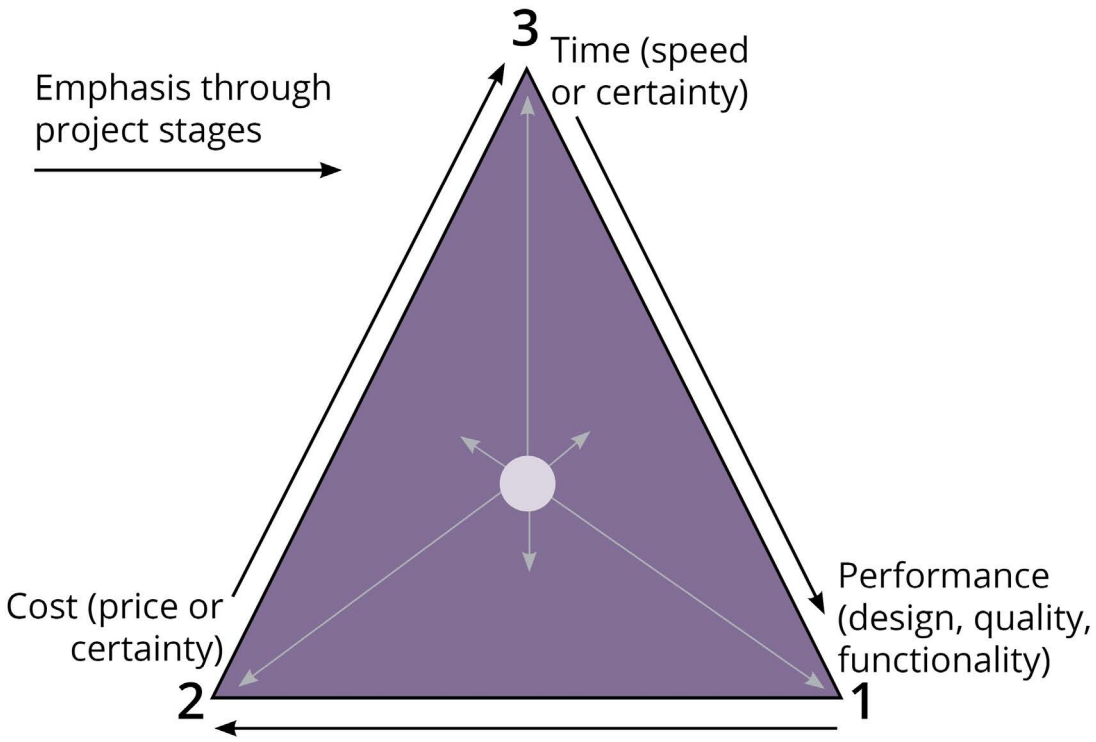

Figure 1: Relationship between time, performance and cost

In addition, public-sector procurement displays different characteristics to procurement in the private sector when value for money could be a prime criterion. This document does not address public procurement, which is subject to separate RICS guidance.

Many clients may not be experienced in the process of construction procurement and may need both advice and guidance. The client's level of experience and their ability or willingness to engage with the procurement process may be another important factor to take into consideration. Note, however, that clients have significant statutory responsibilities in the area of health and safety, particularly resulting from legislation such as the Construction (Design and Management) Regulations 2015 and the Building Safety Act 2022. RICS members should make clients aware of any specific duties they have, and where appropriate, provide assistance to enable them to be discharged.

An understanding of the characteristics of procurement routes will enable the RICS member evaluate which strategies will be most appropriate for the project and client, by matching the advantages and disadvantages of each and the extent of associated risk. The various procurement routes are discussed in detail in section 2 of this practice information.

There could well be the need for further refinement of the project data in the light of the client's strategic changes. Such refinement and reworking of the outputs may undergo a number of alterations before the client arrives at a point where the project proposals are at an acceptable level.

The successful implementation of the recommended strategy may also depend upon the availability of contract documents to assure effective adoption. Standard forms of contract are available that can be used with each of the commonly adopted procurement routes. These formalise the responsibilities of the parties for the design, construction and management of the project.

2 General principles (Level 1 – Knowing)

2.1 Procurement routes

2.1.1 Introduction

This section:

- explains the characteristics of the most commonly adopted UK procurement routes. The primary advantages, disadvantages and risks associated with their adoption are provided
- covers the principles associated with collaborative procurement arrangements, including partnering
- highlights particular principles associated with public procurement.

2.1.2 General principles

It is recommended that all the factors influencing a project are identified and the project requirements analysed. The final procurement route for the design and construction of the project can then be developed.

Some routes select the design and construction teams separately and provide little opportunity for integration or collaboration during the design process. Other strategies enable the design and production processes to be closely integrated.

It is likely that there will be more than one route that can be adopted to achieve the aims of the client and the requirements of the project. It is advisable carefully to consider each option, as each will address the various influencing factors to a different extent.

In the selection of a route, a potential danger is that only the most obvious course of action may be considered – this is not necessarily the best in the longer term.

Common routes can differ from each other in relation to:

- the client's exposure to financial uncertainty
- the degree of control that the client has over the design and construction processes
- the extent of design information at the time of tender
- the information required at the time that construction work can commence
- the extent of involvement by the contractor and the supply chain in the design stage, when these parties may be able to contribute to the design and planning of the project

- the organisational arrangements that distribute risk, responsibility and accountability, and
- the sequential character of the process.

In addition, there can be significant differences in the timescale needed for each route overall processes. More often than not, a client will have an end date for construction in mind, and this can result in pressure on the various stages, when working back from that date, which can sometimes mean that an inappropriate strategy or route is proposed, simply because it fits with the required dates. Increasingly, experienced clients, or clients with regular demand for construction, are realising the importance of building integrated project teams. These collaborate with and provide mutual benefit for the client and the members of the project team. These may be framework arrangements where the established relationship is sustained for a fixed period of time, or partnering arrangements that are focused on a series of projects.

Initial consideration should be given to the key aspects of function, cost, time and associated risk.

The cost of the project is usually of paramount importance to the client, in that often a business investment decision is based upon the balance between the return or benefit to be achieved against the investment to be made. There may be a need to reduce construction project costs because of other cost pressures in the overall development spend profile.

Project function will relate to the needs and expectations of the client; function may be of more importance than time or even cost where the outcome is a long-standing building to serve a very specific purpose.

Time is likely to be an important factor for the client. The financial benefits of undertaking the project in the first place will usually be based upon certain programme constraints.

The projected financial outcome will therefore only be achieved in full if the project commences the 'delivery' of its benefits in line with a particular timescale.

Risk is inherent in the construction process. The way that risk is to be dealt with is a fundamental issue when considering procurement strategies and procurement routes.

The client's attitudes and drivers may change over time, as various risks begin to materialise. This is a factor that should be considered in the choice of a procurement route during the initial strategy meeting.

Generally, those risks that are external to the project are less able to be controlled in the timing or extent of impact upon the construction project, while those risks that are internal to the construction project can be more easily managed and can be allocated to the appropriate party in the construction project.

2.2 Traditional (lump sum)

A commonly adopted UK route, particularly for inexperienced or occasional construction clients, is that known as 'traditional' It is seen as the 'least risk' approach, as there is a level of certainty about design, cost and duration inherent in the strategy if it is properly implemented. The sequential nature of the strategy, which is necessary to assure low risk, does mean that it can be relatively slow prior to the commencement of construction.

Under the traditional procurement route, design should normally be completed before competitive tenders are invited and before the main construction contract is let. (To a limited extent, however, a contractor can have some design liability for part of the Works specifically identified and usually the subject of a provisional sum or part of a contractor's design portion).

Consequently, the client will usually select and appoint the design team prior to the selection of the contractor. Selection may be on the basis of experience or fee – usually both.

The contractor is generally selected on best value. Importantly, this does not always mean the lowest price.

Assuming no changes are introduced, construction costs can be determined with reasonable certainty before construction starts. This may be particularly attractive to clients with a strictly limited budget or a limit to their borrowing powers.

The tender documents for the selection of the contractor should include drawn designs and a specification of workmanship and materials that the contractor should use in the preparation of a price. In many cases, the client will arrange to appoint a quantity surveyor to measure the quantity of work to be done in order to satisfy the demands of the design.

In such cases, it is usual for each contractor to submit a price based upon the same work scope. The client is responsible for the accuracy of these quantities, prepared in the form of a bill of quantities (although the client can, via the contract, transfer this responsibility to the contractor).

The contractor assumes responsibility and financial risk for the construction of the building works to the design produced by the client's design team, for the contract sum agreed, and within the contract period. The client takes the responsibility and risk for the design and for the performance of the design team.

In this route, clients are usually able to influence the development of the design to meet their requirements, because they have direct contractual relationships with the design team. When construction begins, they generally have a single contractual relationship with a main contractor, but are usually only able to influence (and not to control) the construction process through their architect (or project manager), acting as their representative for this purpose.

The route may fail to some degree if any attempt is made to appoint a contractor for the work before the design is complete. Such action could result in many post-contract changes, which may delay the progress of the works and increase the costs.

However, it is possible to have an accelerated traditional procurement route, where some design overlaps construction. This can be achieved by letting a separate, advance works contract; for example, by allowing ground works (site clearance, piling and foundations) to proceed to construction once planning permission has been obtained and while the design for the rest of the building is completed, and by tendering the above-ground construction separately. This should reduce the total time to complete the project, but at the risk of losing certainty of cost before construction starts. More importantly, a substantial risk is created in that the contractor who builds the superstructure has no responsibility for the foundation works carried out by another contractor.

Another alternative is to let the work in a two-stage process, allowing the contractor to be selected before the design is complete. This reduces the pre-construction time involved.

Ordinarily, in adopting this approach, the price is based upon the predicted cost of known major works elements, with the detail negotiated later, this can be done in competition or by negotiation with a chosen contractor. A two-stage process also generally enables the chosen contractor to be consulted as the design develops. In this case, the certainty of end-cost is reduced in the search for a faster start, but the other risks are usually still contained.

The main advantages of a traditional procurement route are:

- competitive fairness, as all tendering contractors are bidding on the same basis
- the process is design-led, with the client able to have direct influence, thus facilitating a high level of performance and bespoke quality in the design
- reasonable price certainty at contract award, based upon market forces (subject always to design changes or client-led changes, which will have cost implications)
- where public expenditure or audit demands are rigid, a satisfactory strategy in terms of public accountability, as it is transparent and based upon competition
- well-known procedures, ensuring confidence in those involved throughout the supply chain, and
- changes are reasonably easy to arrange and value where the design needs vary due to changes in client demands or technology (though this ease can prove a disadvantage as price certainty may be less secure).

The main disadvantages are that:

- if an effort is made to speed up the process by producing tender documents from an incomplete design, this can result in less cost and time certainty and can be the cause of expensive disputes

- the overall project duration may be longer than for other strategies as the strategy is sequential and construction cannot be commenced prior to the completion of design (with no parallel working possible)
- there is little or no input into the design or planning of the project by the contractor and supply chain, who will not be appointed at the design stage
- the strategy is based upon price competition, which can result in adversarial relationships developing
- for certain types of project (for example, in a city-centre refurbishment of an operational retail facility), where it is difficult accurately to define the full scope of the project, the strategy is likely to result in the client paying a high-risk premium, and
- the designers and contractor have little incentive to advise the client on factors that may benefit the operational costs of the completed facility.

The organisational structure of a traditional strategy is shown in Figure 2.

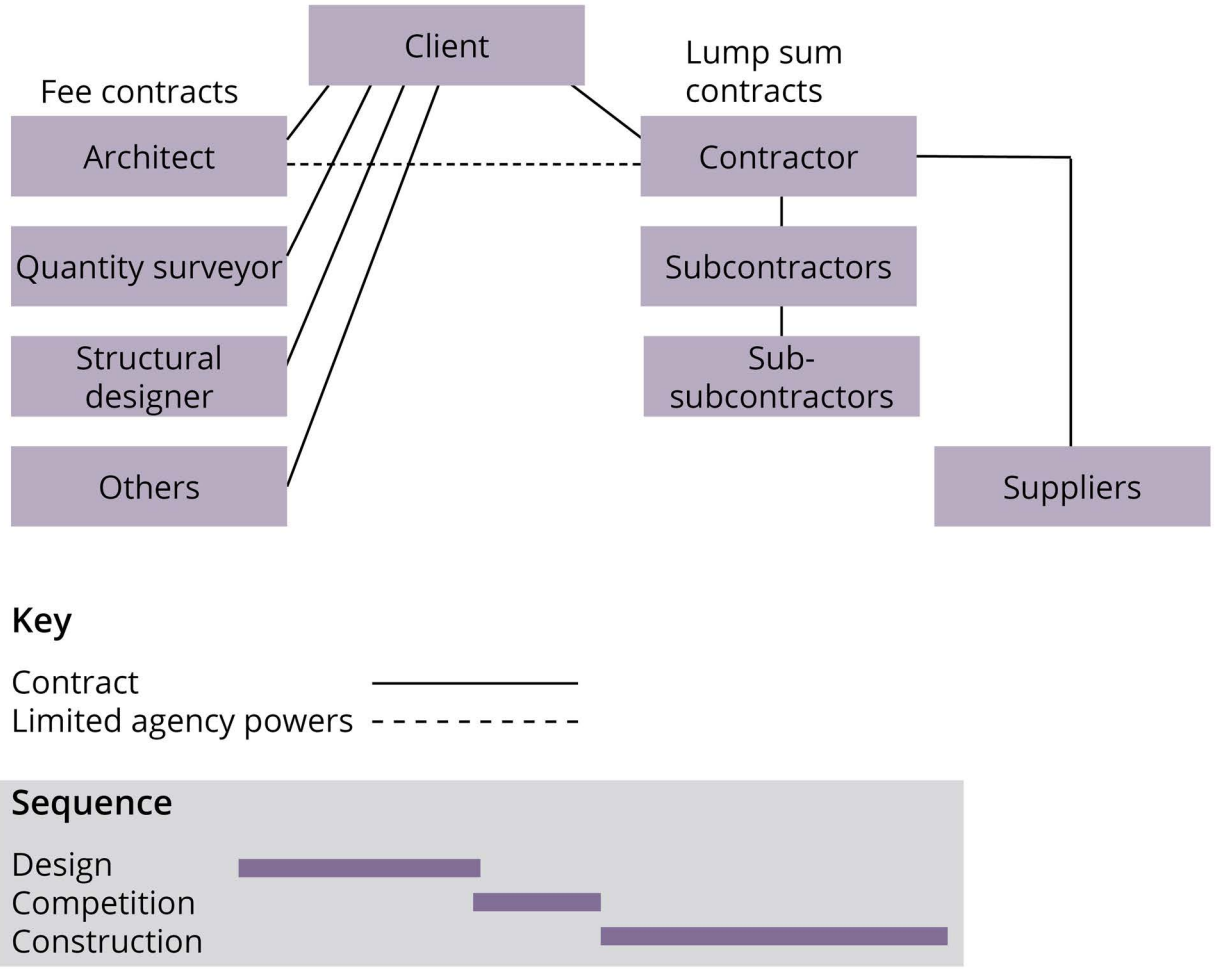

Figure 2: Procurement strategy: traditional

2.3 Traditional ('remeasurement' or 'measure and value')

Measurement contracts are sometimes referred to as 'remeasurement' or 'measure and value' contracts and are based upon the principle that the work carried out is measured and valued at prices for each type of work tendered by the contractor. Except for civil engineering projects, where there is a level of uncertainty in terms of the ground conditions, this procurement route is only occasionally used. It can be considered as a variant to the 'traditional' route for building work.

With a measurement contract, the contract sum is only established with certainty on completion of construction, when remeasurement of the quantities of work actually carried out takes place. It is then valued on an agreed basis.

The contract is not a lump sum arrangement, in that there is no fixed contract sum. Instead, the bill of quantities effectively constitutes a schedule of rates for each unit or item.

The most effective use of a measurement contract is where the work has been substantially designed, but final detail has not been completed. Here, as with civil engineering projects, a tender based on drawings and a bill of approximate quantities is mostly satisfactory.

Measurement contracts allow a client to shorten the overall programme for design, tendering and construction, but usually resulting in a lack of early price certainty, as the approximate quantities reflect the absence of information on exactly what is to be built at the tender stage. The scope of the work, the approximate price and a programme should be clear at the contract stage. Measurement contracts provide more risk for the client than lump sum contracts, but can generally have some programme advantages.

The organisational structure of a measurement contract strategy is identical to the traditional lump sum approach, except that it is not a lump sum contract.

The main advantages of the measurement route include:

- potential for time savings at the pre-construction stage, with the later aspects of the design still on-going as the works progress on site
- competitive prices, as the work is tendered on standard approximate quantities or schedule of rates, which are used to value the completed work on site
- some public accountability, where this is required due to the competitive selection process
- the procedures are well known, particularly in civil engineering projects
- changes may be made easily, as the later stages of the design continue to progress
- some parallel working is possible, as the contractor is selected before the design and project planning processes are completed, and
- for certain types of project, this strategy may prevent the client paying a premium for risk, as contractors may price for 'unknowns' (for example, a refurbishment where there is a risk of asbestos being encountered).

The main disadvantages of the route are that:

- it offers poor certainty of price, as the cost to the client will not be accurately known until the works are complete. Cost certainty will depend upon the level of assurance in the approximate quantities used in the tendering process or the sufficiency of the schedule of rates
- there is no contractor or supply-chain involvement in the early planning or design stage, when the most expensive decisions, or those likely to have an impact on time, are made
- there is a potential for adversarial relationships to develop, as with all strategies that are price-dependent. This may be more likely with this route, unless a willingness to negotiate is evidenced by both the contractor and the design team or client, and
- any established project programme could be affected while the works are not fully designed.

2.4 Design and build

Under a 'design and build' route, a single contractor assumes the risk and responsibility for designing and building the project, usually in return for a fixed-price lump sum. Because this approach includes the integration of design, construction can start before all the detailed design is completed and the overall project duration is thus reduced.

There are a range of approaches that can be referred to as 'design and build'.

- Sometimes the contractor will be required to interpret the requirements of the client and provide a building as a completed package. In extreme cases, the contractor may be responsible for obtaining planning permission and even for project funding.
- Frequently, the client will employ a design team to carry out some preliminary design work and prepare the project brief and other tender documents, including 'employer's requirements' (a term used in some standard contracts to describe the basis for the contractor's submission), outlining the key objectives for the project and significant criteria for a successful outcome.
- A variant, known as 'develop and construct', describes a strategy where the client appoints designers to prepare the concept design before the contractor assumes responsibility for completing the detailed design and constructing the works. In this case, the contractor develops the design from the detailed brief or specification, submitting detailed proposals to the client to establish that they are in accordance with the requirements of the specification. Clients are, therefore, in a strong position to ensure that their interpretation of the specification takes preference over the contractor's.
- Sometimes, the successful contractor will assume responsibility for this design team and use the preliminary information to produce the detailed design. In many cases, the contractor agrees in the tender submission to 'novate' (effectively, contractually, to switch) the contract the client has with the designers to the contractor. The basis of

the appointment of the design team should reflect this possibility of novation. Some designers resist this practice.

It has now been clearly established that a design and build contractor may have a legal duty to provide the employer with a building that is fit for its purpose. This is a significantly higher duty than that assumed by an architect or other designer under a traditional route, where the requirement is simply one of reasonable skill and care. Design and build contracts may exclude this fitness-for-purpose obligation. In these cases, the contractor may undertake merely to design to the same standard 'as would an architect or other designer if the employer had engaged one direct'. Some clients are now, however, insisting on fitness for purpose in their design and build contracts, stating that where there is a discrepancy between the employer's requirements and the contractor's proposals, the statement of employer's requirements will prevail. To be effective, however, the statement of employer's requirements needs to be clear, complete and unambiguous.

Most clients will need guidance in writing such a document from an experienced practitioner.

The imposition on contractors of fitness for purpose in design is a matter of judgement for clients and their professional advisers, even though some tenderers in recessionary markets are likely to agree to undertake such risks. The requirement for insurance to cover a higher than normal risk should be weighed against the financial ability of contractors to meet design default claims. It will usually be preferable, and represent better value for money, to impose a lesser, yet insurable, liability, which will be the subject of an insurance payout in the event of a design fault, rather than a fitness-for-purpose requirement on a contractor of limited financial assets. In addition, if some companies will not accept fitness-for-purpose provisions, the adoption of these may rule out contractors whose bids might in other respects be optimal for the client. See RICS' Risk, liability and insurance for more information.

Design and build provides a range of options, from a 'package deal' where the client has little involvement in the design development or procurement process (effectively, a complete hands-off approach), to a 'develop and construct' route where the client appoints designers to draw up a brief to a level of sophistication, leaving the design and build contractor to develop detailed or specialist design elements. Standard forms of design and build contract are available.

The main advantages of a design and build route are as follows.

- The client has only to deal with one firm, giving single point responsibility, and significantly reducing the need to commit resources and time to contracting with designers and contractors separately.
- Client risk is reduced due to the single point responsibility.
- The strategy enables an integrated constructor contribution to the design and project planning.
- Price certainty is generally obtained before construction starts, provided the client's requirements are adequately specified and changes are not introduced.

- The total project time of a design and construction route may be reduced, because of overlapping activities.

The disadvantages are as follows.

- Difficulties can be experienced by clients in preparing an adequate and sufficiently comprehensive brief or set of employer's requirements, or in defining precisely what they require.
- The client is required to commit to a concept design at an early stage; usually before the detailed designs are completed.
- Bids are difficult to compare: each design will be different, and prices and the project programme will vary between them.
- There is no design evaluation, unless separate consultants are appointed by the client for this purpose.
- Client changes to the scope of the project can be expensive.
- Design liability is limited by the standard contracts available.
- Quality may be compromised as the client relinquishes control to the design and build contractor.
- This route may result in a project having less aesthetic appeal where price and space dictate how the available budget will be spent.

The project organisation structure for design and build is shown in Figure 3.

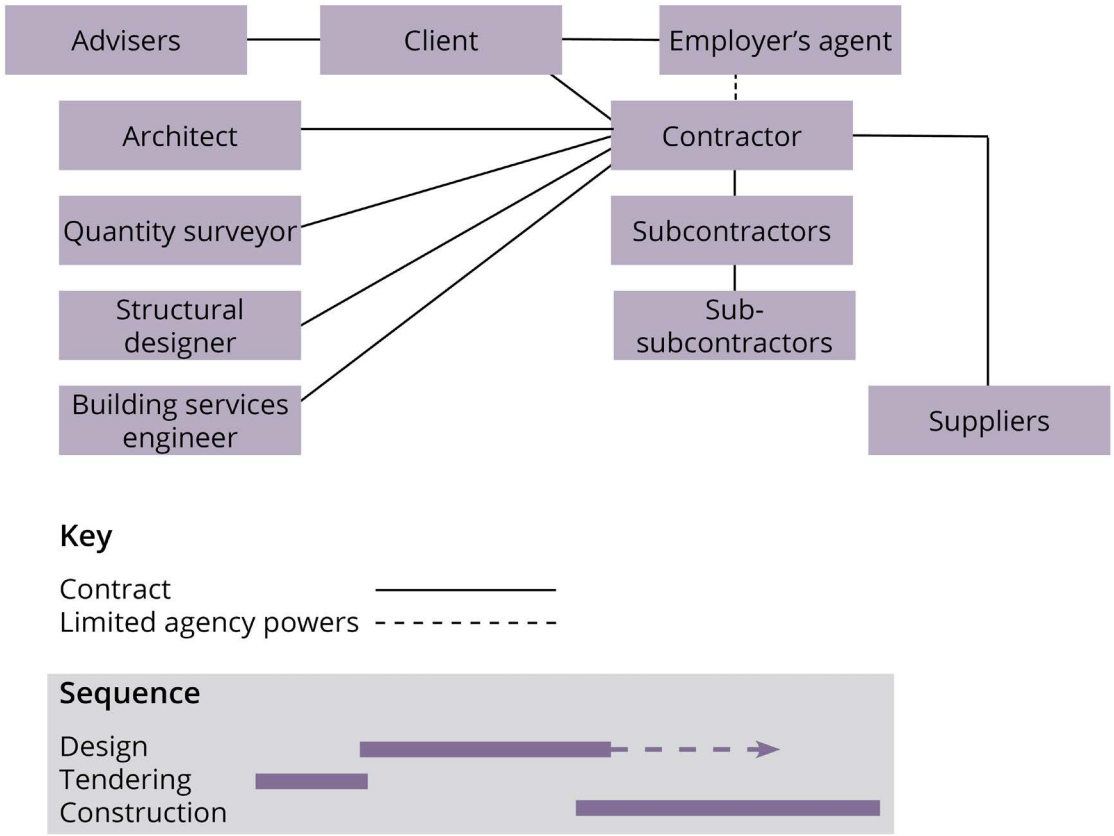

Figure 3: Procurement strategy: design and build

2.5 Construction management

Under a construction management route, the client does not allocate risk and responsibility to a single main contractor. Instead, the client employs the design team, with a construction manager engaged as a fee-earning professional to manage, programme and co-ordinate the design and construction activities and to facilitate collaboration.

Construction work is carried out by individual 'trade' contractors, often specialists, through direct contracts with the client for distinct trade or work packages. Each trade contractor will be appointed when their contribution is required. The arrangement enables the design process to overlap with the construction process to some extent; this route is therefore usually adopted where the primary objective for the client is relative speed to completion.

However, this is a strategy with little cost certainty for the client at the outset, because the costs are based on a budget provided by the construction manager or the quantity surveyor and the actual costs of the trade contracts will often be unknown until that work is completed.

In ‘pure’ construction management, the construction manager supervises the construction process and co-ordinates the input of the trade contractors and the output of the design team. The manager thus provides professional construction expertise without assuming financial risk. In practice, however, it may be to the client’s benefit to have the construction manager supply some of the organisational items (preliminaries), such as general safety scaffolding, producing a fixed cost for these and for the construction manager’s own staff. Similarly, in some cases, it may be beneficial for a significant proportion of the trade contracts to be let before the project commences, to increase the level of cost certainty.

On appointment, the construction manager will usually take over any preliminary scheduling and costing information already prepared and draw up a detailed programme of pre-construction activities. Key dates when client decisions are required are commonly established, to ensure time for decision-making and the avoidance of consequential delay.

In adopting a construction management route, the client will generally be closely involved in each stage of design and construction. The client should have administrative or project management staff with the time and ability to assess the recommendations of the construction manager and take the necessary action. It is advisable for the client to maintain a strong presence, through staff who are technically and commercially astute, in addition to possessing the necessary administrative capability (for example, to pay the trade contractors). This route is not, therefore, usually suitable for the inexperienced client.

With this route, design and construction can overlap. As this speeds up the overall project programme, construction management is known as a ‘fast track’ route. However, although the time for completion may be reduced, price certainty is not achieved until design and construction have advanced to the extent that all of the construction (trade) packages have been let. Moreover, design development of later packages can affect the construction work already completed. The construction manager should, therefore, be able to rely on the services of an experienced quantity surveyor to prepare approximate estimates and a cost plan.

A package is made up of work for which one of the trade contractors is responsible: for example, foundations, concrete, electrical installation or decorating. These packages are tendered individually, for a lump sum price, generally on the basis of drawings and specification.

Construction management is most often adopted for large or complex projects, but there is no intrinsic reason for this. It has particular benefits for projects where there is a high degree of design innovation, where the client wants ‘hands on’ involvement, or where design flexibility is needed throughout the project process. As the client bears much of the construction risk with this route, it is prudent for the client to have adequate risk management capability.

The main advantages of a construction management route are as follows.

- There is a relative time-saving potential for the overall project time, due to the overlapping of design and construction procedures.
- Trade contractors and the construction manager are able to contribute to the design and to project planning.
- Roles, risks and relationships for all participants are clear.
- Changes in design can be accommodated later than with some other routes, provided that the relevant trade packages have not been let and that earlier awarded packages are not too adversely affected.
- The client has direct contracts with trade contractors and pays them directly. (There is some evidence that this results in lower prices, because of improved cash flow certainty.)

The disadvantages include the following.

- Price or time certainty is not achieved until the last trade packages have been completed. Budgeting depends heavily upon design team estimates, and duration upon the sequence needed to construct the building as designed.
- An informed, pro-active client is required to operate such a strategy.
- The client must provide a good-quality brief to the design team. The design will not be complete until the client has committed significant resources to the project.
- The route relies upon the client selecting a skilful and committed team.
- Close time and information control is required.
- The route relies on a proficient and committed construction manager or it may become no more than a 'post box' system, in certain circumstances.
- The design team must be controlled and kept on programme for delivery of design when it is required. This is to ensure that the work packages procurement or the works on site are delayed.
- There may be issues with the practical interfaces on site – where there are gaps between the boundaries or scope of each work package, this can sometimes cause conflict.

The organisational structure of a construction management route is shown in Figure 4.

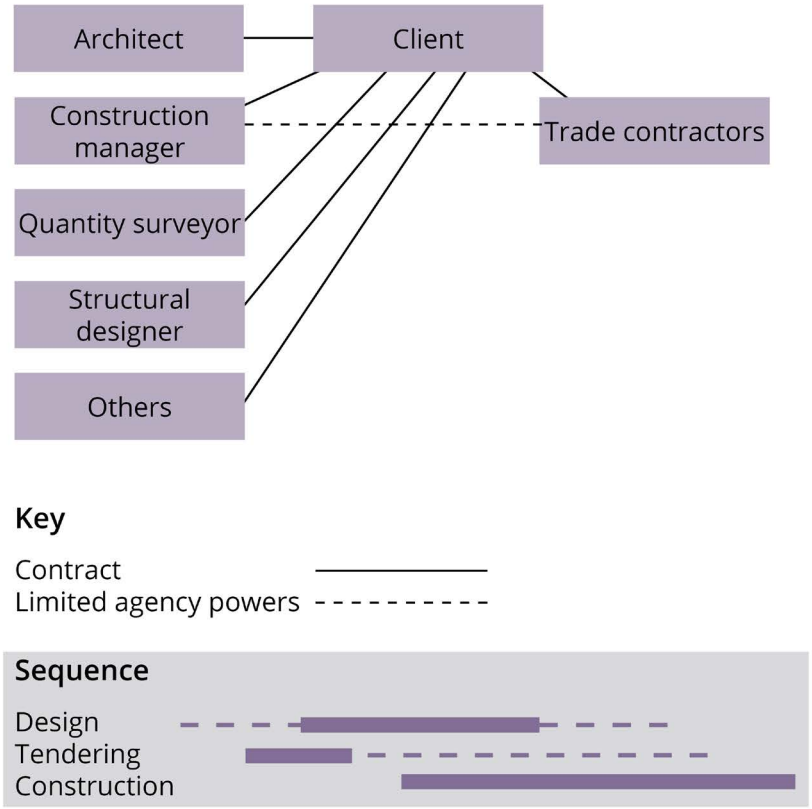

Figure 4: Organisational structure of construction management route

2.6 Management contracting

With this route, a management contractor is engaged by the client to manage the whole of the building process. The contractor is paid a fee on top of the construction costs for doing so. The fee is based on the estimated costs of the works as established by the quantity surveyor – usually adopting a cost plan as the basis for budgeting.

Construction works are carried out by firms employed by the management contractor, referred to as 'works contractors'. Unlike construction management, the management contractor has direct contractual links with all the works contractors and is responsible for all the construction works. There is no contractual link between the employer and the works contractors.

The management contractor may provide some of the common services on site, such as office accommodation, tower cranes, hoists and security, which are shared by the works contractors. However, in 'pure' management contracting, such works are let as a self-contained work package.

The client employs the design team and, therefore, bears the risk of that team delaying construction for reasons other than negligence, such as the late receipt of design information.

Management contracting might be considered as a 'fast track' route. The design work will not be entirely complete before the first works contractors start work, although the design necessary for those packages must be finished. As design is completed, subsequent packages of work are tendered and let. Cost certainty is thus not achieved until all works contractors have been appointed. A high level of cost management is therefore required, with reliance on the services of an experienced quantity surveyor to prepare approximate estimates and a cost plan.

In this route, with the agreement of the client and the design team, the management contractor identifies preferred bidders for sections of the project and selects them by competitive tender. The client reimburses the cost of these work packages to the management contractor, who, in turn, pays the works contractors. The management contractor co-ordinates the release of information from the design team to the works contractors.

It is prudent, with this route, for the client to have adequate risk management capability.

The main advantages of a management contracting route are as follows.

- There are programme benefits for the overall project, due to the overlapping of the design and construction processes.
- The route enables the management contractor and works contractors to contribute to the design and project planning.
- Changes can be accommodated, provided that the packages affected have not been let and that there is little or no impact on those already let.
- Works packages are let competitively at prices that are current at the time the work is let.

The disadvantages are that:

- the client must provide a good-quality brief to the design team; the design will not be complete until the client has committed significant resources to the project
- poor certainty of price is offered at an early stage and the potential cost commitment depends upon design team estimates
- the route relies on a good-quality and committed management contractor, or it may become no more than a 'post box' system in certain circumstances
- the route reduces resistance to works contractors' claims where such demands are passed on to the client by the management contractor
- design must be closely managed to ensure that package procurement is kept on programme.

- unless the contract is correctly completed, especially where a proprietary management contract is used (such as the Joint Contracts Tribunal (JCT) form in the UK), the absence of the completed inter-related forms of appointment in a management contract will leave the employer open to claim, or the contractor at risk, where design liability has not been resolved through to design subcontractors
- there may be gaps in works contractor packages that would normally be picked up by a traditional contractor
- the design team must be controlled and kept on programme for the delivery of design information when it is required to ensure package procurement proceeds on programme.

The organisational structure of a management contract is shown in Figure 5.

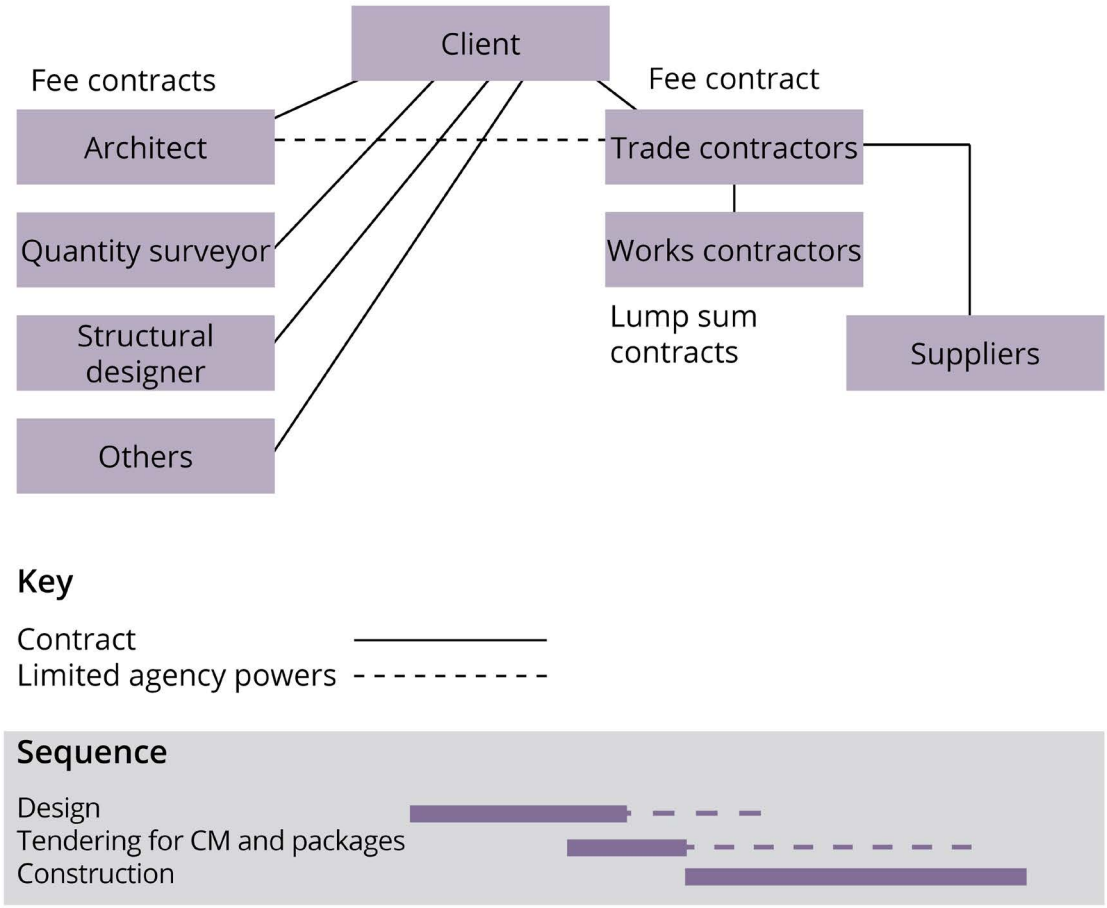

Figure 5: Organisational structure of a management contract

2.7 Partnering

Partnering is a concept that can be applied to many procurement routes. Partnering is a co-operative relationship between business partners formed to improve performance in the delivery of projects. It is not, in itself, a procurement route.

Partnering is best considered as a set of collaborative processes which emphasise the importance of common goals and raise such questions as how such goals are agreed on, at what level are they specified and how are they articulated.

Partnering is applied either in project situation known as project partnering or in a long-term relationship known as strategic partnering.

There are two views in the construction industry regarding the role of the contract between the client and the contractor in the partnering process.

The first view is that partnering is all about co-operation, dispute avoidance and self-improvement and that, as such, a successful project partnering agreement can be implemented independently of the contract, even when the contract contains clauses that are not in alignment with the co-operative principles of partnering.

The second (and alternative) view supports the use of the project contract to reinforce the elements of a partnering arrangement. This can be in the form of a traditional standard form contract amended to enforce a partnering agreement or in the form of partnering-type standard contract.

Partnering is normally operated in one of the following ways:

- a traditional construction contract with a separate partnering charter, or
- a two-party contract aligned to partnering. Under this method, the construction contract chosen reflects the principles of the intended collaborative relationship between the parties. This remains a two-party approach and relies on contract conditions covering the partnering aspects. The crucial difference to the first approach is that the parties are contractually bound to working co-operatively, or
- a multi-party partnering contract. A major difficulty in the acceptance of such a multi-party contract is the perceived complex legal situation in regard to the responsibilities and liabilities in a multi- party situation.

In the partnering approach, negotiation rather than competitive tendering is the key.

The risks that both parties face as a result of the project in question are made transparent at the commencement of the project, and the partners to the partnering approach share those risks on the basis of which party can best bear those risks and/or insure against those risks.

The essence of any partnering agreement now involves a duty of good faith, mutual co-operation and trust between all parties involved in the construction process.

Some of the advantages of the 'partnering' approach are:

- a reduction in the number of disputes
- the benefit of early supply chain involvement
- it is based on an open book and a win/win culture
- there is integration of the design process with the construction process
- the main benefits are generated from strategic partnering (multiple projects) rather than a single project.

Some of the disadvantages to be considered are:

- the partnering process can be abused by one of the parties
- the partnering process requires more client resource to compensate for the less competitive environment, and the process can collapse when one party becomes disadvantaged
- to be most effective, partnering needs to be practised and learnt over a series of projects and typically requires an early commitment in terms of management resources and direct costs
- there are the direct costs of workshops, of training staff and of the more intensive early involvement of management in establishing the partnering approach.

2.8 Public Private Partnerships (PPP)

Public Private Partnerships are arrangements where a project or service is provided by the private sector in partnership with the public sector. There are many such arrangements; the best known in the construction sector is Private Finance Initiative (PFI), and other more recent variants. A PPP project involves a long-term contractual arrangement (usually of 25–30 years) between public- and private-sector parties through a concession agreement.

The private sector agrees to finance and build and operate an infrastructure project such as a hospital, school, road or prison. This includes long-term life-cycle investment and routine maintenance services, sometimes together with 'soft services' such as catering and cleaning. The public, or public sector, will use the project without needing to engage with its operation.

A PPP project is usually achieved through the creation of a company specifically created for that purpose, known as a Special Purpose Vehicle (SPV). In return, the SPV either collects toll money (such as for the Severn Crossings or the Dartford bridge and tunnel) or receives a payment stream over the life of the concession from the public sector, perhaps as an annual or unitary payment. This will be subject to the delivery of the services to the specification set out in the concession agreement – there is no payment for poor delivery or performance.

PPP is possibly the largest infrastructure sector in the UK. Some 600 projects, with a capital value of over £60billion, have been signed. This includes almost 100 hospital schemes, over 100 education projects, covering more than 800 schools, 43 transport projects and over 300 other operational projects in sectors such as defence, leisure, culture, housing and waste.

The private-sector participants in the SPV will include:

- construction contractors and service providers
- facilities managers
- insurance companies
- banks and bond investors
- equity investors, including pension funds and insurance companies, and
- professional advisors.

Among the public-sector participants will be government departments (for example, the Departments of Health, Transport and Defence, and the Home Office) and local authorities (for services such as schools, street lighting, social housing, waste and local roads maintenance).

The advantages of this route include the following.

- The infrastructure project can be obtained without placing a capital burden on the public purse.
- There is a transfer of risk to the private sector.

There is engagement with the skills and efficiencies of the private sector and perhaps, therefore, better value for money.

The disadvantages include the following.

- It may be considered to be a relatively expensive approach when compared with other routes.
- The costs of preparing bids can be exceptionally high.
- The government (in effect, the taxpayer) is committed to making payments for the life of the concession (typically 25–30 years), unless the income flow is entirely dependent on cash tolls.

Typical arrangements are shown in Figures 6 and 7.

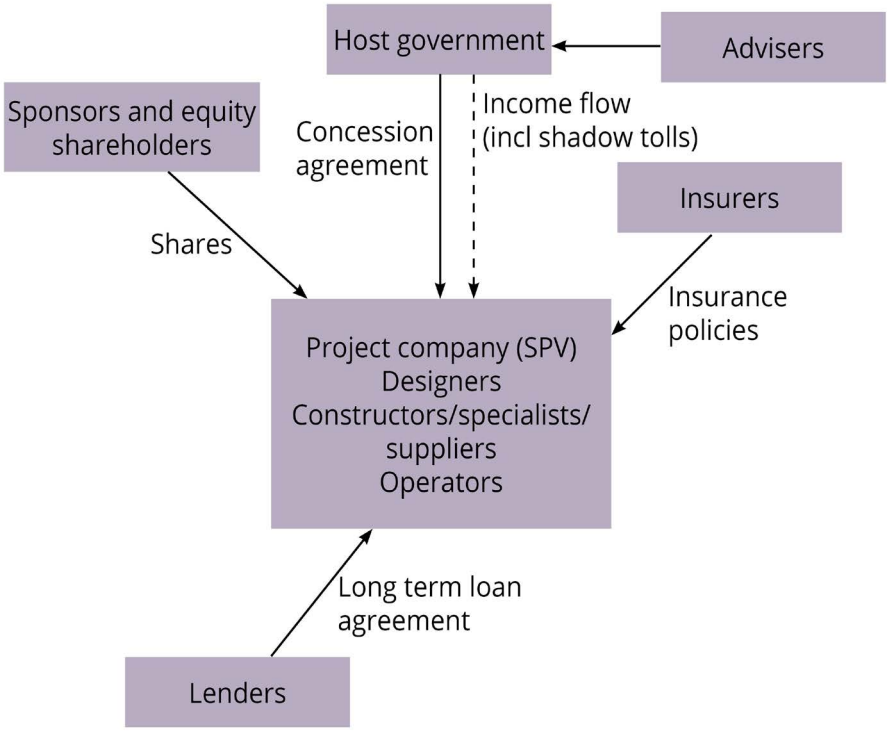

Figure 6: Example of PPP scheme – non-toll based

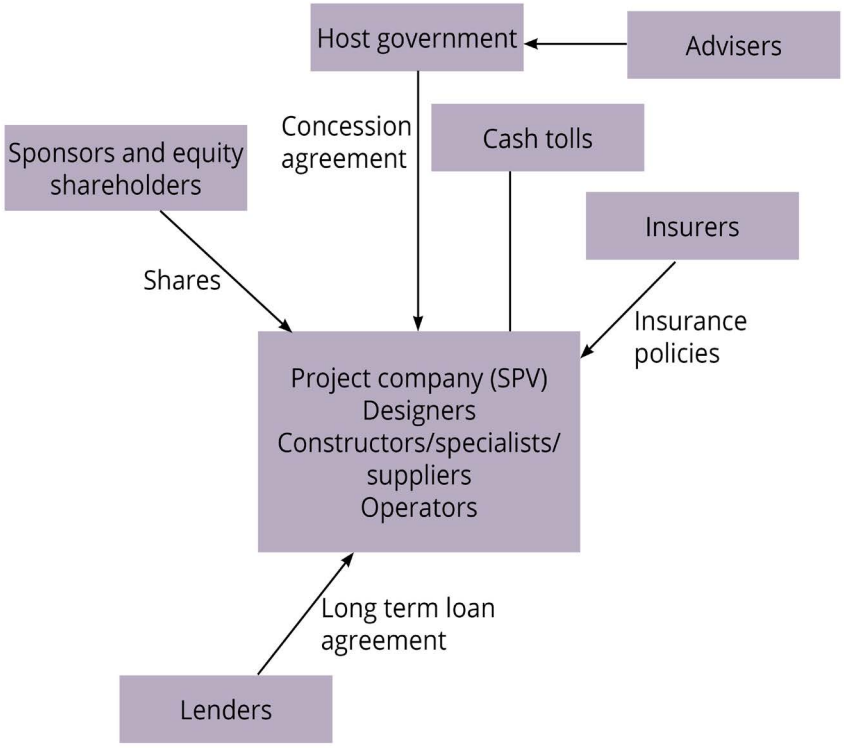

Figure 7: Example of PPP scheme – toll based

3 Practical application (Level 2 – Doing)

3.1 Identification of primary objectives and parameters

Decisions taken at the early stage of project development will usually drive all future choices and strategy. This is a vital but complex stage. It occurs at a time when both client and consultants wish to progress quickly, but when the pace of co-ordination of the issues and ideas is dictated by the ability to predict, foresee and design.

Often, the client will be best advised to appoint an RICS member to co-ordinate the client function from this stage, or to overview the whole process, where the project is particularly complex.

The application of value management techniques can have particular merit. Value propositions, such as what is to be achieved and why identified at an early stage in a project can form a good basis for the strategic brief for the design.

While some fast-track procurement solutions deliver speed of completion, other criteria, such as cost certainty and performance, may be less achievable within these solutions. Similarly, where cost certainty or performance are considered to be of highest priority, other criteria may be affected. Consequently, a structured approach to the prioritisation of the project's parameters is recommended.

One approach that can significantly assist the prioritisation of the client's objectives is to discuss with the client at the outset the relative importance of each of the primary objectives of the project.

It is likely that the impact on the client organisation of failing to achieve each key objective, as identified by the business case, will be influential in establishing priorities.

Figure 1 illustrates this approach. It shows how the first decision (on the distribution of the importance of time, cost and performance) can be extended to establish other key objectives and to provide an output on which procurement strategy can be based. Many projects do not achieve client satisfaction because of insufficient consideration of these factors at the outset.

The outcomes that must be achieved in order to satisfy each client will vary with the business 'mission' and the primary objectives for the project. For example, owner-occupiers may want a facility that is functional, aesthetically pleasing and relatively inexpensive to run and maintain; developers, on the other hand, may aspire to speed and simplicity, while investors in property may look for buildings with a long functional, physical and economical life, which

retain their marketability. Most clients will also want low initial cost, but only if a valuable output is achieved.

Given this variability of criteria, it is prudent to undertake the process described above to ensure that individual client needs are satisfied.

3.2 Procurement strategy

The procurement strategy identifies the best way of achieving the completion of a construction project – often taking into account the best value for money over the entire life cycle of the building or facility.

The aim of a good procurement strategy is to achieve the optimum balance of risk, control and funding for a project. The choice of a particular procurement strategy largely depends on a client's required balance of cost, quality and time risks.

It should be remembered that the construction project itself may only be a relatively small part of the entire life cycle of the building or facility. The procurement strategy for the construction project therefore also needs to take into account where and how the construction project sits in relation to that wider picture. The issue of 'sustainability', particularly in respect of public sector works, is a major factor that needs to be considered at this stage.

To establish the procurement strategy, the procurement team needs to establish what the client's attitudes and key drivers are, and needs to state them in a way and in a language that is understood by the entire project team.

Fundamental to the process is understanding what the client requires from the project, together with some key information as to how much it wishes to spend, what quality it is seeking to achieve, and by what time it requires the project to be completed.

This process may take some considerable time, but this is of vital importance given that there is so much that flows hereafter. It is usual, in many cases, for the procurement team to assist the client with the formulation of their own 'brief' for the project.

Initially, it may well be that the client does not know much about the construction project, which is of course perfectly understandable especially if the client is an end user of the facility, but it will know the output or outcome that it requires at the end of the process. This output or outcome requirement needs to be expressed in such a way that the construction team can understand the client's needs and desires.

It may be useful for the procurement team to check their understanding of the client's requirements by 'playing back' what they believe the client is trying to achieve. As part of this exercise, the team may offer the client a selection of 'high level' construction project outputs, for example:

- a building at a stated cost
- a building of a certain size, shape, appearance and performance, and

- a building constructed to a defined timescale.

Such statements would need to be suitably qualified to cover any assumptions made so that the client is aware of the parameters upon which the guidance was being provided.

The appointment of certain consultants to assist with this process at procurement stage may be necessary and the client should be made aware of the financial implications (if any) of such appointments.

There is likely to be a period of reflection by the client on the data presented to see if the parameters of the project align with the strategic objectives for the client or for its organisation.

In due course, there could well be the need for further refinement of the project information in the light of the client's strategic changes. Such refinement and reworking of the outputs may undergo a number of alterations before the client arrives at a point where the project proposals are at an acceptable level.

Eventually, the client's attitudes and drivers can be established through the above process, and it is these attitudes and drivers that are behind the choice of a particular procurement strategy and procurement route.

3.3 Selecting a procurement strategy

The procurement strategy should be developed from an objective assessment of the client's needs and the project characteristics. Key to the appropriate selection of a strategy is the identification of the primary objectives of the client, the apportionment of risk, and the decision as to who is responsible for design.

The assessment, based upon the business case for the project, should identify the relative importance of key elements, such as performance, price and time, as judged against the risk of under-performance, enabling a suitable balance to be achieved.

A best-fit solution should be looked for. It is advisable to ensure a client makes an informed decision, based on sound advice, giving due regard to the identified criteria and the acceptable distribution of risk.

The selection process usually has two components.

1 Analysis: identification of the relative importance of the client's primary objectives and the extent of the client's attitude towards associated risk. (Appendix A provides a set of checklists that may be used to enable the objectives and priorities of the client to be ascertained in some detail.)

2 Choice: the consideration of possible procurement options, the evaluation of these, the identification of those strategies that are inappropriate, and the selection of the route that provides best fit with the analysis.

It is recommended that any selected route is reviewed again at key times during the progress of the project, such as when planning approval is given or before the construction contract or contracts are let. This is to take account of the possibility of design failing to maintain the pace anticipated, or for circumstances where the programme is otherwise affected by unexpected occurrences. Alternative procurement routes may become more suitable if circumstances change.

The client may wish to decide whether collaborative strategies can be adopted, including whether the constructors and designers may agree to a partnering approach with the client. This is more likely to be adopted where the client is undertaking a series of projects, through which the performance of the contributors can be plotted by measures such as key performance indicators. This approach is seen as particularly beneficial where mutual objectives can be agreed and a largely 'open book' approach taken to payment, including the disbursement of incentives, where appropriate.

There are other strategies that enable collaboration and involvement by constructors; these are referred to in the descriptions of each procurement route in section 2. The choice of such strategies will depend upon the nature of the business case and the client's prioritised objectives.

4 Practical considerations – (Level 3 Advising)

4.1 Introduction

This section identifies the more common pitfalls or complexities that may influence the advice given or the selection of a chosen route. This would satisfy the 'advising' requirements of the Level 3 APC competency.

4.2 Primary objectives

The more thought given to defining the project and linking the prioritisation of objectives to the business case, the greater the likelihood of the client's objectives being achieved. It is recommended that the relative importance of the key objectives are discussed with the client organisation, which can then highlight the relationship between the initial business case and the project priorities. This may then form a sound basis for the brief and the preparation of a project execution plan and should ideally involve a range of stakeholders, including future users.

Usually, when the business case is developed, the most important criterion is identified as that which, if not realised, is the greatest risk to corporate strategy.

For example, where building use is most important, performance in design will be vital; where the building is being constructed to enable a particular market to be served, time may be critical; and in cases where the client has a precise or limited budget, cost control will be most important. In most cases, however, more than one criterion is likely to result from the business case. Owner-occupier clients may emphasise function and price certainty, developers may look for low cost and speed, while investor clients may require quality of design and speed.

Any risk that serves to increase the costs and thereby reduce the 'added value' over the life of the construction project, or which has an effect upon the performance of the project, or which can delay the delivery of the construction project to the target timescale, will adversely impact upon the client's successful outcome of the construction project.

The risks may appear in any number of different ways, many of which are outside the direct control of the client.

Such risks can occur at any point in the life of the project and the earlier those possible risks are recognised and taken into consideration and allowed for within the chosen procurement strategy and procurement route, the less disruptive those risks will be if they actually occur.

The source of the risks might include some of the following.

Political or economic change (globally, nationally or locally)

A change in government and/or a change in the economic climate prevailing at the time may result in a different landscape upon which project decisions are to be made.

Legislative change – national or local government changes in policy or law

This is of particular relevance in industries where the client's affairs are highly regulated and where such changes would have a fundamental impact on the manner in which the client's business is conducted.

Environmental in luences

Over the course of recent years, the trend has been to place a greater emphasis on environmental issues, thereby forcing firms to take account of such pressure in the conduct of their business and in the products or services offered.

Social or technological change

A change in the social environment or some technological advancement may result in the client needing to amend their thinking behind the entire justification for the project.

Competitive in luences

Most companies within each industry or business sector do not operate in a vacuum and are therefore always seeking to react to moves by competitors. On many occasions this will involve the need to quickly respond with a change in the product offered to the market.

Risks inherent in the construction process

There are certain features of construction projects that create particular challenges and risks for clients, contractors and subcontractors. In addition, there are many variables that can be impossible to predict accurately in advance, yet have can have enormous impact on the ultimate cost and duration of the project.

Many risks may therefore need to be taken into account in considering the appropriate procurement strategy.

Risks can be accepted by the client, can be transferred to another party by the client, or can be reduced or mitigated; but risks cannot and should not be ignored.

Ideally risks should be held by the party best able to deal with that risk, and this is a factor that should be taken into account when considering the appropriate procurement strategy.

Risks that are transferred from the client to the contractor normally have attached to them a cost and/or programme impact, and this is in effect a risk 'premium', being a premium that (when recognised by the client) the client may rather not face.

Categories of risks could include:

- strategic risks, such as failure to obtain planning permission, or client funding problems
- external risks, such as changes in the environment
- project risks, such as overspends or delays to the programme, or
- discovery risks, such as poor ground conditions or the like.

Generally, those risks that are external to the project are less able to be controlled in the timing or extent of impact upon the construction project, while those risks that are internal to the construction project can be more easily managed and can be allocated to the appropriate party in the construction project.

A chosen procurement route should be made with a clear awareness of the likelihood of occurrence and severity of the impact of risks. If a procurement route is chosen in this way, the project should be less severely impacted if the risk event in question actually occurs.

As the project proceeds, emphasis may temporarily change, as factors such as progress, design aspects and cost receive particular attention. Upon completion, however, the client will usually be mainly concerned with whether the primary objectives established at the outset have been achieved. For some clients it can be easy to lose sight of the initial objectives as the project itself becomes a distraction.

4.3 Project Execution Plan (PEP)

The PEP has an important function in the application of a procurement route. It aims to ensure that the client's objectives, as identified in the strategic brief, are carried through to reality. It is therefore a primary tool that can be used to ensure the project is completed to the satisfaction of the users, on time, within budget and to the required quality standards.

The PEP is usually prepared by the project manager, if appointed, but is intended for use by all members of the project team. To some extent, the detail of a PEP will be dependent upon the chosen procurement route, and the format of the plan may well be dictated by the client or by the constraints of specific projects. The form and detail of the plan may also change as the project evolves. The key objective at all times should be to ensure that the plan both documents what has gone before, in terms of decisions that have been taken, and looks ahead to set a framework for future action.

The following is a generic list of the topics that any PEP might include.

- Overview: a short summary defining the objectives and the scope of the project in functional terms. This should specify the problem that the project is intended to address, the project goals and how the project fits into the client's business plans.
- Specific objectives: identification of the particular functional objectives to be achieved. These should include time, cost and quality constraints, as well as an outline description of the kind of accommodation required and the functional standards to be achieved. The plan should also define any constraints arising from the need for transparency and

accountability, and should specify how much flexibility there is in respect of the time and cost constraints.

- The proposed procurement route: the choice of an appropriate procurement route is perhaps the most important decision in the entire process. The plan should document not only what procurement route has been chosen, but also provide the underlying rationale, and the methods which are planned for the selection of the design and construction teams.
- Project control mechanisms: this section of the plan should provide details of the planned administrative, contractual and financial mechanisms through which the project will be controlled. In short, it should define how the project will be managed. It is prudent for this section to specify things such as:
  - reporting structures, together with any key dates for committee meetings, and so on
  - procedures to accommodate on-going project reviews and changes
  - any particular client requirements or restrictions (for example, on the use of subcontractors), and
  - value, quality and health and safety management procedures.
- Project time schedule: this should define all aspects of the project timescale, including critical dates and milestone events. The project schedule will plainly evolve as the project proceeds, and should eventually comprise both outline long-term and detailed short-term programmes. The proposed timescales should, of course, meet the client's delivery requirements, but it is also important that they are realistic. Imposing unrealistic time constraints simply increases the risk to the client of failure to meet key targets.
- Project budget: project budgets should usually include not only capital construction costs, but also on-going and recurrent expenditure during the project life cycle. The budget will probably become progressively more detailed as the project proceeds. A PEP should include details of funding sources and document cost- monitoring and review procedures.
- Personnel and lines of responsibility: the PEP documents who is responsible to whom, and for what. A PEP should define the limits of authority and responsibility for all of the key players in the process.
- The procedures for project completion and the handing over of the completed facility to the client. It is recommended that the PEP specifies who will be responsible for taking possession of the building and its future management, what documentation will be required and what training needs to be provided.
- Evaluation methods: the PEP should document the criteria against which the completed project will be measured, and note how the measurement will be carried out. It is prudent for these issues to be considered at an early stage, in order that the project team know how the final outcome is likely to be evaluated. Project evaluation may be impossible unless the evaluation criteria are fixed, but clients' objectives frequently change between project initiation and project handover. If major changes are likely to occur, for example,

as the result of rapidly changing technology, then the PEP should make provision for these.

- Potential problems: it is prudent to identify potential areas of risk that might compromise the successful completion of the project, together with a note of appropriate risk-management strategies.

4.4 Factors outside the control of the project team

Consideration should be given to the potential impact of economic, commercial, technological, social, political and legal factors that may influence the client and the project team during the lifetime of the project. These may include:

- changes to the cost and availability of finance
- developments in existing technology or new technological advances
- increases in the level of inflation, affecting the products or trades used in the works
- changes in the local or national demand for construction, affecting tender price levels
- reduced ability of specialist trades/labour resources at local or national level due to construction projects undergoing at the same time which can affect ability to meet programme requirements
- changes to legislation, affecting the design of the works or the methods of achieving that design, and
- government or other advice during periods of national emergency, such as the COVID-19 pandemic, which can affect the availability of labour and other resources.

If simple risk analysis is adopted, a judgement can be made as to whether risk allowances should be budgeted for in the scheme, in order to cope with likely occurrences of this nature. Where changes to techniques or technology are anticipated, a level of flexibility of design may be required.

4.5 Client resources

It is prudent to use the client's knowledge, the experience of the client company's organisation, and information regarding the environment in which it operates, in determining an appropriate procurement strategy. It is advisable to ascertain the extent to which the client is prepared or able to take a full and active role. Whether involved closely or not, the appointment of a client sponsor, project manager or representative, with authority to make or confirm decisions on behalf of the client, is recommended, to avoid delays in decision-making or confusion as to authority.

It is advisable for clients to ensure that they arrange project funding in a way that reflects both their contractual commitments to pay and their corporate business financial structure. Land, legal, consultant and statutory fees, along with payments for construction work,

may be required at different times; the funds will need to be in place and available at the appropriate times.

4.6 Project characteristics

In deciding upon a procurement strategy, the size, complexity and location of the project should be carefully considered, with particular attention given to projects with novel elements. If a proposed new building is especially large or complex, there may be a greater risk of cost or time overrun, or a refurbishment of an older property may run the risk of encountering an unknown amount of asbestos. With any 'novelty' factor, estimates of time, cost and performance may be subject to greater error, with an increased risk of one or more of the project's objectives failing.

4.7 Cost issues

Estimates of the cost of future buildings made at an early stage are notoriously inaccurate, but are usually necessary for decision purposes. It is recommended that the client is made aware of the level of likely accuracy (or uncertainty) of any estimates and understands the need for risk allowance.

Where there is the need for price certainty, this can influence both project timing and the procurement strategy to be used. Generally, if price certainty is required, design should be complete before construction commences. However, as design can take time, this may cause delay, except, in general, where design and build strategies are adopted.

Inflation may also affect total cost where there is a level of variance; increased price clauses exist that can compensate the contractor for such a variance.

Changes to design during the course of construction should be avoided if cost certainty is to be maintained. Changes, whether initiated by the client or the design team, often have cost and time implications on the project well in excess of the change itself. It is therefore advisable for the client to fix a date after which no significant changes should be introduced, or to select a strategy that enables such changes and accepts the consequences (see 4.9).

4.8 Value for money

Clients will be keen to achieve good value for money, but few outside the most experienced group are likely truly to understand how this might be achieved or measured. Securing maximum value for money from a construction project often requires a fundamental re-evaluation of the client's underlying value system through the adoption of value management techniques. This is frequently a difficult and time-consuming task, which many clients find very challenging, but is nonetheless advisable if the project is to be ultimately successful in terms of achieving 'value for money'.

It is common for inexperienced clients to ask for the highest quality at the lowest price, to be completed in the shortest time. The client's project manager may have to devote

considerable time and effort to arrive at a workable compromise that meets the client's real objectives.

4.9 Ability to make changes

It is preferable to identify the full needs of a project during the early stages; however, this is not always possible. In addition, rapidly changing technology often results in late changes.

Changes in the scope of a project very often entail increased costs, especially if they arise during construction. Changes introduced after the design is well advanced or after construction has commenced often have a disproportionate effect on the project, in terms of cost, delay and disruption, compared with the nature of the change itself. In general, the design process will go through a progressive series of 'freezes' as it develops, but the client or project team should set a final design 'freeze' date, after which no significant changes to requirements or design are allowed.

Some procurement routes are better than others at handling the introduction of changes later in the project and reducing the possibility of having to pay some form of specific premium. A collaborative approach where cost is subject to a target can offer benefits in this area.

4.10 Project timing

Most projects are needed within a time frame or by a specific date. This will influence whether subsequent activity can occur as planned and in many cases may severely affect those factors identified as critical or high priority in the business case.

Setting unachievable programmes will result in over-runs. The UK construction industry may have a reputation for delivering projects 'late'. This can be the result of over-optimism, or a lack of reliable data. Realism may frustrate an impatient client, but unexpected lateness may have more severe consequences such as where expected dates to open new facilities are delayed.

The programme of the project can be influenced by many factors; a particularly large or complex project is likely to require more time for design, specification and construction than a simple small building. It is highly advisable to allow for adequate design time in terms of the total project, particularly if design is required to be complete before construction commences (where, perhaps, cost certainty is required).

Design can be a complex and lengthy process, and it is not uncommon for this stage to take as long as the completion of the work itself. Design approval time-cycles should be a consideration in this process.

When appointing a design team, assurances should be obtained about resource levels and the ability of the team to meet key dates or to complete programmes. It is not usual to impose contractual dates upon designers, although their progress is probably the key to the overall completion date.

Certain factors may influence the planned or desired time for design, depending on when they occur. For example, decisions to progress with a project may be influenced by the gaining of planning approval, by the successful operation of a compulsory purchase order, by land purchase or by some other non- specific but critical factor (such as obtaining funding approval).

As outlined above some procurement routes (such as design and build, construction management and management contracting) enable an overlap between the design and construction stages, with construction able to start earlier than in sequential routes. This offers the potential for earlier completion. It may be prudent to review the planned procurement strategy in the light of design progress at key milestones in the project, such as obtaining planning permission.

Time has both a cost and a value. If the value of a completed project to the client on a week-by-week basis is identifiable, the value of relatively early completion can be assessed. This may form an important factor in the decision-making process and is often referred to as the 'time/cost trade-off'. For relatively early completion, this may encompass early income flow from a commercial market, and should enable reduced interest and insurance charges to be realised. Relatively late completion is likely to attract greater interest and insurance charges (among others) and potential loss of opportunity. The development of calculations that identify these sums can be a useful management tool.

4.11 Construction times

Total construction time is generally reliant upon design. More complex structures will almost certainly take longer both to design and to construct, and may require more resources. Some general guidance on construction times is available through the Building Cost Information Service (BCIS). In most cases, design and other activities are not included in these times.

4.12 Performance

The required performance of the project, measured in terms of both its response to the needs of the client (as expressed in the business case), and the quality of individual elements, should be clearly identified. If performance is over-specified, a premium will usually be paid for exceeding actual requirements, thereby affecting the cost objective.

Over-specification may also lead to time overruns. Conversely, failure to recognise the true performance objective may lead to an unsatisfactory product.

A post project review will evaluate whether the client's initial objectives have been met and should capture learning for future projects.

4.13 Accountability

Another aspect to be considered at an early stage is the level of accountability necessary to meet the requirements of the client organisation. For example, to whom will the client have to justify expenditure? Must every penny be accounted for (as in a publicly funded project) or are the requirements less stringent?

Often, both public- and private-sector procurement strategies will be affected by prescribed processes or financial considerations. Those covered by legislation such as the Procurement Act 2023 and NHS initiatives such as Procure 23 are typical examples.

Appendix A Procurement strategy selection checklists

This checklist aims to establish information about client needs and the project under consideration. This information can be further developed, taking into account the characteristics of various procurement strategies and their associated risk. Time, cost and design are key criteria in the selection mechanism, as is the inherent risk of a strategy and the apportionment of this.

The responses to the checklists should enable the RICS member to establish the following key factors. These will affect the choice of procurement route:

- whether the project is feasible in terms of time and viable in terms of cost
- if the project is required to be completed by a specified date, whether this is vital to the project's success in terms of client needs, or whether slippage can be accommodated if cost is considered
- if relative speed is required, whether the client can accept less cost certainty and potentially increased costs
- whether the project is complex in terms of design or site-related problems, and
- whether the need to ensure that the project can be built within a budget is a priority.

A1 Checklist 1: Time

1. The following should be considered				
1.1 Is completion needed by a specific date?				
Yes		No		
1.2 Is completion needed in the shortest possible time?				
Yes		No		
1.3 Is the client prepared to pay more for earlier completion?				
Yes		No		
2. Does the answer to question 1.1 suggest a faster than 'normal' total project time in the judgement of the client's advisers?				
Yes		No		
3. How long is it in months from the date of completion of this protocol until the desired 'move in' date?				
4. Define the reason for the identified completion or 'move in' date:				
4.1 End of lease				
4.2 Sale of premises				

4.3 New business opportunities	
4.4 Unsuitability of present premises	
4.5 Company restructuring	
4.6 Business milestone	
4.7 Other (specify)	

5. Consider the following:				
5.1 Is the need for completion by a specific date or within a specific time frame more important than certainty of construction cost before work starts?				
Yes		No		
5.2 Is the need for completion by a specific date or within a specific time frame more important than spending an extended time on design?				
Yes		No		

6. What is the approximate value, in sterling, to the client of the building or facility in terms of contribution, rental or cost savings per month?
£
7. If the building is completed later than the specified or desired date, will the client:

7.1 Stay in their existing premises?	
7.2 Find temporary accommodation?	
7.3 Close down?	
7.4 Adopt some other course?	

Notes
Specified completion time:
Reason for completion time:
Is required completion time relatively fast?

Is time seen as the predominant client need?
What is the potential financial implication of earlier or later completion?
What action may the client take if the dates are not achieved?

A2 Checklist 2: Design

1. Does the client have clear ideas about the building's functionality and the desired design?				
Yes		No		
2. Does the client have a view about specific building life requirement?				
Yes		No		
3. Does the site (if selected) pose any particular problems for the designer in respect of:				
3.1 Shape or topography				
3.2 Access				
3.3 Storage space				
4. Does the building type suggest relative design complexity?				
Yes		No		
5. Does the building type suggest emphasis upon functionality or adaptability?				
Yes		No		
6. Does the building type suggest highly complex mechanical, electrical or engineering installations?				
Yes		No		
7. Is it anticipated that extensive changes to design may be required during the construction phase?				
Yes		No		
8. Does the client wish to emphasise low running costs?				
Yes		No		
9. Does the client wish to emphasise low maintenance costs?				
Yes		No		
10. If the client wishes to emphasise product quality, at a higher potential cost:				
10.1 Does the client have clear ideas about their needs?				
Yes		No		
10.2 Does the site pose complex design problems?				
Yes		No		
10.3 Is the building design complex?				
Yes		No		
10.4 Is functionality particularly important?				
Yes		No		
10.5 Does the client have a long-term view about the building?				
Yes		No		

A3 Checklist 3: Cost

1. What is the client's maximum budget?				
£				
2. Can the budget be allocated as below?				
2.1 Land purchase and fees				
Yes		No		
2.2 Construction, including fees				
Yes		No		
2.3 Fittings and plant				
Yes		No		
2.4 Contingencies				
Yes		No		
2.5 Other (specify)				
3. Will the client need to have a fixed contract price for the construction element of the budget or will a reasonably accurate budget be adequate?				
Yes		No		
4. What is the client's willingness to pay more to achieve a quicker completion date or to obtain higher quality?				
Notes:				
Total maximum spending capacity:				
Total construction spending capacity:				
Need for pre-construction cost certainty:				

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