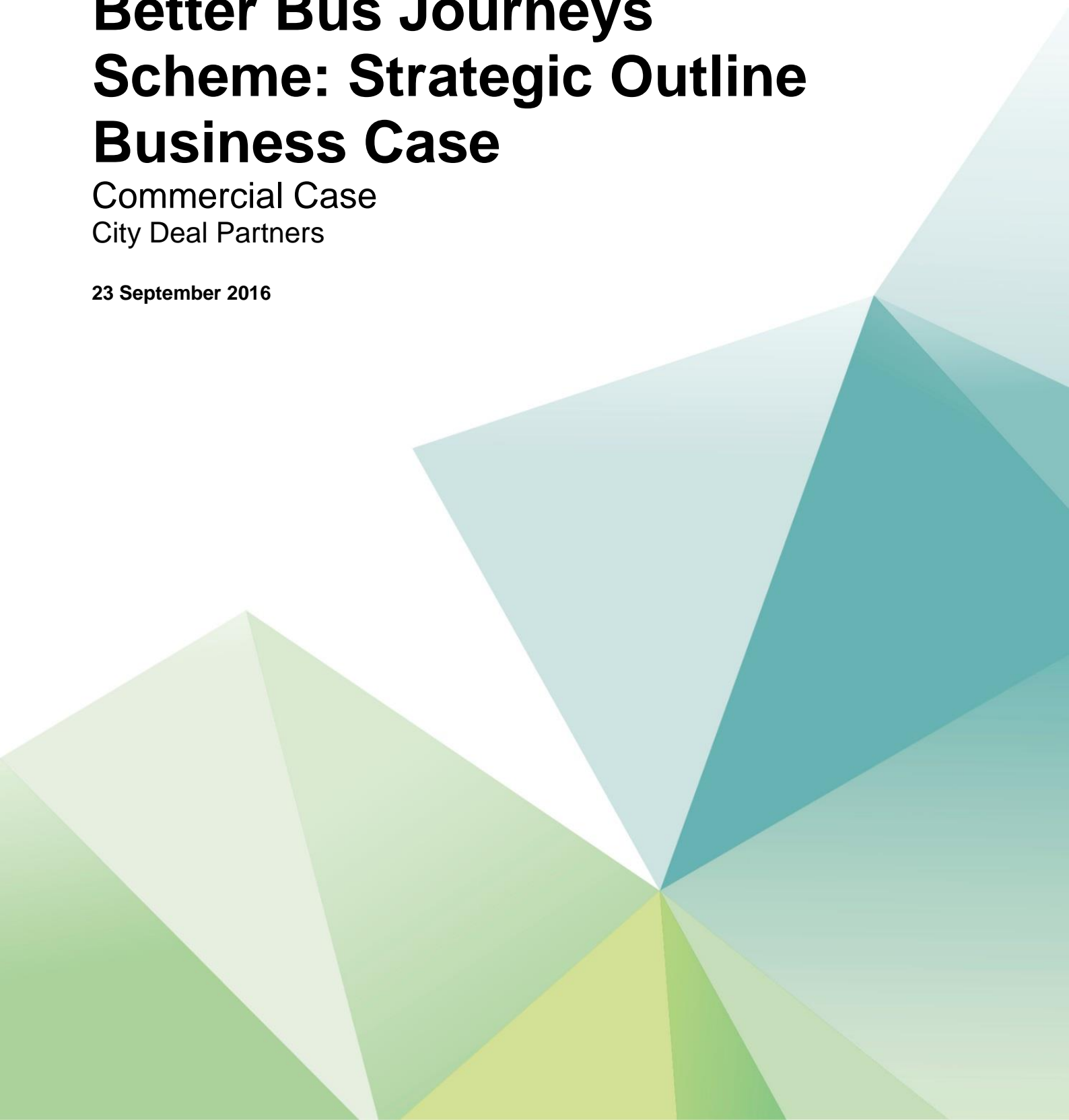


# **Cambourne to Cambridge Better Bus Journeys Scheme: Strategic Outline Business Case**

Commercial Case  
City Deal Partners

23 September 2016



## Notice

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# 1. Introduction

## 1.1. Overview

This chapter sets out the **Commercial Case** for the Cambourne to Cambridge Better Bus Journeys Scheme. The Commercial Case forms part of the Strategic Outline Business Case (SOBC), following DfT's WebTAG guidance. The objective of the Commercial Case is to provide evidence of the commercial viability of the proposed scheme. This chapter also explores options for a range of potential procurement strategies that may be used to engage the market. It describes the financial implications of the proposed procurement strategies, including risk allocation and transfer, contract (and implementation) strategies and timescales, as well as summarising the capability and skills of the team delivering the project and any personnel implications arising from the proposal.

The Cambourne to Cambridge Better Bus Journeys Scheme being considered by the Greater Cambridge City Deal Partnership (the Partnership) presents a series of bus-based passenger transport (PT) options that seek to markedly improve connectivity between Cambridge and the western side of the Greater Cambridge area. The options are aimed at improving the provision and connectivity of PT between proposed housing developments along the A428 corridor such as Cambourne and Bourn Airfield, and the City Centre. A full description of the need for the scheme, the vision, objectives and options is set out in detail in the Strategic Case.

## 1.2. Purpose and objectives of this Commercial Case

The Commercial Case sets out options for the potential procurement strategies available to engage the market, setting out the financial implications of each potential procurement strategy and the commercial model which drives best Value for Money. It explains how the Cambourne to Cambridge Better Bus Journeys Scheme is seeking to implement an innovative approach to deliver the objectives outlined in the Strategic Case.

At this stage of SOBC development, the Commercial Case has been prepared at a high level, to provide a strategic outline or overview. Details on contract length, human resource issues and contract management will be finalised and updated subject to approval to proceed with the development of the Full Business Case.

The Commercial Case would be developed following the steps in the approach outlined below:

- set the procurement objectives, define desired outcomes and identify potential constraints;
- identify potential procurement / purchasing options;
- assess the procurement options in terms of pros and cons, to develop a rationale for selecting the preferred sourcing option;
- confirm the preferred payment mechanism and pricing framework; and
- assess how different types of risk might be apportioned / shared, with risks allocated to the party best placed to manage them.

The procurement strategy for the bus operations is addressed in section 1.8 below, and the procurement of infrastructure provision in section 1.10.

## 1.3. Compliance with DfT guidance for the Commercial Case

This Commercial Case follows the DfT WebTAG guidance for a Commercial Case. Table 1-1 demonstrates where the relevant information complying with those requirements is set out in this document.

**Table 1-1 Location checklist of requirements for the Commercial Case<sup>1</sup>**

<b>Requirement</b>	<b>Description</b>	<b>Location in report</b>
Introduction	Outline the approach taken to assess commercial viability.	1.2 Purpose and objectives of this Commercial Case
Output based specification	Summarise the requirement in terms of outcomes and outputs.	1.5 Output based specification
Procurement strategy	Detail procurement/purchasing options including how they will secure the economic, social and environmental factors outlined in the Economic Case.	1.6 Overall procurement strategy
Sourcing options	Explain the options for sources of provision of services to meet the business need e.g. partnerships, framework, and existing supplier arrangements, with rationale for selecting preferred sourcing option.	1.8 Bus services procurement strategy 1.9 Sourcing options – capital works 1.10 Capital works procurement options
Payment mechanisms	Set out the proposed payment mechanisms that will be negotiated with the providers e.g. linked to performance and availability, providing incentives for alternative revenue streams <sup>2</sup> .	Capital Works: 1.14.1 Payment mechanisms  Bus Services: N/A
Pricing framework and charging mechanisms	Including incentives, deductions and performance targets as well as outlining the pricing framework and charging mechanisms.	Capital Works: 1.14.2 Pricing framework and charging mechanisms  Bus Services: N/A
Risk allocation and transfer	Present an assessment of how the types of risk might be apportioned or shared, with risks allocated to the party best placed to manage them subject to achieving Value for Money.	Capital Works: 1.14.3 Risk allocation and transfer  Bus Services: N/A
Contract length	Set out scenarios for contract length (with rationale) and proposed key contractual clauses.	Capital Works: 1.14.4 Contract length, defects, operation, maintenance, and compliance periods  Bus Services: N/A
Human resource issues	Consider personnel/people management/trade union implications, where applicable, including TUPE regulations.	Capital Works: 1.14.5 Human resource issues

<sup>1</sup> As set out in Table 5.1 – Contents of the Commercial Case – of *The Transport Business Cases* published by the Department for Transport (January 2013)

<sup>2</sup> See the Office for Government Commerce’s *Achieving Excellence* briefing for advice on payment mechanisms for construction projects.

		Bus Services: N/A
Contract management	Provide a high level view of implementation timescales. Detail additional support for in-service management during roll-out. Set out arrangements for managing contract through project / service delivery.	Capital Works: 1.14.6 Contract management  Bus Services: N/A

## 1.4. Summary of options – differing infrastructure outputs

Five options for the Cambourne to Cambridge Better Bus Journeys Scheme (described in the Strategic Case) have been considered within this Strategic Outline Commercial Case. In identifying an appropriate procurement strategy for the infrastructure (Capital) outputs for these options, it is important to understand both the engineering and logistic complexity of each option. In terms of infrastructure, the key characteristics of the five options are as follows; each of them includes a new Park & Ride site and varying amounts of utility works, new segregated busways and bus priority traffic signals to all other than option 1 and a new bridge over the M11 motorway (options 3 and 5 only). For further details on the specific infrastructure proposed for each option, refer to the option descriptions presented in the Strategic Case.

Where options require carriageway widening or completely new infrastructure (notably the Park & Ride site and any new segregated busways) the delivery of which can only be secured by the use of additional land ('land assembly'), such land assembly may need to be secured through the exercise of powers of compulsory acquisition; and compliance with local planning and highway legislative and regulatory requirements will also be necessary.

## 1.5. Output based specification

Sections 7 and 10 of the Strategic Case distilled strategic objectives for the scheme. Table 10-1 of the Strategic Case derived outputs (identified as 'measurable outcomes' in the table) from these strategic objectives and listed them as;

- Increased transport capacity;
- Improved transport connectivity;
- Improved journey times;
- High Quality Public Transport (HQPT); and
- Value for Money.

For the purpose of highlighting the ability of different procurement methodologies to deliver these outputs it is valuable to distil the list into simpler concepts that are key concepts in contracts; Cost and Quality, with Quality being understood more widely as covering not just the immediate passenger experience of ride quality but also ease and speed of undertaking a journey.

A third factor, Time, is usefully added to Cost and Quality as this is important in its own right as a key element in the delivery of both Quality and Cost; a transport system delivered more quickly can be seen to directly increase both utility in use of the new transport scheme as well as increasing Value for Money derived from earlier income streams from the service provision. Time is also one of the key differentiating factors between possible procurement methodologies.

While 'Cost' is not the same as 'Value for Money', a change in scheme cost achieved with no change in quality results in a change in Value for Money obtained from the strategy. Cost is also an identifiable differentiating factor between possible procurement methodologies.

Developing a set of requirements for the outputs will be key to a successful procurement process, whether that process is traditional, Design and Build (D&B), Develop and Construct (D&C) or Develop and Operate (D&O).

## Infrastructure works

Construction projects can be complex and carry significant risk of cost and time overruns and quality / serviceability issues. The probability and magnitude of these risks depend on a number of factors, some known and some unknown, or at least unpredictable. The key known factors include the complexity of the asset being created or service being delivered via the asset, the performance quality of the chosen supply chain members, the management resources available and the appropriateness of fit of the procurement strategy to all of these factors.

Some relevant issues of such factors influencing the chosen procurement strategy are given below;

- **Time:** earlier completion can be achieved if construction of certain elements is started before design of the whole scheme is finished. This is facilitated by a phased completion and release of design to the construction team. The greater the overlap between the two, the less time will be required to complete the project;
- **Cost:** A final construction contract sum cannot be established until the design is complete. Any overlap between design and construction means that construction starts before the cost is fixed; and
- **Quality:** Some procurement strategies reduce the scheme promoter's ability to control and make changes to the detailed construction specification after the contracts have been let. In terms of construction contracts 'Quality' includes the function of the asset, its compliance with performance requirements and technical specifications as well as appearance, durability and cost in use.

In any project these three criteria (above) are understood to be interdependent and decisions affecting one of the three criteria will affect one or both of the other two criteria. The appropriate procurement strategy recognises these interrelationships and balances scheme promoter needs and project characteristics. Incentivisation of cost and time is relatively straight-forward and this is dealt with in sections 1.14.3.1 and 1.14.3.2 of this Commercial Case.

Within the general framework outlined above, a high level qualitative risk assessment of the key specific risks to Time, Cost and Quality arising from the outputs from the five options (as set out in the Strategic Case) is shown in Table 1-2. The assessment identifies in each Case the derived risk of 'occurrence' in terms of High ('H'), Medium ('M') or Low ('L'), the categorisations being based upon professional judgement as proportionate for this stage of assessment.

**Table 1-2 Qualitative risk assessment of output risks**

Risk	Assessed risk factor ('H', 'M', 'L')		
	TIME	COST	QUALITY
Land Acquisition	H <sup>3</sup>	L	L
Utilities works	H	M	L
New Bridge design	M	M	L
New Bridge construction	H	L	L
Contaminated land treatment	M	M	L
Traffic Management ('TM')	H	H	L
Signalised Junctions design	M	L	H
Signalised Junctions construction	M	L	H
Segregated guideway design	M	L	H
Segregated guideway construction	M	L	H
Park & Ride site design	M	L	H
Park & Ride site construction	M	L	H
Maintenance	L	M	M

The following sections of this report develop a suggested procurement and contracting strategy respecting the particular risks arising from the required outputs of the potential options.

<sup>3</sup> If the scheme promoter obtains and exercises compulsory purchase powers for the land acquisitions this Time risk will be mitigated to a 'Medium' risk.



## Bus services

It may be helpful for the Partnership to develop a specification for bus services to encompass the key outputs it wishes to be fulfilled such as frequency, journey time, destinations served, and punctuality. This specification must recognise, however, the need for flexibility in the face of changing circumstances (for example, if there are changes in frequency or routes in the commercial bus network in the area) and its development needs to be an iterative one, taking account of other objectives such as the sharing or transfer of delivery and financial risk to bus operators.

## 1.6. Overall procurement strategy

A procurement strategy has been prepared based on the objectives of the project to ensure a successful outcome by addressing the output risks for the infrastructure options identified in the Strategic Case. The Partnership is expected to procure many of its professional services through frameworks with suppliers which have been pre-selected by virtue of their capabilities, experience, capacity and behaviours.

Risks to operational performance should sit with the scheme promoter and the outline designer whereas risk to time and costs, especially during implementation should sit with the contractor.

Currently, bus operator involvement in providing infrastructure is generally limited and there are very few precedents of bus operator involvement in any PPP infrastructure schemes in the UK or for infrastructure schemes specifically for bus services. This is distinct from operators contributing to the capital or revenue costs of infrastructure, of which examples include an access charge (Cambridgeshire Busway), contribution to capital cost (Leeds) or profit share mechanism (South Hampshire Eclipse). It is for this reason that the procurement strategy (in this SOBC) has considered parallel procurement routes for both capital works and bus services.

In the following sections the terms 'client' is used as this is the title given by many standard form construction contracts. In the context of this Commercial Case the word 'client' is synonymous with 'scheme promoter' or the organisation via which the scheme promoter decides to enter into contract with construction organisations for the infrastructure works.

## 1.7. Capital works procurement strategy

The capital (infrastructure) works procurement strategy must acknowledge appropriate risk allocation and work with the design strategy and set the appropriate engagement of consultants and contractors for the detailed design and implementation. The capital works strategy is realised through the resulting project organisation, project management, contracting strategy and the consistency and co-ordination of the contract terms between the client and external organisations.

One of the most fundamental decisions when addressing the procurement strategy for infrastructure works is how to source the design elements of the work.

The design requirements of the infrastructure work vary between options. There may be elements in some of the options that are challenging and may present risk of delay either because of design complexity or because of necessary interface with third parties. Examples of risk accruing from relative technical complexity are the new bridge over the M11 and the signalised junctions between segregated busways and existing carriageways. Examples of risk accruing from design interfaces with third parties are the land assembly and design approvals from the respective statutory bodies for planning and highways amendment consents.

Infrastructure design is a process with distinct but related stages. Operational design, sometimes referred to as 'Preliminary', 'Outline' or 'Reference'<sup>4</sup>, defines the performance criteria of the scheme and what the actual outputs will be, whereas detailed design defines the construction of the project and how it is delivered on the ground.

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<sup>4</sup> The term 'Reference' being applied often when an outline design is incorporated into a construction contract as part of the specification, being the design which a Design and Build contractor will need to develop with detailed design work before constructing.



Given that the key external constraints and risks on the project (land assembly and statutory utilities diversions) are largely defined during the initial phases of the design of the selected option, the procurement strategy can be effective in partially managing these risks before the delivery mechanism is set in train.

In terms of the construction phase of the project the key risks identified in the options include the planning and logistics involved with the construction of a new bridge over an operational motorway (Options 3 and 5 only) and the sensitivity to the quality and reliability of the operational life of the infrastructure accruing from lack of direct control during construction of the junction signals, the Park & Ride facilities and the segregated busway itself.

The section below on 'Sourcing Options' applies the risk assessment to decide on appropriate contracting strategies for the infrastructure.

## 1.8. Bus services procurement strategy

The Bus Services procurement strategy will be heavily influenced by the Transport Act 1985 which deregulated the provision of bus services outside London. Any licensed bus operator is able to provide whichever bus services it chooses on a commercial basis, with the freedom to determine routes, frequencies, fares and vehicle type provided that it complies with relevant legislation and accepts any local or national requirements for concessionary travel. Two operators currently provide services on the A428 corridor: Stagecoach East and Whippet Coaches.

This regime has been modified by subsequent legislation: Transport Act 2000, Local Transport Act 2008; and will be subject to further modification should the Bus Services Bill 2016 receive Royal Assent. Each one of these pieces of legislation provides local transport authorities with means of influencing the provision of bus services and these are explored below.

Local authorities also have other duties to consider in developing their procurement strategies. They have a legal duty to consider what, if any, additional services are required to supplement those provided commercially, and a related requirement under the Equality Act 2010 to ensure that no one group of people is disadvantaged by their actions.

## 1.9. Sourcing options – capital works

A number of procurement options are being considered; these mainly focus on procurement of key suppliers under direct contracts with the Partnership. Different procurement strategies provide different ways of allocating risk and responsibilities to the organisations contributing to the project, different structures for the project organisation and different relationships between those external organisations and the Partnership.

There are many procurement routes available including traditional, D&B, management contracts and private finance initiative / public-private partnership (PFI/PPP). With the exception of PFI/PPP there are a number of industry standard contract forms which provide terms and conditions to reflect and control the differing processes and priorities inherent in those basic contracting strategies discussed in further detail below.

## 1.10. Capital works procurement options

The contract strategy will determine the level of integration of design, construction and maintenance for a project. This should support the objectives for outputs expressed in respect of time, cost, and quality which, subject to fine tuning, are understood to be generally stated as follows:

- **Cost** - a high degree of certainty that the scheme can be delivered within the available funding constraints;
- **Quality** - the provision of a high quality asset with minimal maintenance issues and interruptions to planned operation levels; and
- **Time** - bringing the new assets into operation quickly after funding is approved.

These objectives conflict to a certain degree and consequently the sourcing option will reflect an optimised balance between them. Mechanisms will be put in place in the chosen contract strategy to further incentivise the supply chain towards the objectives. The choice of strategy must ensure that control is concentrated

where it is most needed and on the factors most important to the Partnership, with risk being allocated in a way that it is held by the party best able to manage it, consistent with the stated objectives.

The main types of procurement strategy for capital works are:

- **Traditional:** design by client-engaged consultants before tender and separate placement of a contract for the construction works;
- **D&B:** detailed design and construction are both undertaken by the same organisation;
- **D&C:** a hybrid of 'traditional' and D&B where part of the design is prepared before the contractor is appointed;
- **Construction management:** design by the client's consultants and construction of the works overlap. A fee-earning construction manager defines and manages the work packages. All contracts are between a client and the trade contractors. The final cost of the project may only be accurately forecast when all packages have been let;
- **Management contracting:** design by the client's consultant and construction overlap. A management contractor is appointed early to let elements of work progressively by trade or package contracts ('works packages'). The contracts are between the management contractor and the works contractors. As with construction management, the final cost can only be forecast with reasonable certainty when the last package has been let; and
- **PFI/PPP:** This procurement route is typically where a public sector client buys services with defined outputs from the private sector on a long-term basis, typically for 25 years. This will typically involve constructing and maintaining the delivered asset, and consequently the supplier is incentivised in this model to have the highest regard to whole-life costing as it has the risk of future operation and maintenance costs for a substantial period of time.

Table 1-3 summarises and compares the options, presenting the pros and cons of each basic procurement route. Later on in this section we explain how the divisions between each separate route can be fine-tuned to obtain the optimum characteristics for the project contracting strategy.

**Table 1-3 Comparison of capital works procurement options**

Procurement type	Description	Risk transfer	Advantages	Disadvantages
<i>Traditional approaches</i>	<i>Client completes a full detailed design followed by tendering for a contractor, who is passed the design to construct.</i>	<i>The contractor assumes responsibility and financial risks for the building works whilst the client takes the responsibility and risk for design team performance. Therefore, if the contractor's works are delayed by the failure of the design team to meet their obligations, the contractor may claim against the client for additional costs and/or time to complete the project.</i>	<ul style="list-style-type: none"> <li>• design-led, facilitating a higher level of client control over the design;</li> <li>• reasonable price certainty at contract award based upon market forces;</li> <li>• the strategy is satisfactory in terms of public accountability;</li> <li>• the procedure is well known; and</li> <li>• changes are easy to arrange and value.</li> </ul>	<ul style="list-style-type: none"> <li>• overall programme may be longer than for other strategies as there is no parallel working;</li> <li>• limited 'buildability' input by contractor; and</li> <li>• the strategy often results in adversarial relationships developing.</li> </ul>
<i>D&amp;B</i>	<i>Client goes to tender on the basis of performance criteria for the asset together with other design and logistical constraints possibly together with very limited design information. The successful contractor then becomes responsible for completing the design and construction in accordance with the stated requirements</i>	<i>Design risk is carried by the contractor. The client develops a detailed knowledge of risk, enabling a more informed negotiation of risk transfer at the tender stage.</i>	<ul style="list-style-type: none"> <li>• the client has only to deal with one firm;</li> <li>• more construction efficiency benefits ('buildability') are prioritised in the design;</li> <li>• price certainty is obtained before construction starts provided the client's requirements are adequately specified and changes are not introduced; and</li> <li>• reduced total project time through early completion is possible because of overlapping activities. Detailed Design is completed by the contractor to suit its own construction programme, the advanced site works being undertaken while the design for later activities is still in progress</li> </ul>	<ul style="list-style-type: none"> <li>• There are very few true D&amp;B construction organisations and what is usually being procured is a collaboration between a contractor and design organisation;</li> <li>• the client is required to commit itself before the detailed designs are completed;</li> <li>• there is no design overview unless separate consultants are appointed by the client for this purpose;</li> <li>• difficulties can be experienced by clients in preparing an adequate brief;</li> <li>• bids are difficult to compare since each design, programme and cost will vary;</li> <li>• client changes to project scope can significantly add to the scheme costs; and</li> <li>• Practical difficulties are possible if, despite contractual checks a contractor is intent on implementing a programme of cost savings</li> </ul>
<i>D&amp;C</i>	<i>The client submits for tender an outline design together with performance criteria for the asset together with other design and logistical constraints. The successful</i>	<i>Generally as D&amp;B above but the contractor's design is constrained within certain parameters derived</i>	<ul style="list-style-type: none"> <li>• as D&amp;B above but because of the pre-contract outline design work together with continuous checking of the developing detailed design the client has more</li> </ul>	<ul style="list-style-type: none"> <li>• as D&amp;B above but the difficulties of and unpredictability of outcomes arising from representing the brief purely in words is</li> </ul>

Procurement type	Description	Risk transfer	Advantages	Disadvantages
	<i>contractor then becomes responsible for the outline design that it has inherited and completes the detailed design and construction in accordance with that outline design modified as necessary to comply with all the contract requirements. It is typical under this model for the client's designer to be transferred to the contractor to maintain knowledge and continuity.</i>	<i>and defined by the outline design already undertaken by the client.</i>	<i>control over the main characteristics of the asset as finally constructed.</i>	<i>mitigated by the client's 'pre-contract' partial design.</i> <ul style="list-style-type: none"> <li><i>loss of contractor buildability input into the outline design stage however this can be mitigated by inviting alternative proposals with tenders; and</i></li> <li><i>additional programme time spent before tender although limited net delay to achievement of the construction completion</i></li> </ul>
<i>Management contracts</i>	<i>Management contracts cover both the 'management contracting' and 'construction management. Procurement approaches; although technically different they are very similar. 'Construction management' is characterised by the provision of a construction management consultancy service and 'management contracting' is effectively traditional contracting but with the contractor working for a fee based on the total value of the works packages procured and managed by it.</i>	<i>Under both regimes the work is let in separate work packages (generally by trade) which may include design responsibility). Under the construction management regime all work package contracts are placed directly by the client whereas under 'management contracting' the contractor places these contracts.</i>	<ul style="list-style-type: none"> <li><i>the strategy offers time saving potential for overall project time due to the overlapping of procedures;</i></li> <li><i>buildability advice potential is inherent;</i></li> <li><i>breakdown of traditional adversarial barriers although a certain amount of contractor / client barriers remain under the 'management contracting' regime;</i></li> <li><i>parallel working is an inherent feature;</i></li> <li><i>clarity of roles, risks, and relationships for all participants; and</i></li> <li><i>changes in design can be accommodated later than with some other strategies, without paying a premium, provided the relevant trade packages have not been let and earlier awarded packages are not too adversely affected.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>price certainty is not achieved until the last trade packages have been let; and</i></li> <li><i>an informed, proactive client is required in order to operate such a strategy</i></li> </ul>
<i>PFI/PPP</i>	<i>This procurement route is typically where a public sector Client buys services with defined outputs from the private sector on a long-term basis, typically for 25 years. This will involve maintaining or constructing and maintaining the asset, and the supplier is incentivised to consider whole-life</i>	<i>All risk is carried by the PFI Operator</i>	<ul style="list-style-type: none"> <li><i>total cost of the scheme including maintenance and operation is effectively spread over the whole lifecycle of the project; and</i></li> <li><i>long term interest in maintenance helps ensure quality driven approach to the design and construction of the scheme.</i></li> </ul>	<ul style="list-style-type: none"> <li><i>increased procurement process duration will lead to significantly later start date of construction and therefore potential for increased cost to completion;</i></li> <li><i>generally more expensive overall than self-funded procurement models;</i></li> <li><i>very long 'lock-in' time with the contractor may be problematic if relationships are not satisfactory; and</i></li> </ul>

Procurement type	Description	Risk transfer	Advantages	Disadvantages
	<i>costing as it will benefit directly from reduced spending on maintenance.</i>			<ul style="list-style-type: none"><li><i>strong differences of political opinion exist on the use of PFI models of procurement. This may generate political difficulty in obtaining sanction for use.</i></li></ul>

As outlined above, while certain identified design and construction risks exist, only the scheme options under consideration which contain the new M11 bridge and signalised junctions could be considered to contain complex engineering design. Some form of signalisation is proposed in all options, although a new bridge over the M11 is only required to construct options 3 and 5.

One of the key design risks is the establishment of the precise route of the chosen option, and the source of the risk deriving from the time taken to undertake the necessary land assembly. The land transactions if concluded by negotiation/agreement, will potentially involve a large number of separate contracts with third party landowners. Consequently it will take a significant amount of time before the route can be finalised and the consequent time and cost risk removed. This argues for the D&C procurement process, where a relatively detailed outline design is developed at an earlier stage than under the D&B model (before the contractor is engaged) enabling the client to commence acquisition of land as early as possible. The extent of land and consequently the number of land transactions required varies between the five options and this issue should therefore be taken into consideration in the choice of the preferred option.

The problem of a large number of land transactions deriving from the chosen route may be mitigated significantly by the exercise of compulsory purchase powers (if such are authorised) through the general vesting declaration process, which would not require a large number of separate contracts with third party landowners.

In terms of the construction process, the main risk is in the works to be undertaken by statutory undertakers as a result of the number of alterations to utilities equipment. This work comes with a significant time and cost implication as the engagement process prescribed under the New Roads and Street Works Act 1991 (NRSWA) is capable of being extremely prolonged and costly. Early engagement with utilities companies is therefore vital to identify the necessary diversions and the cost and programme requirements of these works. Additionally, mostly being installed underground, the adaptation work is likely to be needed at a relatively early stage in the construction process. Notwithstanding that preparatory engagement with the utilities companies will reap dividends in time savings, final arrangements, detailed planning and implementation are more effectively managed by the contractor who should be required to contract with each utility company for the works.

The only caveat to the recommendation that contracting with the utility companies should be left to the contractor is that the discount given by utilities companies to public authority clients under the provisions of NRSWA may not accrue to the works contractor, although experience has suggested that if the contractor evidences that the works are being undertaken on behalf of a public authority then most utility companies will offer the same discount. This will be one of the issues to be checked during the early stages of client / utility company engagement; clearly if the discount will not be offered to a contractor then this aspect of the procurement strategy ought to be re-considered.

With some minor exceptions, being the relatively limited work to traffic signals and potentially transport ticketing and control systems, the work involved seems suited to transferring a significant amount of design to the construction supply chain; the quality aspects of most of the infrastructure being heavily prescribed by nationally codified highways standards rather than client preference. However it needs to be acknowledged that the operational performance standards required for the infrastructure need to be set out and the contractor's designs to achieve that performance reviewed for compliance as highways standards may not address these aspects satisfactorily.

The risks accruing from negotiation of land purchases to allow the new infrastructure to be established within given boundary limitations is unsuitable to be transferred to a contractor and would almost inevitably lead to delay and cost escalation. However, other transportation schemes which have obtained compulsory purchase powers for contractors under a Transport Works Act (TWA) Order have adopted this approach. In the context of the five options being considered, such an approach would only be possible if a dedicated busway option is chosen, but would not necessarily be preferable if the busway is not to be part of a longer term franchise or concession arrangement.

The high time and cost risk accruing from the utilities works will attract significant risk premiums unless mitigated in some way. As discussed above this risk can be mitigated by early engagement with the utilities companies to identify and plan the necessary adaptations required by the chosen route option. This process is suitable for a contractor and is an argument in favour of Early Contractor Involvement (ECI) which is discussed in section 1.12.



## 1.11. Rationale for preferred sourcing option

The contract strategy should support the main project objectives in terms of risk allocation, delivery, and incentivisation.

As even the most complex aspect of infrastructure design of any of the options, the new M11 bridge, is not required to be technologically novel, and much of the rest of the construction is largely constrained by highways standards, the schemes are suitable to be designed by the construction supply chain.

However as identified previously there are time and cost risk factors that arise from the design process which if unmitigated at tender stage, will attract a tender premium if transferred to the supply chain. These primarily arise from the identification of the route of new carriageways and the location of the new Park & Ride and comprise the related need for land assembly and utilities works. It will therefore be beneficial to the achievement of the required project outputs if these aspects can be mitigated before tendering the infrastructure work. The appropriate procurement solution for the construction of any of the current project options should therefore be one that incorporates aspects both of D&B and 'traditional' contracting such that the outline of the design would be developed prior to tender establishing a design framework within which the successful contractor could complete the remainder of the design.

The D&C model satisfies these criteria. A significant amount of outline design can be completed pre-tender to allow the new route, junctions and Park & Ride location to be established, necessary land purchases transacted and utilities and signalised junction works to be provisionally identified and estimated before passing responsibility for completion of the detailed design to a contractor. The contractor will then complete the detailed route design (within contractually stated boundaries consistent with the land assembled), and engage with the statutory undertakers for delivery of the amendments to its equipment consistent with the final design.

As the design will not be completed at the time of tender, it will not be possible or, indeed, appropriate or good Value for Money to produce bills of quantities; instead the tendering contractors should be invited to break down their tenders in accordance with an activity schedule to an appropriate level of detail.

As a result of the client completing the outline design to this level, contractors can price the work without having to deal with the significant cost and time risk issues accruing from matters almost totally outside their control enabling keen pricing of the remaining work.

Section 8.2.4 of the Strategic Case identifies that funding may be drawn in two discrete tranches or phases; up to 2020 and from 2020 to 2030. Assuming this is done it would be most advantageous economically if the outline design for both phases were to be undertaken at the same time, enabling both phases to be tendered at the same time. This would require confirmation that the funding would be made available or that the construction contract should have a break clause which would allow the scheme to be part constructed if the second tranche of funding did not become available.

Within this model a number of 'fine tuning' adjustments can be made to tailor the risk transfer more accurately to the needs of the Partnership in respect of financial / commercial matters and to incentivise the contractor to deliver in a manner that reflects the client's needs and objectives. This is discussed in detail later within section 1.14.3 (Risk allocation and transfer) before the final contract mechanisms are summarised at the end of this Commercial Case in section 1.14.7 (Preferred procurement route).

At this point consideration must be given to the requirements of the Public Contracts Regulations 2015 as the value of the works and related consultancy appointments will almost certainly exceed the threshold sums specified in Article 4(a) of the Public Contracts Directive. As such, the work will be required to be tendered using a method compliant with the regulations.

## 1.12. Early Contractor Involvement (ECI)

ECI seeks to obtain the benefits of contractor expertise at an early stage of the design development during the 'pre-contact' stage under traditional contracting terminology. The benefits include advice on planning and introduction of more cost / time efficient design options.



One drawback of such an arrangement is that it compromises the principles of tendering and in its pure form (as contained within the New Engineering Contract's (NEC's) published ECI agreement) obliges a client to contract on what is essentially a single-sourcing basis for the vast majority of the construction works.

On a more specific basis, because the design / construction issues involved in the options are relatively simple and largely constrained by published standards there is little justification for engaging in ECI on this project other than for the administration of the preliminary utilities' quotations.

Cambridgeshire County Council ('CCC') has access to both design and construction framework consultants and contractors. Its framework highway works contractor has extensive and local expertise in liaising with utilities over diversions and new equipment associated with highways works and it is recommended that it could be quickly and efficiently engaged to undertake this aspect of the pre-tender design work.

Due to its specialist nature there may also be significant advantage in obtaining ECI in respect of the limited areas of signalling and ticketing systems if the infrastructure option selected requires these. Notwithstanding the specialist nature of the design input required at outline stage (as well as the detailed stage) the designers / contractors are very likely to be incumbent suppliers of these systems elsewhere in the area and new installations are likely to need to interface with other systems already in operation and under their control. It is anticipated that, as with the utilities works above, the outline design work for these elements could be procured from incumbent framework contractors. Novation agreements could be incorporated into the tender documents for the infrastructure works, locking in likely cost efficiencies and time benefits derived from the continuity of using these specialists to complete the detailed design for the aspects of the new infrastructure for which they were responsible.

### **1.13. Partnering**

Partnering is a relative newcomer to the construction procurement toolkit. Generally requiring bespoke contract drafting, it typically works by binding together the client's supply chain with a multi-party partnering arrangement where Suppliers can be incentivised collectively to achieve project objectives. The NEC provides a standardised partnering model by the use of Option X12 of its form of contract. X12 is used as a secondary Option common to each of the NEC by which each party separately has obligations to its common client.

As even the core complex scheme options 3 and 5 which include provision of a new bridge over the M11 do not necessarily involve innovative designs or materials, the work mitigates toward a simple supply chain amounting to a single D&C contractor supported by specialist organisations transferred from the employer by novation through the tender process.

There is therefore felt to be no need for formal partnering arrangements within the contracting strategy.

### **1.14. Framework contracts**

Framework contracts are arrangements where all the procedures for pricing and undertaking of construction works, design services and management services are tendered in competition without the promise of any work being actually undertaken under them with 'call-off' agreements set up for individual tasks. Framework contracts are typically placed with a number of successful tenderers covering a broad spectrum of work likely to be required; they establish commercial relationships between the client and each framework supplier for a period of years.

Call-off packages are then placed for each piece of work or service as and when it can be defined by the client.

Framework contracts can accommodate the setting up of specific call-off contracts to incorporate various contractual arrangements; build-only, D&B, lump sum, cost reimbursement or target cost to suit the circumstances of the call-off in question. Framework agreements can also be set up in less flexible ways.

In addition to the more limited use of CCC's highways framework for ECI work mentioned above, it is understood that the Partnership has access to frameworks for both highways design services and construction work. One of these, the Eastern Highways Alliance Framework (and specifically 'LOT2' of that

framework being for larger scale works), has the ability to place orders up to £20million in value by delegated authority. Importantly for the scheme options which will require construction contracts in excess of this sum, the Eastern Highways Alliance Framework has the ability under its governance rules to place orders in excess of this following approval of the framework governing body.

The framework is based upon the NEC form and allows for prices to be sought and orders placed under four of the main procurement options available with this suite of contracts: Options A, B, C and D. These comprise respectively;

- the lump sum options A and B; A the 'Priced contract with activity schedule' and B the 'Priced contract with bill of quantities'; and
- the Target Cost options C and D; C the 'Target contract with activity schedule' and D the 'Target contract with bill of quantities'.

Activity Schedules and Bills of Quantities are used as different ways of obtaining a breakdown of the contractor's tender; the activity schedules typically demanding a less detailed breakdown than the bills of quantities. The bills of quantities are more prescriptive but require detailed knowledge of the completed design to compile the tender.

In respect of consultancy work the framework also uses the terms of the Professional Services Contract (PSC) which is also part of the NEC suite.

The framework encompasses three of the procurement options available with the PSC suite, Option A: Priced contract with activity schedule, Option C: Target based contract and Option E: Time based contract.

### **1.14.1. Payment mechanisms<sup>5</sup>**

Deciding on appropriate payment mechanisms for the contract strategy is about striking a balance between the risk to the client for paying for work undertaken in advance of it being completed and becoming a useful asset. The supply chain partner will need to borrow money to fund any outgoings and will include these interest charges in any tender. As the client organisation will have access to cheaper funding than the supply chain partner it will be to the client's economic advantage to provide regular interim payments to enable the supply chain to operate on the project with minimal need for borrowing.

By maintaining a frequent and transparent interim payment process for the contractor, as well as consultancies engaged on the project, the objective of open and collaborative working within the project team will be facilitated which should deliver Value for Money for the client as well as allowing the supply chain partners to make a reasonable return from its endeavours.

A range of mechanisms is available within the payment processes of most standard form contracts which allow the process to be adjusted so as to reflect the risk allocation profile of the project. These are described in more detail in section 1.14.3 (Risk allocation and transfer).

Advance payments in return for price savings could be considered but the interests of the client will need to be protected against loss of any cash advances through performance bonds or parent company guarantees which may prove more costly than the discount offered.

### **1.14.2. Pricing framework and charging mechanisms**

The pricing framework embedded within the contact terms needs to be appropriate to the procurement model selected.

The procurement model appropriate to the current options has been identified earlier as D&C, a hybrid of the basic D&B model. Following this process the scheme design will only be completed to an outline level of detail and as such any detailed pricing model such as bills of quantities will be impossible. Consequently construction tenders will be invited to be broken down into sums set against a given list of activities reflecting the key elements of the project with particularly large elements broken down into sub-elements. The

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<sup>5</sup> Applicable for only Capital Works procurement

tenderers will be invited to add additional activities to suit their planned design development and proposal ideas as they may see the breakdown of costs slightly differently to the client's consulting team.

The tender activity schedules will be used by the client's consulting team to compile a pre-tender cost check which can be used as a baseline to validate and challenge tenderers' submissions by highlighting any non-optimal pricing strategies such as front-end pricing.

The priced schedule of the successful tenderer can be used to provide a quick and transparent means of interim payment assessment by applying the percentage completed of each schedule activity item to its respective value in the schedule and totalling the individual amounts to give an assessment of the total value of work undertaken. Additional works undertaken as a result of change orders can be addressed in a similar way by applying the percentage complete to the costed change register.

At regular intervals more detailed assessments of actual cost expended should be undertaken to ensure the contractor's cash flow is not being compromised by this shorthand methodology.

### **Key Performance Indicators (KPI)**

KPIs can be introduced into contracts relatively simply (for example by engaging Option X20 on contracts within the NEC suite) for matters considered valuable to monitor. Examples include the number of defects, the rate of progress of certain works, whether client satisfaction levels were reached, whether the asset is cheaper to operate and maintain than expected, and so on.

Consistent with the objectives of the KPI system to improve results it is clear that the performance of the supplier and its supply chain is monitored and measured against KPIs regularly throughout the contract. It is important to identify and describe KPIs, including achievement criteria, at the outset and include this information within the tender documents.

The general approach with KPIs (and certainly that drafted into the NEC contract) is to promote the concept of continuous improvement. It needs to be emphasised that as drafted in standard form these indicators are therefore not intended to be punitive and no negative financial adjustment is provided for if the targets set are not achieved or bettered. The basic payment structure of the NEC already provides negative financial consequences where stipulated performance is not achieved, for example by application of the following processes; delay damages, inability to recover the cost of correcting defects after completion, pain share for incurring costs over the target and disallowance of costs for failure to comply with a number of contractual processes such as a required procurement procedure for sub-contract packages as described in earlier sections.

In our opinion KPI systems do not offer Value for Money. Additionally if contracts are amended to enable them to be punitive they often result in protracted and counter-productive disputes. We do not recommend their use as part of the more detailed procurement strategy.

### **1.14.3. Risk allocation and transfer**

As commented above, the key to risk transfer is to allocate risk to the party best able to manage it. Within the basic procurement model and contract strategy identified above, using a D&C contracting strategy and transferring design responsibly to the contractor, the industry standard form contracts enable a significant fine tuning of the risk transfer. The preceding sections of this Commercial Case contain a high-level evaluation of the key risks accruing from the outputs of the current scheme options; the procurement and contracting strategy derived subsequently explains how these risks can be effectively managed, mitigated and transferred through the adoption of a D&C methodology.

Fine tuning of the D&C model is valuable to more accurately reflect the project objectives, constraints and risk allocation decisions. Many of these adjustments can be done with 'standard' options (such as weather events) offered by standard form contracts although some fine-tuning options involve more expensive bespoke amendment requiring legal drafting or review. The sub-sections immediately below address various fine tuning mechanisms available within most standard form contracts to allow cost and time risks to be apportioned appropriately between client and supplier.

A short discussion of the use of insurance to support the risk allocation of particularly onerous risks is provided later in this Commercial Case in section 1.14.3.3.

### **1.14.3.1. Cost risk sharing and financial incentivisation**

There is a range of payment mechanism measures to optimise value for any particular project and its particular characteristics. The following list provides the main examples;

- Contractor bonus for early completion – in the Engineering and Construction Contract (ECC) there is provision for introducing a bonus for each day the contractor completes the works ahead of the contractual Completion Date;
- Target cost – the client can utilise target cost arrangements where, if the supplier delivers the out-turn cost below the level of the final target, the savings are shared according to a pre-agreed formula. A similar sharing arrangement of cost over-run reciprocates this arrangement;
- Value Engineering – a contractor is rewarded for suggesting alternative solutions to one stipulated in the contract that would offer an operational performance, cost and/or time benefit to the project; and
- Cost reimbursement – construction works, if considered difficult to estimate at the time of contracting may be let on this basis of minimal cost risk for a contractor.

Following the D&C methodology, for any of the current options for this project fine-tuned with any or all of the incentivisation mechanisms described above will mitigate the key time and cost risks arising. A cost reimbursement payment model is wholly unjustified and would almost certainly lead to unnecessary expenditure and uncertainty.

Conversely the ability of a contractor experienced in highways infrastructure works on a similar scale as the scheme options should have no difficulty in managing the residual risks presented. There will be significant scope for mutually beneficial commercial risk transfer mechanisms such as either lump-sum or target cost contracting.

While administratively marginally more complex than lump sum contracting arrangements, target cost contracting enables both parties to share the risks and benefits of the outturn cost of the works and is justifiably popular on many types of construction projects. The concept of scope changes / variations is common to both approaches, however being linked to a transfer of design responsibility following a pre-contract client's outline design, the scope for significant post-contract change is reduced.

The various percentages and cost ranges for the calculation of a contractor's 'pain' or 'gain', together with the mechanism for their application to contractor payments will be set at a level to incentivise rather than punish.

Unfortunately the drafting of most standard forms of contract does not allow pain-share (or gain-share) to be applied before completion of the works and this has led to a number of inequitable situations. One specific and extremely important example of this problem occurred to a member of Partnership while building the Cambridgeshire Guided Busway project and was highlighted as part of the lessons learned process following completion of that project. As a direct result of this weakness in the drafting of many standard construction contract forms, CCC was obliged to source additional funding to pay an overspending contractor until completion as well as additional expenditure required to obtain recovery of the pain-share funds from the recalcitrant contractor.

We recommend that bespoke amendments be made to the terms of standard contract used to address these significant problems making it possible to apply painshare as soon as expenditure reaches the Target Cost or possibly when totals of individual elements of the Target Cost breakdown are reached.

Additionally most standard contracts include 'value engineering' mechanisms which operate to incentivise contractors to propose changes which save money and/or time. Should such a proposal be acceptable to the client the technical, commercial and programme consequences of the change are agreed and the change formalised, with the client and contractor sharing the benefit at a pre-agreed rate (50/50 or otherwise).

### **1.14.3.2. Time risk sharing, transfer of the financial consequences of late completion**

This is not so much a formal option under standard forms but more the application of judgement by a client in deciding whether or not to fully transfer the cost of late completion of the project onto the contractor via the liquidated damages mechanism in the contract.

Our view is that most large contractors are familiar with working under the risk of very significant daily or weekly liquidated rates for delay damages payable on default. While strategies for the avoidance of such damages are also well developed by contractors in the form of extension of time claims, opportunities for significant successful claims are limited due to the reduction in the need and opportunity for scope charge as a result of the D&C design risk transfer model.

Conversely a contractor's bonus for early completion can be incorporated providing positive incentivisation for early completion. Clearly in conjunction with delay damages for late completion the combined effect provides a mechanism to incentivise efficient time management which mirrors (although not exactly) the cost incentivisation provided by the pain/gain mechanism recommended above.

#### **1.14.3.3. Insurance and risk**

The occurrence of certain catastrophic risks are capable of frustrating a project and possibly even causing the liquidation or bankruptcy of one of the supply chain or indeed a client. Such risks include destruction of the contract works or adjacent property by fire caused as a result of the construction works, or personal injury to an individual from similar circumstances. While it is wholly appropriate for the risk of such occurrence to be transferred to a contractor as it is they who are most able to manage the circumstances on site that may lead to the occurrence of such a risk, it is wholly impractical to imagine that a contractor would have the funds to re-build a destroyed project or adjacent property from its own funds.

For this reason it is standard practice to require that the contractor takes out insurances for such risks when undertaking such work, for amounts stated in the contract, and that the contractor delivers evidence proving the existence of such policies before commencement of the works.

#### **1.14.4. Contract length, defects, operation, maintenance, and compliance periods**

On most projects of this kind clients will require that, for a period after completion, the contractor is responsible for the compliance of the physical work supplied to the contract specification, and that the asset has been designed to meet the required standards. This obligation is incorporated into the terms of most standard form contracts and set at one year's duration from completion. However, on this kind of infrastructure the client may wish to prescribe a longer period, such as ten years. Clearly there is a risk of contractor default over this extended period and in this case the use of additional financial products such as performance bonds may offer valuable management of this risk at a cost.

It may additionally be seen as advantageous to involve the contractor far more positively in the asset following the completion of construction by requiring the constructor to manage the asset in use for a period after completion. These periods are typically termed "operation periods" and are usually specified to be in place for a number of years. The contract strategy to achieve a contractor managed operating period can be achieved by either applying the 'sectional completion' provisions under ECC if the operation period is not too long, or by using an entirely separate contact (such as the Term Service Contract from the NEC suite) to operate if this is for an extended period.

Experience has suggested that contractors and bus operating companies are not ideally compatible and consequently this kind of operational linkage is not recommended. As CCC has a framework highways contractor, and the majority of the new infrastructure being created would be highway, it is recommended that use of this framework contractor for on-going maintenance of the asset is appropriate and the most economic option.

#### **1.14.5. Human resource issues**

The recommended project governance structure is identified within section 1.3 (Governance, Organisational Structure and Roles) of the 'Delivery Case' section of this SOBC.

It is recommended that for a project of this size a dedicated Project Management Office (PMO) be established and staffed with the appropriate range of specialists. The PMO role will be the day to day management of the project and will include liaising with, and regularly reporting to, the programme manager and project board as well as other stakeholders, to engage design consultants and bring together the outline design consistent with the TWA Order (should this be the necessary consenting method for the project) and the budget and any associated planning conditions before tendering the works.



Post-contract the same project office would administer the management of the construction works.

### **1.14.6. Contract management**

A standard contract that ensures that the contractual / commercial arrangements are well defined should be used. A form of contract that is well understood throughout the supply chain and relies on a pre-defined risk register to allocate and manage anticipated risk is preferred. The NEC3 ECC contract is such a contract. During contract negotiations, risk will be allocated to the party best able to manage it in the most cost effective way. The NEC3 ECC has a specified change management procedure that will be followed to formalise and control any required alterations to the contracted works.

Project Management resource can be engaged from external consultancies to support in house resource seconded into the PMO. Similarly the required design skills should be engaged on NEC PSC terms through the framework contract to undertake the outline design of the works and to support the creation and submission of the draft TWA Order for the project and subsequent land acquisition.

Depending on the perceived technical complexity of the remaining detailed design, the PMO may feel it beneficial to novate all or some of the design consultants to the successful contractor. This however is not always appropriate. For example, if the scope of the chosen scheme option lacks the more complex design requirements of a new M11 bridge it may be better to leave the selection of detailed designer to the successful contractor. The incumbent 'client designer' could then be usefully retained by the PMO to undertake reviews of the contractor's submitted detailed designs.

### **1.14.7. Preferred procurement route**

We recommend that the contract works be competitively tendered and let using the framework on NEC Option C (Target Cost) terms with complete responsibility for completion of the detailed design and direct engagement of all statutory undertakers for all utilities works that are necessary. Bespoke clauses should be introduced such that the contract will be placed initially for just the work covered by the 'phase 1' fund release with the client having the option later to accept that part of the successful contractor's tender for the work covered by the 'phase 2' fund release.

This was the contractual arrangement used to procure the Cambridgeshire Guided Busway by CCC. Subject to the serious consequences of the mis-functioning of the pain-gain clauses of the contract highlighted earlier at section 1.14.3.1 the contractual model would appear suitable for this work which is not dissimilar.

## **1.15. Sourcing options – bus services**

This section briefly considers the options for securing bus services, both in terms of the available legislation and in terms of precedent in the industry. Whilst the market for the provision of bus services is contestable in that any licensed bus operator may provide services in competition with another or other operators, local transport authorities have levers available to secure and influence service provision.

The Transport Act 2000 introduced the concept of the Quality Partnership Scheme (QPS). This enables local authorities to restrict access to highway measures such as bus priority schemes to operators who meet specified standards. These include, for instance, vehicle standards (designed to prevent operators having equal access to facilities where other operators have signed up to higher standards) and from 2008, maximum fare and service frequency. In the case of the Cambridgeshire Busway, minimum frequency was specified in an agreement pre-dating 2008, relying on Transport and Works Act powers applying to the guided sections of route rather than highway.

The concept of the Voluntary Partnership Agreement (VPA) developed a wide currency from the late 1990s onwards. Though without specific legal definition until 2008, these agreements cover a wide range of relationships between local authorities and bus operators, but usually reflect a desire to co-ordinate each side's investment programmes. As outlined in the DfT's 'Local Transport Act 2008 Improving Local Bus Services: Guidance on voluntary partnership agreements' (February 2009), a VPA "can range from a simple document detailing heads of agreement...to a comprehensive and detailed legally-binding document. It might relate to just a single route or even part of a route, or to a wider network of routes within the authority's area".

The Transport Act 2000 also provides an option for securing all or part of a network through a Quality Contract Scheme (QCS). This enables a local authority to specify a comprehensive range of service standards and fares, with operators (in effect) bidding for contracts to operate the network.

The Local Transport Act 2008 gave some legal definition to VPAs and introduced the concept of a Qualifying Agreement (QA). A QA enables a local authority to sign off, as being in the public interest, an agreement by two or more operators to co-ordinate timetables, subject to it being satisfied that in doing so the agreement can pass so-called “competition tests”. However, a QA cannot be used to foreclose the market to new entrants.

The Transport Act 2000 enables a Local Transport Authority to make a multi-operator ticketing scheme in which bus operators are required to participate. A ‘block exemption’ administered by the Competition and Markets Authority exempts certain types of multi-operator ticket from the competition legislation that would otherwise apply. However, a multi-operator ticketing scheme cannot interfere with the ability of operators to make commercial decisions on the availability or prices of their own ticketing products.

Finally, any fixed track system, such as the Cambridgeshire Busway, is subject to the Transport and Works Act 1992, which covers “Railways, Tramways and a system which uses another mode of guided transport”. In particular, this can be used to confer a right to provide a transport service on a piece of infrastructure, and provides the possibility that the authority controlling a busway could control access to it by granting rights of access or through tendering services.

### **1.15.1. The Bus Services Bill, 2016**

The Bus Services Bill has recently been published. The DfT is seeking to enact this early in 2017 and to consult on secondary legislation in the autumn of 2016. If enacted into law, this will allow newly-established Combined Authorities (CAs) with elected mayors to pursue franchising through a less onerous process than that which applies for making Quality Contracts. The Bill, if enacted as currently drafted, would allow the Secretary of State to extend this power by secondary legislation to other authorities including county councils in areas for which there are district councils.

The Bill also strengthens provision for partnership working but it must be emphasised that these provisions cannot be imposed upon operators without their consent. It involves the two quite different types of partnership outlined above – QPS and VPA – to include wider provisions and powers enabling authorities to secure and deliver local bus services.

In England, QPS evolves into Advanced Quality Partnership. It expands:

- The basis of local authority involvement from the delivery of physical measures such as bus priority or bus stop infrastructure to ‘bus-improvement measures’. These measures may be defined in secondary legislation but examples potentially could include enforcement of parking or moving traffic offences in bus lanes; and
- The standards with which bus operators must comply in order to have access to the scheme or measures are expanded. As well as requirements on vehicle type, maximum fare and minimum frequency, an Advanced Quality Partnership may include requirements on the way in which passengers can make payments, the provision of information and participation in multi-operator ticketing schemes.

VPA evolves into Enhanced Quality Partnership. This is at two levels:

- The Enhanced Partnership Plan analyses the bus market, identifies how bus services contribute to its wider objectives, and sets out how bus services should be improved to fulfil those objectives; and
- Enhanced Partnership Schemes then follow to fulfil either ‘route requirements’ (frequencies, timings) or ‘operations requirements’, such as emission standards, provisions for multi-operator ticketing or the way in which information is provided.

DfT envisages in its Explanatory Notes to the Bus Services Bill that route requirements will be fulfilled through a QA in cases where there may be more registrations for a particular route than allowed by the



Enhanced Partnership Scheme.<sup>6</sup> The Enhanced Partnership cannot be used to foreclose the market to new entrants. However, DfT envisages that, if operators are unable to agree to a QA, then the authority can secure the services by tender, with a 'slot booking' system used to allocate services to operators.

## 1.16. Options for services in the A428 corridor context

There are a number of options which could be pursued in order to ensure that the bus service develops to a level which is consistent with the investment in infrastructure being provided.

### Option 1 - Allow bus service levels to change in response to market conditions

The first option is to enable bus operators to provide commercial services in response to market demand. In the case of the existing Cambridgeshire Busway, service levels have increased in response to significant passenger demand and resulting overcrowding, which have been brought about as people change both mode and destination in response to a significant reduction in the generalised cost of the bus mode. The downside of this approach is that it is reactive. It is possible that ridership would have grown more quickly had it not been constrained by overcrowding on buses.

On the A428 corridor the Citi 4 is the main Cambourne service, with a frequency of only three buses per hour. The combined 3/X3 service provide a maximum of up to one additional bus per hour along the A428. This can be categorised as a useable level of service, but does not provide the "turn up and go" facility which would make it more attractive to people who currently travel by car. The current service frequency is significantly lower than that of the Busway on opening, or the target frequency for the A428 corridor. Direct services run only to Cambridge City Centre and not to the expanding employment area at the Cambridge Biomedical Campus or to other major trip attractors.

In order for the Partnership to influence the level of service provided by commercial operators, the scheme will need to make bus journeys both more reliable and faster. Experience with the Cambridgeshire Busway and elsewhere – for example in Oxford – suggests that bus priority infrastructure, coupled with targeted demand management for the private car, will have the effect of:

- Reducing operating costs so that providing extra services is more attractive to the bus operators; and
- Improving reliability and journey speeds for passengers which will boost levels of demand.

### Option 2 - Pump-prime additional bus services

Operators may take the view that, even with good bus priority infrastructure, there is not enough potential demand to justify the risk of providing additional commercial services, or at a sufficient frequency or to the destinations required to meet the Partnership's objectives. In the case of the A428 corridor substantial development is programmed. Pump-priming anticipates additional development by increasing the supply of bus services in advance of that development, both stimulating demand from existing development and ensuring the provision of an attractive service to new residents from day 1 of occupation.

Pump-priming entails public sector and / or developer funding to increase service levels, filling the gap between passenger revenue and operating costs, in the expectation that over time demand will build to the extent that the service becomes a commercial proposition. Pump priming has a particular application in services to new developments, where (through Section 106 agreements) it can be used to secure a bus service attractive to residents from the start of their occupation, thus encouraging bus use, and reducing the volume of car trips. In the context of the A428, pump priming is a potential option as extensive new development is being undertaken at both trip origins (Cambourne, Bourn Airfield) and potential destinations (Cambridge Biomedical Campus, Cambridge West), and could be a means of accelerating the development of the current 3-4 buses / hour service between Cambourne and the City Centre to a more frequent service to more destinations.

Experience indicates that an authority's flexibility to use the tools at its disposal vary according to its standing orders and its own internal processes. The 'de minimis' regulations<sup>7</sup> can be used to procure additional

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<sup>6</sup> <http://www.publications.parliament.uk/pa/bills/lbill/2016-2017/0002/17002en.pdf>

<sup>7</sup> The Service Subsidy Agreements (Tendering) (England) (Amendment) Regulations 2004

services, although UK legislation limits the contract size to £29,999 in authorities where spend on securing bus services is less than £600,000 per annum, or where such spend is more than £600,000 to a proportion no more than 25% of its spend on supported bus services – meaning that at least 75% must be tendered. This means that, in many instances, the only means available of disbursing Section 106 contributions to deliver improvements to an existing bus service is through competitive tender. The possible outcome of procuring bus services using a different operator risks undermining the existing commercial service and complicates the passenger proposition, though the potential for this outcome may in itself be useful in negotiations with operators.

The alternative may be for the developers to be made directly responsible for securing services. This introduces a delivery risk as their capacity to secure the right level of service at an appropriate price and in a timely manner is uncertain. We are aware of instances where a developer has procured new vehicles for the bus operator in return for the operator taking the commercial risk in providing additional services. However the difficulties in co-ordinating different developers' contributions should not be under-estimated and such agreements could give rise to state aid issues.

### **Option 3 - Negotiation with bus operators**

It may be that bus operators will be prepared to consider a programme of service enhancements on a commercial basis in response to reduced journey times and improved punctuality. This would particularly be the case if, as a result, the current timetable can be operated with fewer vehicles – retaining those vehicles instead allows a more frequent service to be operated. It should be possible to reflect this in a legally binding agreement. It may be desirable also to consider a QA such that, for example, Whippet and Stagecoach timetables between Cambourne and Cambridge are co-ordinated.

It follows therefore that measures to improve journey times and punctuality need to focus not only on the schemes currently proposed between Cambridge and Cambourne but in addition on developing:

- direct, progressive bus routeings within existing development in Cambourne and ensuring that new development in Cambourne and Bourn Airfield delivers the best conditions possible for buses; and
- measures to protect buses from congestion elsewhere on and around the A428 corridor, notably between Caxton Gibbet and St Neots, and along the A1198 through Papworth to Huntingdon.

Finally, legislation does not prevent local authorities from sharing in commercial gains made by bus operators facilitated by works funded or undertaken by the local authorities. Bus operators pay a fee to access the Cambridgeshire Busway, while the Gosport – Fareham scheme includes a profit share mechanism should patronage reach a certain pre-determined level.

#### **1.16.1. Rationale for preferred sourcing option**

In the last few years CCC has reduced financial support for local bus services as a result of the general cuts to local government funding. An initial decision to withdraw support for all non-commercial services was subject to a judicial review in 2011, and the proposal was subsequently withdrawn.

Franchising is not recommended unless it is as part of a wider approach adopted by the Partnership. With the Bus Services Bill as currently drafted, franchising is dependent on the devolution deal being finalised and a mayor being elected, unless services are operated over infrastructure to which the Transport and Works Act applies. Franchising would be inconsistent with CCC's approach to securing bus services in recent years, and it raises issues of commercial and financial risk for the Council.

It is likely that the approach to securing enhanced services will consist of a mix of options 2 and 3 outlined above:

- Delivering demonstrable improvements to bus journey times and punctuality on existing services, which in turn will facilitate a discussion based on ploughing back resources saved into improved frequency<sup>8</sup>;
- Obtaining developer contributions both to infrastructure that will assist bus services and pump-priming service improvements; and
- Tying these into agreements with bus operators. Until now, QPS and VPAs have encapsulated different aspects of agreements between operators and local authorities. Typically, a QPS provides for a certain standard of operation in return for access to facilities, and the Advanced Quality Partnership proposed in the Bus Services Bill will widen the scope of the requirements for standards while strengthening the requirement on the authorities to maintain the infrastructure or measures. In the context of a major capital project like the Cambourne to Cambridge Better Bus Journeys Scheme, an Enhanced Partnership Plan may stem from the objectives outlined in the scheme's Strategic Case and may provide a framework for delivering the outcomes required, although any agreement on services will need to be reflected through a QA.

The SOBC considers services from Cambourne to Cambridge Science Park to the north and Cambridge Biomedical Campus to the south. These services are not currently provided and the Commercial Case for them has yet to be demonstrated. It is therefore likely that the Partnership will need to secure these by competitive tender and / or by engaging with the businesses (notably Astra Zeneca, expanding on the Cambridge Biomedical Campus) for them to contribute towards the costs of the operation of services.

However, with the significant proviso that any such agreement will need to be made with the operators' consent, the Enhanced Partnership provisions of the Bus Services Bill may enable an agreement to be made whereby an operator or operators agree to cross-subsidy, either through a QA or through tendering slots. In the scenario of the A428 Cambourne – Cambridge corridor, the operators could be asked to utilise revenue from a profitable route to enable unprofitable services to run. This could be used as a full or partial means of delivering services to Addenbrooke's and Cambridge Regional College. The Partnership will need to invest substantial amounts of officer time in developing this proposal and in particular in considering how to progress this when it is not immediately obvious that it is in an operator's commercial interest.

Two commercial questions remain:

- **Fares:** current legislation allows local authorities to negotiate a maximum fare with bus operators as part of a QPS, but we are not aware of any instances where this has occurred. We think in practice it would be extremely difficult. More to the point would be consideration of joint ticketing between Stagecoach and Whippet. We understand that bus operators in Cambridgeshire are willing to consider a more comprehensive form of joint ticketing than the currently limited offer on the Busway. The Bus Services Bill enables a multi-operator ticketing scheme to mandate electronic forms of payment while an Enhanced Partnership will enable an authority to set the prices of multi-operator tickets; and
- **Access to improved infrastructure:** Charging for use of infrastructure is only an option for off-highway infrastructure, such as a guided busway. An alternative is the use of a revenue sharing agreement, which could apply by agreement to either on-highway or off-highway infrastructure. CCC could by means of a QPS limit access to highway measures to vehicles meeting a certain standard and could specify a minimum frequency, and, as outlined above, the Bus Services Bill strengthens these provisions through either Advanced Partnership or Enhanced Partnership.

## 1.16.2. Conclusions

Two broad options exist for securing bus services on any enhanced infrastructure:

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<sup>8</sup> To put some dimension on this, we estimate that Citi 4 has a 100-minute cycle (round trip time, including recovery time at each end), so at a 20-minute headway 5 vehicles are needed to provide the service. If the cycle could be reduced to 75 minutes, the same 5 vehicles could provide a 15-minute headway.

- By tender or franchise, with powers available to off-highway infrastructure and, should the Bus Services Bill become law and future secondary legislation permit, to on-highway infrastructure; or
- Through the use of existing and – should the Bus Services Bill become law – enhanced partnership powers and negotiation with bus operators to ensure delivery of an appropriate level of bus service in response to increases in potential demand and improvements in journey time punctuality, This approach can be applied whether the infrastructure is on or off-highway and is likely to present less commercial and delivery risks to CCC provided that its objectives for the bus services are met.

The SOBC Commercial Case, at this stage of assessment, considers all options procurable. As identified in section 1.11 of the Commercial Case (Rationale for preferred sourcing ) it is considered that the D&C model of procurement (as described earlier in the report) is appropriate for all the options. The risk mitigation facilities available within the NEC standard form should be adjusted to suit the specific risk profiles that emerge as the preferred option is selected and the outline design for that option is developed further before tendering.

# Appendices





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