MainRoads

Connecting Queensland

Contracts

Background

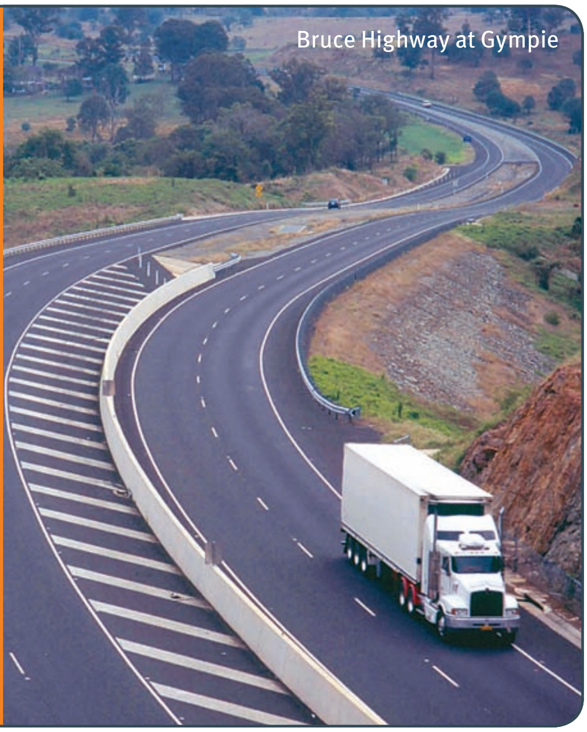
As Queensland's leading road system manager, Main Roads is responsible for delivering a record road construction task in excess of $16 billion over the next five years to respond to growth in Queensland. The department uses all three sectors of the construction industry to deliver this program.

Main Roads' commercial business unit, RoadTek, local governments and the private sector all undertake road construction and maintenance work on behalf of the Queensland Government. In managing the road system, the department awards contracts and manages contractors to ensure the road program is delivered efficiently and achieves the best possible outcome for Queensland.

Main Roads has a number of contractual arrangements in place to ensure value for money in the delivery of projects, best practice in the delivery and administration of works which provide the opportunity for greater efficiency for all parties, and to comply with State Purchasing Policy.

Examples include:

- Road construction contract
- Early contractor involvement
- Minor works contract
- Alliance
- Design and construct
- Roadworks performance contract



Bruce Highway at Gympie

Road Construction Contract (RCC)

The RCC is the traditional form of contract and is the most used in Main Roads. Under an RCC, the contractor undertakes to complete the construction phase of a project. Main Roads will have already prepared a detailed design and project documentation.

To be eligible to bid on an RCC and other major contracts, tenderers are required to be on the department's pre-qualified list of approved contractors.

Pre-qualified contractors are invited to submit competitive tenders for work. The successful contractor is selected based on price, or a combination of price and non-price selection criteria. Contractors can employ sub-contractors and suppliers for some parts of the work, with the contractor assuming liability for the work of the sub-contractors and suppliers.

This type of contract uses a superintendent to administer the contract and value payment claims. The superintendent is required to implement the contract in a fair and impartial manner. A departmental officer or consultant may be used in this role.

For relatively straight forward projects, there is less effort required by bidders responding to this type of delivery arrangement than other methods of delivery. Partnering and relationship management have been increasingly used to enhance this type of contract.

Where there are time constraints, large numbers of unknowns, opportunities for innovation, or a high degree of complexity, other forms of contract may be more appropriate.

Design and Construct (D&C)

Under a D&C, the owner contracts with a single entity that is responsible for both design and construction. Thus the contractor employs the designer through external consultants, or designs "in house".

The advantages of a D&C include:

- reducing cost and time through the contractor having input into the constructability of the design
- relative certainty of price by having the constructor prepare and take responsibility for its own quantities, rates and lump sums
- a single line of responsibility for the design and construction phases, rendering it unnecessary to distinguish between defects in design and defects in construction
- reduced claims and disputes by eliminating the interface between the owner-employed designers and contractors under a traditional contract.

Main Roads recognises that there can be considerable investment required in the preparation of D&C tenders including a significant demand on resources from multiple design and construction organisations. In a tight labour market other forms of delivery such as the ECI may be more suitable.

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Alliance

An alliance contract is an agreement between two or more entities that undertake to work cooperatively on the basis of sharing project risk and reward, to reach agreed outcomes. Alliances take a team approach and are based on principles of good faith and trust. Parties involved agree on the target cost estimate for the project.

A Board is established to manage the contract with membership from each of the entities involved in the project. The Board is the decision making and managerial body, and participants relinquish any entitlements to legal or equitable courses of action against any other participants, except in situations of wilful default or possible insolvency.

A two-stage tender process is a feature of alliances, with an initial intensive period of relationship development. The preferred party is selected before the price is bid. Evaluation criteria are developed to ensure clear justification of value for money in the selection process.

Alliance contracts are characterised by proactive collaboration and strong relationships with all involved, working towards optimum project outcomes and minimisation of the conflicts and disputes sometimes associated with a traditional contract. By working together, risk is embraced, uncertainty is dealt with, and flexibility allows for issue resolution.

A feature of alliance contracts is a 'no disputes' clause, where partners agree not to use arbitration or litigation as a disputes resolution technique.

Main Roads undertakes alliance contracts in situations such as:

- complexity and volatility of projects and their environment
- the need for state-of-the-art technology as well as the need for research and development
- the scope of the project cannot easily be defined
- time constraints dictate fast-tracking of the project is required
- substantial interfacing with existing infrastructure and interested organisations/ stakeholders.

Alliances are effective where a strategy of embracing risk is more appropriate than transferring risk. The department's alliance contracts have a strong emphasis on probity, and a probity auditor/ advisor is a key feature of all contracts.

Examples of alliance projects in Main Roads include:

- Inner Northern Busway
- Norman River Bridge and approaches
- One section of the Pacific Motorway
- Port of Brisbane Motorway

For more information about these projects, visit the department's website at www.mainroads.qld.gov.au

Early Contractor Involvement (ECI)

Background

ECI is a new delivery style to Australia. A form of ECI has been in use by the Highways Agency in the United Kingdom for some time and has become their preferred mode of delivery. Australia has adopted ECI, but there are differences from the United Kingdom model.

ECI in Main Roads

Main Roads introduced ECI in November 2005 with the calling for tenders of a pilot project, the Maroochy River Bridge Duplication. Construction is now underway, with the deck poured on two spans. Project delivery is well ahead of schedule.

Four other projects currently in progress are:

- Townsville Ring Road
- North Ward Road in Townsville
- Forgan Bridge replacement in Mackay
- the next 6-laning of the Bruce Highway from Uhlmann Road to Caboolture.

What is ECI?

ECI is best described as a negotiated Design and Construct (D&C) contract. The contractor, together with the contractor's designer, can be engaged as early as immediately after a project business case has been prepared.

ECI was developed for current market conditions (increased infrastructure programs across transport, water and mining sectors in particular, and a very tight technical skills market). This was done principally to gain the benefits of a D&C approach, and to reduce the significant resource requirement of D&C projects during the tender phase.

Contractors are selected through a non-price selection process, similar to, but shorter than, a project alliance. The emphasis is on the calibre and experience of the proposed team.

ECI takes a two-stage approach

An ECI is a single contract with two stages. Both stages are heavily partnered as a specific contract requirement. Stage 1 is similar to an interim Project Alliance Agreement. During Stage 2, the contractor works under a service agreement with the client. The contractor develops the design to a point where it can be accurately priced; risks are identified and apportioned for Stage 2 (these are reflected in the price).

Payment for Stage 1 is by agreed rates on a time basis. Stage 1 is a fully open-book process and involves an independent estimator and probity and financial audits. There is significant input from Main Roads into the design, risks and pricing. Stage 1 finishes with the contractor submitting a Stage 2 offer.

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The Stage 2 offer includes a risk-adjusted price for the agreed design and agreed risk allocation; the contract can be varied through a Deed of Variation for Stage 2. Main Roads has the right to terminate should agreement not be reached, and tender the works.

Stage 2 is similar to a D&C contract. During Stage 2 the contractor completes the design and constructs the works. Payment can be through lump sum, schedule of rates or day works components, depending on the risk profile. This is similar to the detailed design and construction phase of a D&C.

Main Roads takes on the role of contract administration and surveillance.

Benefits of the ECI approach

The ECI approach has many benefits. It allows flexibility for Main Roads to novate its designer to the contractor at the beginning of the contract. This caters for advanced maturity of the design that may have been necessary for business case development.

Other benefits include:

- shortened delivery time
- constructability
- reduced tender costs
- fewer variations during construction
- no surprises through good communication and understanding of the project by all parties
- increased opportunity for innovation.


The Tugun Bypass under construction

Minor Works Contract

A minor works contract is used for a construct-only project of a simple nature and of limited monetary value and low risk. These are not used for complex, long-term projects.

Examples of their use include small capital works, combined capital and maintenance projects, and rehabilitation and programmed maintenance, such as:

- minor intersection works including traffic signal installations
- installation of noise management devices
- installation of guardrails
- roadside landscaping.

Risks vary due to estimated cost/duration, and variability in the type, scale, complexity and number of construction activities.

Roadworks Performance Contract (RPC)

An RPC is the basis for undertaking road infrastructure works on a ‘sole invitee’ basis with local government or RoadTek.

The department’s construction and scheduled maintenance works are normally subject to open market competition. The exceptions are:

- when the viability of a local community is threatened if the local workforce is not continuously engaged in employment
- in the absence of an adequately developed private contractor market for the size and type of project concerned
- construction by local government or RoadTek is preferred as a lower cost/risk management strategy.

Under RPCs, a contractor’s risk is limited to risks associated with:

- plant and labour utilisation and efficiencies
- construction management and supervision deficiencies
- estimating risk - estimating the true costs of a project is shared by the principal and contractor, with the outcome of the risk dependent on the negotiation
- risks allocated in contractor documentation – for example, clean up or site decontamination
- wet weather delays (other than abnormal wet weather).

The department bears the following risks:

- damage to completed work by wet weather where the contractor takes appropriate precautions
- delay costs associated with wet weather, but subject to mitigation by the contractor
- latent conditions (physical conditions on the site or its surroundings).

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Other delivery methods

Other delivery methods that Main Roads may use include:

- Public Private Partnerships
- Build Own Operate Transfer
- Design, Construct and Maintain

Public Private Partnerships (PPP)

PPPs can provide real benefits in terms of value for money, outcomes in the construction and ongoing delivery of transport infrastructure.

PPPs are considered for Queensland Government public infrastructure projects where the net present value of the strategic priority will exceed $100 million over the term of the contractual relationship.

PPPs have a number of project delivery options and risk is allocated efficiently between the public and private sectors. The underlying principle is that individual risks should be borne by the party best able to manage these. For the private sector, risks are associated with:

- design and construction of infrastructure
- availability or performance (and possibly demand)
- long-term maintenance
- technology
- financing.

PPP features include:

- value for money, through efficient allocation of risk
- innovation and flexibility
- delivery of new infrastructure which might not otherwise be available, efficiently and effectively.

Build Own Operate Transfer (BOOT)

BOOT involves the private sector in the provision of new infrastructure. Private consortiums can finance and construct infrastructure, with the consortium owning, operating and carrying end-user risk.

The consortium operates the infrastructure for a time period under a concession or franchise awarded by the government, and derives revenue from this arrangement. At the end of the concession/franchise period, ownership is transferred to the government.

The BOOT method features long-term maintenance of infrastructure. This method is used when a revenue source is available, independent of government revenue.

Design, Construct and Maintain (DCM)

Under a DCM, the contractor undertakes the design and construction of a project, and then assumes responsibility for maintaining the built structure for a significant period of time.

The difference between this form of contract and the traditional form relates to the maintenance and defects liability period.

Under a DCM, maintenance (during and after construction) and defects liability of the completed works remains the responsibility of the constructor for an extended period (up to 10 years). This is governed by strict performance standards before being handed over to Main Roads. Contractors supply a cost proposal for the maintenance component of the tender.

For more information:

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