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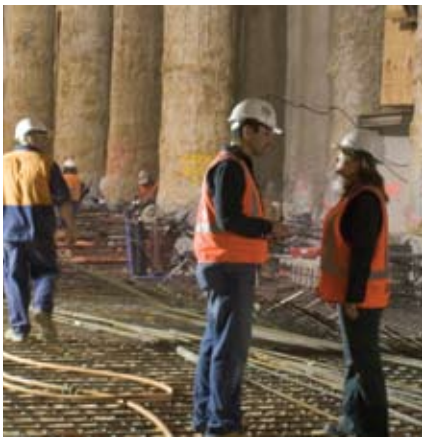

alliancing

a participant's guide

real life experiences for constructors, designers, facilitators and clients

Richard Morwood | Deborah Scott | Ian Pitcher

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Front cover:
Queensland Transport's $333 million Inner Northern Busway (Queen Street to Upper Roma Street) project involved constructing a 1.2 kilometre busway through Brisbane's CBD, incorporating two bus stations (one underground) and a 500 metre tunnel. The project was constructed in a highly complex brownfield environment with 1,000 registered stakeholders, including the Brisbane City Council and CBD traders. Delivered by the INB HUB Alliance, the procurement framework encouraged a collaborative, solutions-focused approach where innovation was the key to solving the very difficult technical challenges.

It is intended that the Cystic Fibrosis Association of Queensland and the Juvenile Diabetes Research Foundation benefit from the publication of this book.

Every effort has been made to present a fair and accurate description of the alliancing process and experience in Australia and New Zealand. We have obtained approvals from Owner Participants for case notes.
If you would like to provide comment or further case studies for future revisions of this book, please e-mail alliancing@aecom.com

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List of acronyms and definitions

ALG	Alliance Leadership Group is another term used to describe the ALT
ALT	Alliance Leadership Team is the group of senior representatives of the participant organisations that provides vision, governance and leadership without being involved in day-to-day operations
AM	Alliance Manager is the person who is ultimately responsible for delivering the alliance objectives
AMT	Alliance Management Team is accountable for delivering the day-to-day business of the alliance and is led by the AM
AOC	Actual Outturn Cost is the actual final total cost (Limb 1 plus Limb 2) incurred in delivering all of the alliance objectives
APM	Alliance Project Manager is another term for the AM
APMT	Alliance Project Management Team is another term used to describe the AMT
BAU	Business As Usual is the level of performance that would normally be expected based on historical results
iPAA	interim Project Alliance Agreement is the preliminary contractual agreement executed by the participants that guides the development of the TCE and is replaced by the PAA
KPI	Key Performance Indicator is the metric that is used to assess the performance of the alliance in delivering a KRA
KRA	Key Result Area is the area (other than cost) of value to the owner that normally aligns with their corporate goals or business objectives
MCOS	Minimum Conditions of Satisfaction is the owner's minimum expectation of performance against the KRAs where no pain or gain is experienced and generally lies at or slightly above BAU outcomes
NOP	Non-Owner Participant is a party to the alliance that jointly signs the PAA and is not the owner of the asset
OP	Owner Participant is the party to the alliance that is the owner of the asset and pays the NOP for their contribution to the delivery of the alliance objectives
PAA	Project Alliance Agreement is the contractual agreement executed by the participants that guides the delivery of the alliance objectives
PAB	Project Alliance Board is another term used to describe the ALT
RFP	Request For Proposal is the owner's document that calls for submissions from industry participants, and describes the scope and objectives of the alliance
TCE	Target Cost Estimate is the detailed cost estimate agreed by the participants as the target required to deliver the alliance objectives including MCOS performance for the KRAs
TOC	Target Outturn Cost is the summation of the line items in the TCE and is the benchmark against which the AOC is compared to determine financial gain or pain for the NOP
VFM	Value For Money is a term that is used as the basis of focusing alliance participants on measuring and documenting the initiatives of the alliance beyond BAU that contribute to outstanding performance
WPT	Wider Project Team is the greater team within the alliance that provides the required resources, skills and experience to undertake the day-to-day activities

Note: acronyms have been presented in title case throughout the text to indicate their importance as industry terminology.

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Richard Morwood

Director – Development and Alliances

Richard is Director-Development and Alliances for AECOM's ANZ region, which includes Australia and New Zealand. Richard has 32 years experience in the planning, design and project management of major infrastructure projects. He is an acknowledged leader in alliance contracting in Australia. He has been a member of the Alliance Leadership Team on many projects, firstly the Woodlawn Bioreactor Alliance followed by the Lawrence Hargrave Drive offshore bridge and currently the Inner Northern Busway (INB HUB) Alliance and TrackStar Program Alliance. Richard has played a key role in other projects as a co-facilitator for alliance workshops. Richard's proven expertise in alliance contracting, through the whole project cycle, makes him uniquely qualified to share his alliance experiences.

Deborah Scott

Alliance Culture and Relationship Manager

Deborah has 20 years experience as a writer and communication specialist. She has held management roles in both constructor and designer organisations and uses this experience to enhance the cultural and team development opportunities to achieve project delivery success. Deborah's alliance project experience includes Peak Performance Manager and Alliance Management Team (AMT) member on Inner Northern Busway (INB HUB) Alliance and she played a key role in the AECOM / Connell Wagner team for the selection phase of the TrackStar Alliance. Deborah has also played key roles in other projects as a co-facilitator for alliance workshops.

Ian Pitcher

Industry Director - Planning

Ian Pitcher holds the position of Director – Alliances for AECOM across Australia and New Zealand with the responsibility to enhance the organisation's capability to embrace alliances as a method for delivering services to infrastructure owners. His technical experience spans more than 25 years in corporate governance, strategic and operational planning, project management, and design and construction of transport infrastructure. Ian's experience includes leadership of the AECOM Victorian region from 2002 to 2007 as well as leadership roles for the design and construction management of major transport infrastructure projects. Ian is currently an Alliance Leadership Team member for the Southern Link Upgrade Alliance. He has also played key roles for AECOM in the bidding and selection processes for a number of alliances and facilitated numerous alliance workshops.

Preface

More than twelve months ago, AECOM's alliance team, in a moment of reflection, had a 'light bulb' moment. It would be great, we thought, if we brought together some of the wisdom and experience of our industry and distilled it down into a book that would meaningfully contribute to project and people outcomes across the alliance industry.

The evolution of alliances in Australia was such, we proposed, that there was a treasure trove of lessons learned that could add value to current and planned alliances.

We decided the industry was ready for a new book – something different and complementary – to add to the current suite of publications.

Keeping it real

There was one non-negotiable criterion. The book had to be 'earthed' in real-life case studies, written with the benefit of hindsight (let's face it, always 20/20) and the collective wisdom of those who have lived and breathed project alliancing since its introduction to Australia in the early 1990s.

For maximum integrity and effect, the book had to provide a balanced view. It had to provide practical answers to some of the 'what do you do when this happens?' questions that so frequently get asked, but are often only answered from a theoretical perspective.

The team's mantra became clear … we have to keep it real!

From that catalyst conversation more than twelve months ago emerged a process that involved hard work and perseverance, as we began the process of writing this book. Conversations were held with industry specialists and owners to gain rare insights, particularly in relation to the owner's perspective and forecasts for the future. We thank them for their contributions and their willingness to share case studies.

One thing is for sure; in true alliance spirit the team relentlessly pursued the goal of producing a book with real insights into the challenges and learnings from alliances that, hopefully, will benefit our industry.

Why build a bike?

A couple of good publications on alliancing are already in the market. Several Australian state governments are also following the Victorian Government's excellent lead in producing alliancing guideline documents. This handbook is meant to complement these publications, rather than duplicate their purpose.

What did we hope to accomplish by writing this book? A number of things:

- to facilitate further development of alliancing
- for use as a coaching tool by sharing some of the learnings from the last 10 years
- to give back to the industry through imparting knowledge 'without spin'
- to encourage all in our industry to continue to raise the bar in what is widely considered a valid and valuable project delivery method.

We did not want this book to be seen as a 'marketing' publication. Balance was important. The team sought perspectives from the view points of owners (clients and their coaches), constructors, designers and facilitators. Every effort was also made to involve many industry participants through interviews, conversations and case studies.

The book includes a reasonable amount of theory – enough to lay the foundation for exploring a topic or issue. But always, the critical focus has been to go beyond the theory into the operational, experiential and learnings. With this in mind, we have sought out and documented the lessons learned from the 'not so great' alliance moments along the way, as well as the successes.

Our goal was not to re-invent the wheel … but to add another wheel, construct a bike and go exploring.

We hope our book offers something for everybody involved in our industry. Our focus has been to keep it real by bringing significant learnings to the fore, and to provide a useful coaching tool for those already in our industry or looking to be part of it. Our team does not lay claim to being alliancing oracles, but we do offer what we know, and have learned, back to the industry as a gesture of goodwill and, in the spirit of continuous improvement, to enhance our industry.

We hope and trust you find it a good, and useful, read!

Richard Morwood
Director – Development and Alliances

Deborah Scott
Alliance Culture and Relationship Manager

Ian Pitcher
Industry Director - Planning

Part A

Part A Chapter 1

Introduction

Alliance contracting is a form of project delivery often used for complex projects which require speed of delivery and cost certainty. Usually owners seek outstanding alliance outcomes through an integrated team characterised by aligned goals and commercial drivers, innovative thinking and collaborative behaviour. This is reinforced through a commercial framework set up to create a win-win outcome by aligning the commercial interests of constructors and designers with the owner's project objectives, with risk collectively assumed by all participants and rewards determined by collective performance.

Even though alliances have been around for more than ten years, there are still project owners and participants in the engineering and construction industries who share a keen desire to know and understand more about alliancing and why it is a successful delivery model for certain types of projects. The opportunity to provide industry with an experience-based educational tool and practical guide was evident and was a key driver in producing this book.

Alliancing is currently being used on projects worth many billions of dollars in Australia and New Zealand and is now a relatively common form of project delivery. Whilst alliancing is not suited to all projects, increasingly it is being seen as a Value For Money model because it:

- suits complex projects where risks are difficult to define
- suits projects which require management of uncertain or changing scope
- provides cost management through a rigorous target cost development process
- encourages innovation as a means to smarter, value-based solutions
- facilitates the incorporation of community, stakeholder and environmental drivers
- facilitates speed of delivery through an integrated owner/design/construction team
- attracts resources in a tight market.

From the Non-Owner Participant perspective the alliancing process provides an opportunity to build deep knowledge about the Owner Participant and the owner's drivers, the full complexities of the project/s and the project delivery landscape. The opportunity to strengthen relationships with the owner is obviously part of this process. The result is that it optimises the Non-Owner Participants' ability to provide the most appropriate services offer, including assembling a 'best-for-project' team to deliver the works. All of this enables the Non-Owner Participants to deliver smartly, efficiently and in a cost-effective manner by getting it right from the start.

Australia's recent period of sustained economic growth, its expanding urban populations and the strong focus on infrastructure development have all contributed to the rise in the number of alliances. Providing infrastructure quickly, effectively managing costs and also delivering significant community, environmental and social legacies, have all become key drivers for owners. Alliancing provides a project delivery vehicle to do all that.

Alliancing is increasingly being seen as a sustainable procurement model, albeit one which is constantly evolving to suit owner and project specifics, and which is deepening its Value For Money proposition as more and more alliances are successfully being delivered and more people in the industry have exposure to alliancing.

The cultural and behavioural principles that underpin alliancing are being transferred back into the general engineering and construction industry as well as back into parent and owner organisations. Many believe this to be a signpost to the future of our industry, and a welcome evolution away from the traditionally adversarial nature of the industry.

This book has been written by people who have had significant experience in alliancing and are keen to contribute back to the industry. Additionally the team has drawn upon the knowledge and experience of many others to gain maximum clarity and balance. The book's structure is designed to make it as easy as possible for all participants and from all perspectives – owner and non-owner. The case studies have been written with the generous approval of owners to share learnings and examples that will hopefully translate into even better outcomes for all in the future.

Part A Chapter 2

Development of alliancing

How did the alliance project delivery model come to be? What were the primary reasons for its development in the first place? And how does it differ from partnering?

This chapter seeks to identify the drivers that spurred the development of the alliance procurement method in Australia along with the milestone projects on the way. Some of the terminology may be confusing to the beginner alliance practitioner. If so, read this chapter concurrently with Part A, Chapter 3 which explains the basic alliance concepts.

Firstly, a definition of alliancing from the Project Alliancing Practitioners' Guide (Victorian Government, 2006). This definition relates to public sector project alliances. In principle, the definition can also apply to private sector alliances.

Project alliance definition

A project alliance is a commercial/legal framework between a department, agency or government-backed enterprise or a private client as 'Owner Participant' (OP) and one or more private sector parties as 'service provider' or 'Non-Owner Participants' (NOPs) for delivering one or more capital works projects, characterised by:

- collective sharing of project risks
- no fault, no blame and no dispute between the alliance participants (except in very limited cases of default)
- payment of NOPs for their services under a three-limb compensation model comprising:
  - reimbursement of NOPs' direct project costs on 100 per cent open book basis
  - a fee to cover corporate overheads and normal profit
  - a gain share/pain share regime where the rewards of outstanding performance and the pain of poor performance are shared equitably among all alliance participants
- unanimous principle-based decision-making on all key project issues
- an integrated project team selected on the basis of best person for each position.

Note: In certain circumstances, it may be appropriate for an agency or government-backed enterprise to participate in a project alliance as a NOP, distinct from the government OP.

Key milestones

Key milestones in the development of alliancing as a procurement method are shown in Figure 1. Alliancing was first tried on North Sea oil and gas projects in the early 1990s and a couple of years later in Australia, but it only really became a common procurement method once the foundations and drivers had been challenged and tested several times.

Precursor to change

The engineering and construction industry has traditionally delivered projects through contracts that were at times adversarial in nature, with many believing that outcomes were not all they could be.

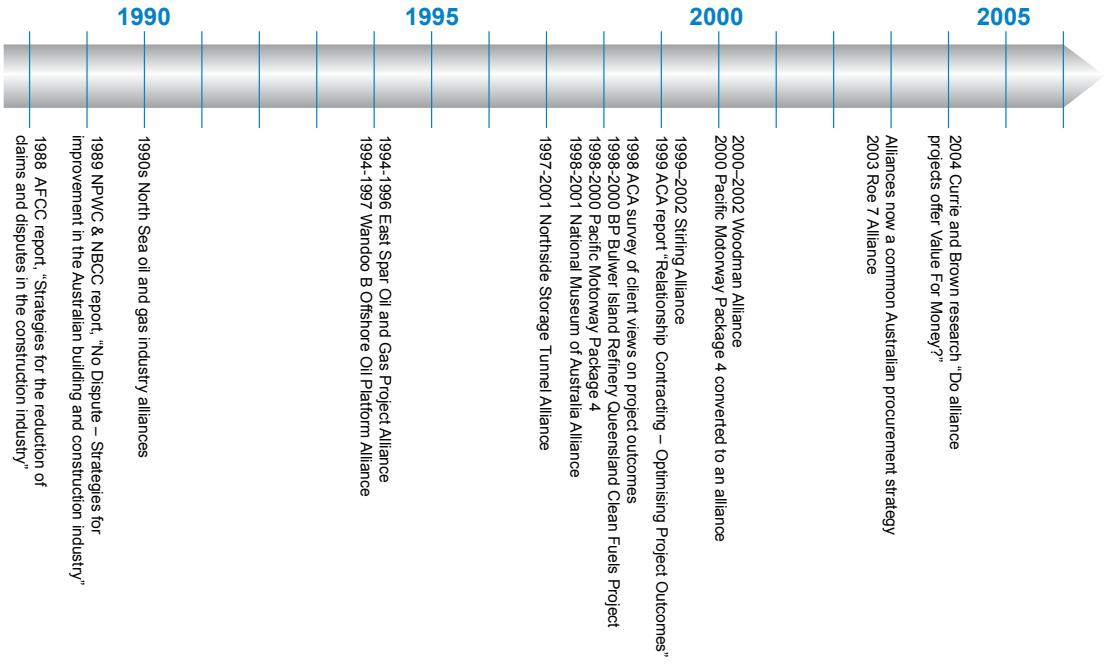
The Australian construction industry in the 1980s was characterised by an increase in contractual claims and disputes. This fuelled litigation, and increasingly aggressive and adversarial relationships. The cooperative attitudes necessary to complete construction projects on time and budget were being jeopardised.

Seeing this trend, senior people from construction industry associations and state governments formed a research project group. After researching Australian and overseas experiences, the group published the paper, *Strategies for the reduction of claims and disputes in the construction Industry - A Research Report (Australian Federation of Construction Contractors, 1988)*. Noting that this was an international problem, the paper identified the principal causes of claims and disputes, as well as making recommendations for change. The report was well received and led to further investigation.

In 1989, a joint working party comprising senior representatives from the major industry groups was established. Their objective was to jointly develop proposals for changes in construction industry practices which would lead to improved practices and better quality work, with the over-riding aim of achieving a reduction in claims and disputes. Strategies that would lead to more efficient management and performance of projects through various project stages were described in the report, *No Dispute - Strategies for improvement in the Australian building and construction industry, (National Public Works Council, and National Building and Construction Council joint working party, 1990)*.

Papers and reports, such as the above, were critical in fuelling the industry conversations that would lead to the introduction and ultimately widespread use of the collaborative project delivery method in Australia called alliancing.

Figure 1 Alliance development timeline



Putting theory into practice

The primary driver of the early alliance projects in the oil and gas industry was to achieve a more equitable sharing of risk for complex and uncertain projects between the Owner Participant (OP) and the Non-Owner Participants (NOPs). They also provided a welcome solutions-focused, relational-style project delivery alternative for an industry that had traditionally relied on more adversarial styles of project delivery.

The North Sea oil and gas industry first used what is now called alliancing in the 1990s to deliver major projects. Companies such as British Petroleum employed this form of contracting to move away from traditional master-servant relationships between owners and suppliers, to a more cooperative peer-based relationship characterised by mutual trust and respect.

Based on the UK experiences, Australia's first alliances were the Wandoo B Oil Platform for Ampolex (Mobil), and East Spar Oil and Gas Project Alliance for Western Mining Corporation in 1994. These alliances were very successful and delivered outcomes that were highly valued by the owners.

In contrast to the oil and gas industry the primary drivers of the early public infrastructure alliance projects were to introduce innovation and creativity to situations where there was no clear solution and to deliver outcomes in timeframes that were significantly constrained. A catalyst milestone project in public infrastructure was the $465 million Northside Storage Tunnel Alliance for Sydney Water Corporation from 1997 to 2001. The project needed to be finished before the 2000 Olympic Games in Sydney to minimise the risk of sewage overflows to the harbour. It was a breakthrough because Sydney Water selected their alliance partners using a competitive interview-based selection process that focused on competence, capability, experience, delivery approach, alignment with Sydney Water's needs, commitment, and the best people for the project.

Flavours of relationship contracting

Although alliancing and partnering are both forms of relationship contracting and came to Australia in the 1990s, the two are different.

Partnering was developed by Dr Charles Cowan in the United States and differs from alliancing in that its relational base is not expressed in contractual terms. Even though partnering did include, for the first time, a focus on people, it did not really align people with underlying commercial drivers because it had no contractual imperative itself. Partnering relied on a charter, or agreement, signed by all parties involved, expressing their desire and intent to work collaboratively on a project. In partnering, there exists a commitment between the client and the contractor(s) to cooperate in order to meet separate but complementary objectives (Partnering and alliancing on road projects in Australia and internationally, Manley, K, 2002), and it is based around a structured management approach which encourages teamwork across contractual boundaries (International Council for Building (CIB), 1997).

Alliancing, on the other hand, is a form of relationship contracting whereby the commercial and collaborative arrangements are formally expressed in contractual terms. A great deal of time and effort goes into developing the commercial framework which is carefully constructed to align all parties involved – Owner Participant (OP) and Non-Owner Participants (NOPs) – around a common goal, and then reinforcing that through appropriate commercial drivers that provide the financial incentives for good (but preferably outstanding) project performance. Achievement of outstanding results is facilitated by a contractual framework which eliminates the ability for parties to blame each other and focuses effort on the resolution of problems and delivering innovation.

In essence, alliancing took Dr Cowan's partnering concept to the next level, embedding the relationship-based aspirations within the contractual/commercial framework.

Sydney Water considered this to be the best method to create an integrated project team that would achieve the outcomes they required from this major project. An alliance would bring together the skills and experience from the private sector to deliver it for a cost regarded as good Value For Money (VFM). The target price was developed jointly with the successful alliance partners in a fully open book environment and was not used as the basis for selecting the best partners.

Case note 1

Alliance beginnings in Australia

Project: Wandoo B Offshore Oil Platform
Owner Participant: Ampolex Limited
Non-Owner Participants: Brown & Root, Keppel Fels, Leighton Contractors, Ove Arup & Partners
Value: $364m
Duration: December 1994 to March 1997

This project was to develop a marginal high-risk oil field 75 km north-west of Dampier in Western Australia.

Outcome:
The Wandoo Full Field Development was an outstanding success. Amploex was able to bring a significant asset into production in a time that was at least seven months faster than benchmarked world performance for similar platforms, and at a cost where savings of $13 million against the sanctioned project budget were realised.

Ampolex is on record as saying that "… a properly formed alliance will deliver exceptional savings in project time and project cost to the client, resulting in exceptional profits for all participants and satisfaction to each individual employed within the alliance."

Source: Relationship contracting: optimising project outcomes, ACA 1999

Source: Leighton Contractors

Case note 2

Alliance selection process breakthrough

Project: Northside Storage Tunnel Alliance
Owner Participant: Sydney Water Corporation
Non-Owner Participants: Transfield P/L, Connell Wagner P/L, Montgomery Watson Australia P/L
Value: $465m
Duration: 1997 to 2001

Sydney Water needed to significantly reduce the volume of wet weather sewage overflows into Sydney Harbour prior to the start of the Sydney Olympics in September 2000 to ensure the events being held on the harbour were not going to be affected by wet weather sewage pollution.

The project involved the design, manufacture, fabrication, supply, construction, testing and commissioning of a 16 km storage tunnel and 3.5 km branch storage tunnel, overflow connection works and upgrades to the North Head Sewage Treatment Plant. The tunnel is up to 160 m below ground level and between 3.8 m and 6.6 m in diameter, and can store up to 500 ML.

Outcome:
By the beginning of 1997, Sydney Water had developed a high level concept of how to address the three major point sources of wet weather sewage overflows.

The construction of a facility of this magnitude across prime residential suburbs of Sydney in a timeframe not previously achieved was going to be challenging. Existing contracting methods would not have delivered the result in the timeframe, and the other Key Result Areas (KRAs) of cost, community, environment and safety would not have been achieved to the standard required for this project.

Sydney Water has commented that:

"The project was very successful and groundbreaking in many areas. Despite many constraints and difficulties, the project:

- achieved its targeted outcome of being ready for the Sydney 2000 Olympics
- was delivered as a fast-track project using the alliancing contracting method, a first such public sector contract in Australia
- was innovative in linking financial rewards to achievement on non-cost objectives
- achieved exceptional results in its delivery of community relations, environmental management and safety systems
- was completed at a final cost which represented an increase of only 3.3% over the original Target Cost Estimate (TCE) – adjusted to include escalation and accounting policy changes – despite significant technical, environment and social problems and delays."

After the Northside Storage Tunnel success followed other significant alliance projects like the BP Bulwer Island Refinery Queensland Ctlean Fuels Project (1998 to 2000), and the National Museum of Australia (1998 to 2001).

Alliancing came to the attention of the Queensland Main Roads Major Projects Office General Manager, Derek Skinner, who drove the uptake of alliancing within the Queensland public sector. Queensland's first alliance was the Norman River Bridge Alliance (1999) in far north-western Queensland. Derek was the champion for this catalyst project, a small ($5 million) but significant and award-winning alliance which involved designing and constructing a new bridge over the Norman River near the Gulf of Carpentaria. The bridge had to be completed within a very tight six-month timeframe prior to the arrival of the wet season. Derek's foresight and confidence in this approach led to many more transport infrastructure projects being identified as potential alliances.

One of these projects was the Pacific Motorway, The project began in 1998 using traditional contracts to deliver six packages. Subsequently two packages fell behind schedule such that the overall completion date may have been delayed by six months later than the critical opening date of 7 October 2000. These packages of the Pacific Motorway project were converted from traditional contracts to alliances in February 2000 with outstanding results. The project was completed five days ahead of the opening day, cementing the role of alliancing in challenging projects in Queensland and providing an excellent case study for the rest of Australia.

Building on its alliance success, Main Roads also delivered another milestone project, the Georgina River Bridge Alliance in North Queensland.

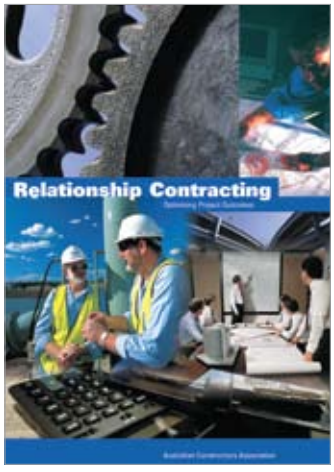
These projects were followed by the Port of Brisbane Motorway alliance which successfully completed the design and construction of the $110 million Stage 1 six months early and under budget.

Alliancing gathers momentum

In 1998, the Australian Constructor's Association (ACA) undertook a survey of the industry's major private and public sector clients through a program of interviews with their chief/senior executives to understand their:

- experience of contractors
- expectations of contractors
- views on how project outcomes could be improved.

The ACA survey findings were published in Relationship Contracting: Optimising Project Outcomes (1999). The findings, with respect to clients' experience and expectations of contractors, included:



- project outcomes were sub-optimal on too many projects
- clients continued to use traditional delivery systems which they acknowledge have shortcomings and which often lead to adversarial relationships and overruns in cost and time
- clients believe the following factors contribute to successful project outcomes:
  - clear project goals
  - definition and understanding of the project scope
  - understanding and appropriate allocation of risks
  - agreed risk/reward arrangement
  - appropriately skilled project staff
  - well defined communications through all levels of the contracting parties with proper empowerment for decision making.

The ACA findings indicated that there was clearly scope for improvement. Relationship contracting – that is, using delivery strategies based on closer alignment of client and contractor goals and a better understanding of risk sharing - was seen by the industry as the way forward. Support for alliancing as a viable project delivery methodology was gathering momentum.

The ACA stated that the key features of relationship contracting were:

- a focus on project results founded on successful business outcomes for all parties including rewards for exceptional performance
- innovative contractual arrangements
- access to and contribution by the best for project resources of each participant with an emphasis on working together efficiently
- a clear understanding of individual and collective responsibilities
- the success of the project measured against Key Performance Indicators (KPIs)
- an emphasis on openness and cooperation between the parties
- an equitable risk/reward balance that aligned the commercial interests of the parties.

The ACA further commented that the success of relationship contracting depended on the willingness of both clients and contractors to commit to change at an individual and project level. The fundamental requirements for success, they asserted, were:

- alignment of goals
- risk allocation
- clearly defined project scope
- form of contract
- integrated project team
- gain share/pain share
- open, honest communication/positive change in habits, behaviour and attitudes
- public sector issues – Value For Money (VFM) and probity
- facilitators/coaches
- legal advice that aligns with the new approach
- third party advice that aligns with the new approach.

Alliance drivers

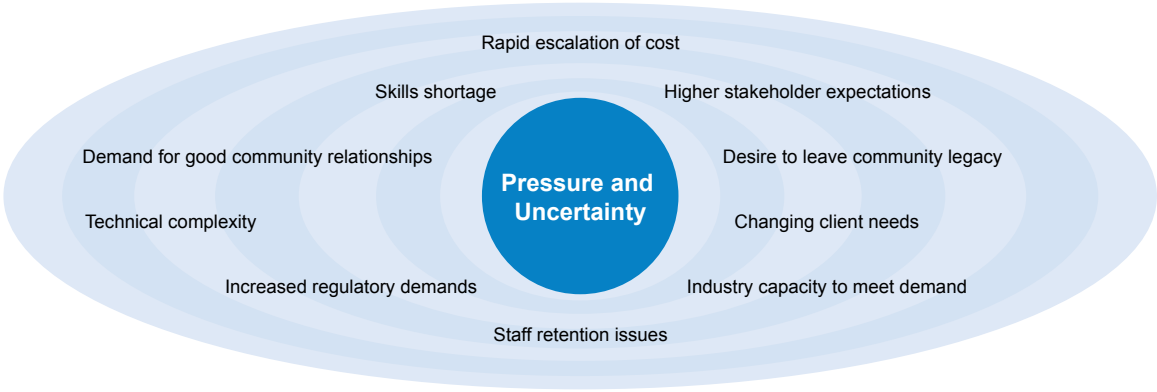
With the successful completion of a number of project alliances owners took the opportunity to reflect on the key issues that would drive the use of this delivery method. One of the first of these drivers that was subjected to scrutiny was Value For Money (VFM).

In 2004, Sydney Water commissioned consultants Currie and Brown to research the question, "Do alliance projects offer Value For Money"? They concluded that: "If a project contains the following criteria then there is a greater probability of the alliance procurement process providing VFM for the project initiator and meeting the project objectives:

- the project is complex, encompassing design, construction, commissioning and environmental and lifecycle issues
- there is potential for high risks in delivery but also greater opportunities
- the project requires greater certainty on the cost delivery of the project
- time to completion is a major constraint for the project."

As alliances evolved, other drivers emerged as important criteria for clients in choosing an alliance delivery method, as shown in Figure 2. These have come as a result of continued strong economic growth and capital investment, and an increasing expectation amongst communities that they should be provided the opportunity to contribute to shaping project outcomes.

Figure 2 Alliancing Drivers



Another feature that owners sought through the alliance model was to provide a project delivery framework that continually pursued innovation and encouraged outstanding or game-breaking project outcomes in complex situations where a Business As Usual (BAU) outcome was considered just adequate. More traditional delivery methods can tend to constrain the pursuit of innovations to distinct phases, thus reducing the potential to achieve truly outstanding outcomes. This is particularly the case in traditional delivery methods where participants work separately (thus restricting integration and open communication) and when the risks are allocated rather than collectively assumed.

Insurance shift

The insurance industry also responded positively to this changing face of the engineering construction industry. In approximately 15 current alliance projects a professional indemnity policy directly tailored by the international insurance industry for 'no blame' culture alliances has been accepted. This is also reflective of the insurance industry's willingness to embrace this form of contract as a viable risk management model. The lack of such a product in the past had been an impediment to the establishment of alliances.

Industry shift

As well as the traditional drivers, today's alliances also resonate with clients because of their capacity to deliver significant community and social benefits and legacies. Increasingly this is a major requirement for clients whose vision transcends the historical project delivery outcomes of time, cost and quality, and whose own clients, often the public, expect community-focused, sustainable development.

Today's high demand for alliances is also being driven by a resource-constrained market. Owners are seeking resource certainty and want to develop and retain people on their projects.

Historically, designers and constructors have provided services to clients in traditional design then build frameworks, in design and construct teams, partnering and similar arrangements. Experience has shown that when alliances are used for the right project and given appropriate management focus they can provide better outcomes and a higher level of satisfaction than if these traditional adversarial delivery methods are utilised. The reasons for this include:

- price certainty – alliances are typically delivering to within (+or-) 5% of the Target Outturn Cost (TOC)
- solutions-focused approach within complex, challenging project environments
- project energy focused on achievement of project goals
- no costs incurred in litigation
- better project delivery certainty

- an evolved Value For Money (VFM) proposition incorporating transparency traditional cost, time and quality criteria, as well as long-term sustainable (community, environmental and stakeholder) legacies
- focus on responsibility and accountability
- greater community and stakeholder engagement
- superior prospects for achieving environmentally sustainable solutions through a whole-of-project approach
- improved professional and personal growth
- opportunities for skills and knowledge exchanges between the Owner Participant (OP) organisation, and Non-Owner Participant (NOP) companies
- constant benchmarking of project outcomes.

Evolution of alliancing

All facets of the alliancing delivery model are continuously evolving and maturing. However, there is no doubt that alliances are getting bigger and more challenging as clients observe that this model has the potential to deliver far more than just infrastructure.

Aware of the costs involved in people and time, some participant organisations (owners, designers and constructors) have set up specialist alliancing groups to lead, coach and participate in alliances. This has been a natural evolution for constructors and designers who have responded to the very high 'conditions of entry' standards into the market through the alliance bid and selection phases. There are also excellent alliance facilitators and coaches in the market to assist teams across the whole spectrum of alliancing from bidding through to delivery.

The up-front costs for proponent teams bidding and winning alliances can be higher than some other forms of contract. However, the counter argument (often unstated) is that whilst the costs can be initially high, they are more than compensated by the fact that the potential for back end project costs (such as litigation) that occurs in other contract forms is significantly reduced.

The bidding process now tends to include:

- team preparation workshops and site visits
- writing and producing quality proposals (sometimes using specialist design and production houses)
- key personnel taken out of the business to write bids, and then, if short-listed, to go through the selection workshops
- costs of the specialist alliance coaches and facilitators
- senior management commitment – especially those who are proposed for Alliance Leadership Team (ALT) and key project roles.

Of course, after all this up-front investment there is no guarantee of being the preferred proponent! And, after such an exhaustive process, it hurts to lose.

For all participants achieving valued outcomes will be a sustained focus and as a consequence, alliancing will continue to evolve.

Part A, Chapter 3

Alliance fundamentals

The new alliancing practitioner is sometimes overwhelmed by the terms and acronyms relating to alliancing, let alone the cultural shift from a traditional contracting framework. This chapter will help by introducing key terms and exploring fundamental alliance concepts, such as the alliance model, governance and leadership structures, the commercial and risk model, alliance phases and alliance options.

While largely theoretical, this chapter also delves into the 'why' and 'how' aspects of some of the critical features of alliancing, answering many questions along the way. The industry now has significant real-time experience to be able to share its knowledge and lessons learned of alliancing.

Later chapters will provide more detailed discussion of concepts, and numerous case studies and examples of both 'what to do', and 'what to do better'!

A solutions focused model

One of the most empowering aspects of an alliance is that everything possible is done to create a solutions-focused culture fixed firmly on the achievement of project goals. This is the part of the win-win approach that underpins alliancing. A traditional contract historically has a more defensive culture, structured (both organisationally and commercially) so that silo-preservation, patch-protection and blame often occur. The paradigm shift to a solutions-focused culture does not just happen and is not a simple thing to achieve.

Each discipline – such as construction, engineering design, architecture, urban design, geotechnical, environmental, and community consultation – generally has its own thinking and working style. In a solutions focused, multi-disciplined environment, these diverse disciplines must unite to deliver a solution that represents success for all participants. Not only do they have to stand in each other's (disciplinary) shoes, they have to walk a few kilometres in them as well. This can be a challenge for many who have been used to more traditional based contracts where disciplines tend to work autonomously, often relying on the owner to manage the interfaces.

The integrated approach to solutions is a major differentiator between alliances and other project delivery models, particularly when challenges arise. The focus on integration represents a continuous thread woven purposefully through every aspect of the alliance fabric. A solutions focused culture keeps energy and emphasis moving progressively forward along the project delivery continuum, rather than allowing energy and emphasis to get blocked or bogged down at various challenge points along the way.

The solutions-focused culture is best achieved in a supportive project environment. The alliance model provides an appropriate framework with:

- an emphasis on outcomes whereby all parties either win or all parties lose
- collective responsibility – equitable sharing of risk and rewards
- all transactions fully open-book
- clear responsibilities with a 'no blame' or 'no sue' culture
- all decisions based on a 'best for project' philosophy
- integration of design, planning and construction resources, including those of the project owner (a holistic, best for project approach)

- team members chosen on a 'best for project / best for the role' basis and required to make principle-based decisions, in the best interests of the project, not the organisation they are employed by
- high performance, action-oriented team environment encouraging and facilitating innovative thinking (seeking outstanding and breakthrough outcomes)
- alliance participants develop and commit to work within an agreed project charter stating the principles and objectives agreed by the team
- visible/unconditional support from top level management of each participant organisation, including appropriate allocation of resources
- open and honest communication – no hidden agendas
- active participation by the project owner
- support for professional and personal growth.

Governance and leadership structure

The strategic leadership and governance structure of an alliance is critical to creating a solutions focused project environment. The support for alliance principles must come from the top.

The alliance has a structure which is intended to empower and support the team's performance. Figure 3 illustrates the organisational structure, with the roles introduced below. Part D, Chapter 1 discusses the roles, responsibilities and accountabilities in more detail.

Alliance Leadership Team

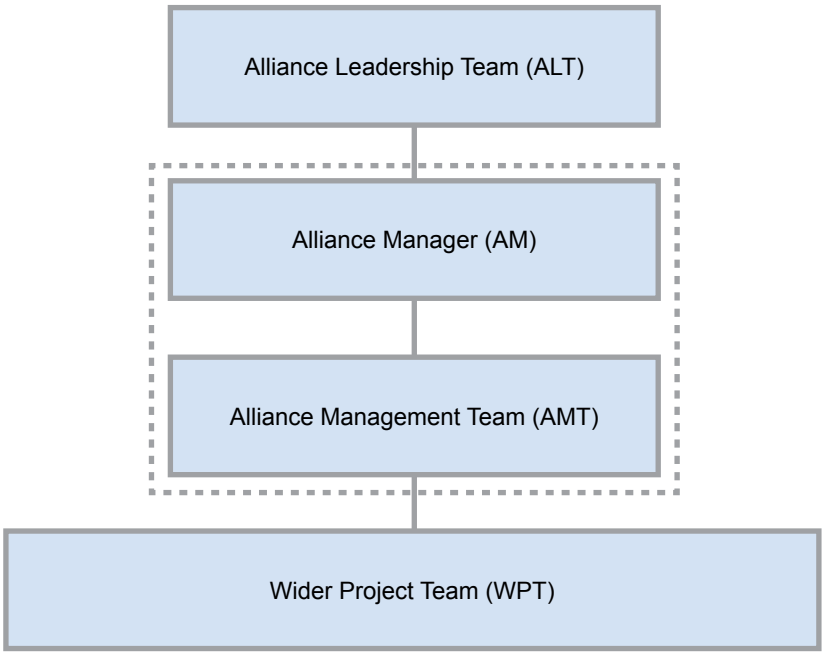
The Alliance Leadership Team (ALT) – sometimes called the Project Alliance Board (PAB) or Alliance Leadership Group (ALG) – provides vision, governance and leadership to the alliance without being involved in its day-to-day business. The ALT should not micro manage.

ALT members need to have a good understanding of the commercial framework, insurance and accountability aspects of an alliance, and must have the authority to make decisions for the companies they represent. Members should have good leadership skills and need to be visible to the team and accessible.

The ALT's value lies in its leadership and governance, acting as a sounding board to the alliance, resolving any issues referred to it by the AMT and making unanimous decisions as required. ALT members can also take on champion roles for issues that the alliance believes to be critical to success, such as sustainability, safety and community.

Each alliance participant organisation usually nominates one – or in certain circumstances two – ALT members. These nominees should have significant alliance or project specific experience and be in a position to influence resources available to the project. For a project with a high technology component or a specific focus area, a member with that particular technical background may also be desirable.

Figure 3 Alliance organisation structure



Note: the AMT is led by the AM.

Alliance Manager

The Alliance Manager (AM) – sometimes called an Alliance Project Manager (APM) – will drive the delivery of the project. Ideally, this person is an inspiring leader with strong project management skills. This role is the conduit between the Alliance Leadership Team (ALT) and the remainder of the alliance, so the AM should have strong communication skills, a whole of project approach to delivery, and an open and collaborative management style. Having said this, the AM must be able to make the tough decisions. He or she must be firmly committed to delivery of all project goals and milestones.

The AM often comes from the constructor participant, but the AM can also come from the owner or designer on a 'best for project' basis.

Alliance Management Team

The Alliance Management Team (AMT) – sometimes called an Integrated Management Team (IMT) – will assist the Alliance Manager (AM) in driving the operational project delivery. The AMT members need to be strong leaders in their respective disciplines, have a willingness to work in a multi-disciplinary environment and be strong communicators. They must inspire the Wider Project Team (WPT) to work collaboratively to achieve project goals.

Accountability for project delivery rests with the AM and the AMT.

Wider Project Team

The Wider Project Team (WPT) members need to understand the alliance delivery method, be clear about their own responsibilities and what they need to achieve, and be totally accountable for their own work performance. They must lead by example and work collaboratively, championing the culture established by the alliance and commit to the vision and goals.

The WPT will contribute greatly to the delivery, energy and spirit of the alliance, and should be encouraged to support the project and behavioural commitments established by the alliance.

Commercial/risk model

The alliance approach

The commercial and risk allocation framework is typically developed during the project development phase. In this phase, a detailed knowledge of the project is developed jointly by all participants – both the owner and non-owners.

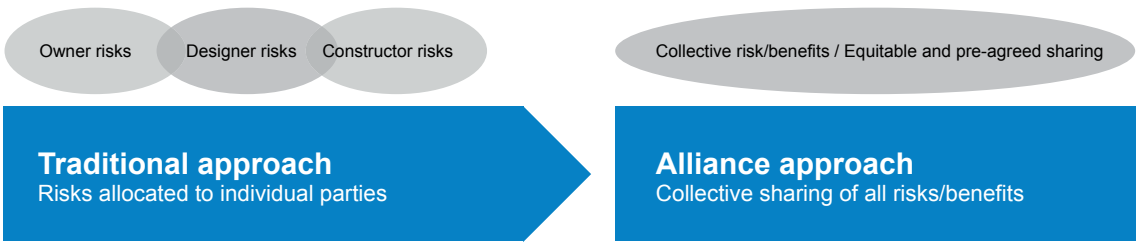
By contrast, a traditional or 'partnering' commercial and risk allocation framework is typically prepared by the owner alone, thus creating the potential for team behaviours to be undermined by what ends up being an adversarial framework, particularly when something goes wrong on the project.

Figure 4 illustrates the difference between the traditional and alliance approach to allocating risk.

Under the traditional approach, responsibilities and risks are allocated to different parties with commercial and/or legal consequences for the individual parties where they fail to manage their risks or properly discharge their contractual and legal obligations.

Risk is not 'allocated' in an alliance in the traditional legal sense, but is shared through the operation of the pain share/gain share model. The risks are shared equitably and quite precisely under the pain share arrangements up to the point where the margin (corporate overheads and profit) of each Non Owner Participant (NOP) has been lost. Beyond that point the risks are borne solely by the Owner Participant (OP).

Figure 4 Traditional versus alliance risk sharing approach



Commercial model

The commercial model is designed to help drive 'best for project' decisions and behaviours whilst ensuring there remains a focus on the owner's needs.

An alliance commercial framework will typically comprise three parts:

- direct costs and project specific overheads
- normal profit and corporate overheads (non project related)
- a performance pool made available by the owner for non-cost related Key Result Areas (KRAs).

These three components are referred to as Limb 1, Limb 2 and Limb 3 respectively in the Project Alliancing Practitioners' Guide (Victorian Government, 2006).

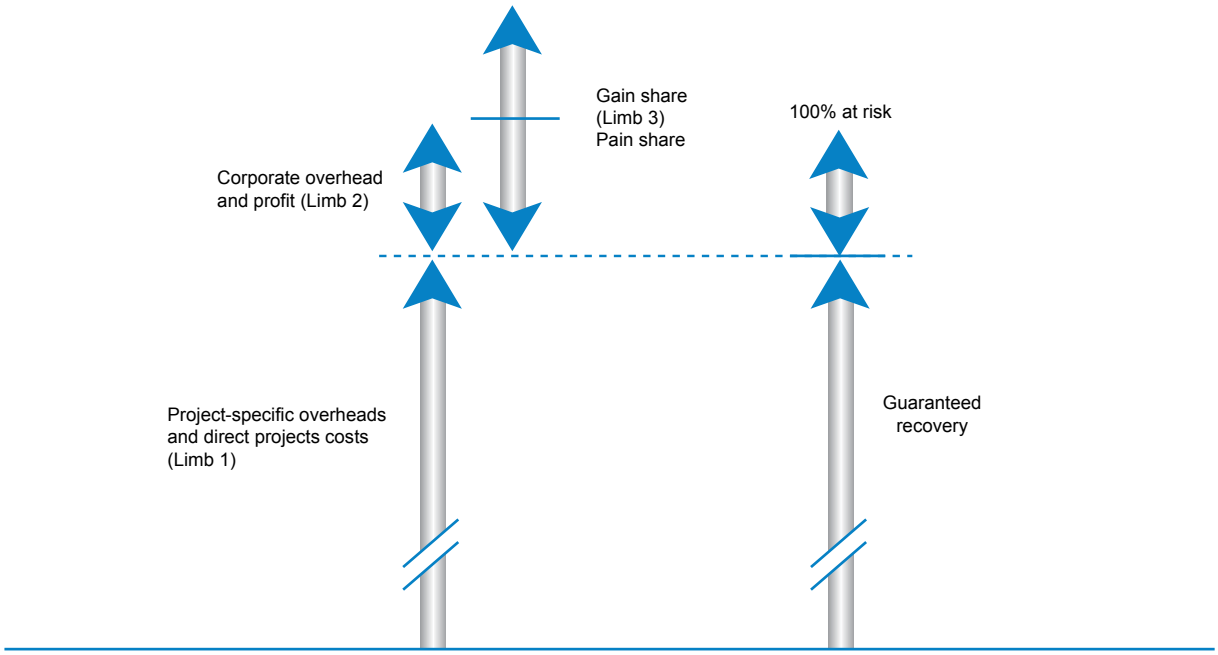
The principles of pain share and gain share are applied to the normal profit and corporate overheads (Limb 2) along with the performance pool (Limb 3), as shown in Figure 5. These principles will not necessarily drive the behaviour of the team in their own right, but they will provide the building blocks on which these behaviours are founded.

The owner pays the Non-Owner Participants (NOPs) actual direct costs (Limb 1) of doing the work, including any re-work. The recovery of direct costs under Limb 1 is guaranteed irrespective of the outcome under the Limb 3 pain share/gain share arrangements, as shown in Figure 5.

The owner will reimburse a margin (Limb 2) to cover the NOPs' corporate overhead and normal profit (fixed or floating). However, Limb 2 is 100% at risk under the Limb 3 pain share/gain share arrangements, but pain for the NOPs is capped at this level.

Risk or pain is proportioned such that the NOPs run out of or lose their corporate overhead and normal profit (Limb 2) together. This supports the culture of all participants winning together or all losing together and helps aligns behaviours in this regard.

Figure 5 Pain share/gain share



Key characteristics of the model are:

- participants jointly develop/agree cost and KRA targets for the alliance, although the owner will specify their minimum performance expectations for the KRAs
- risk and reward for the KRAs is linked to outcomes which add to (or detract from) the value to the owner
- the NOPs must have enough at risk (skin in the game) so that outcomes are always win/win or lose/lose
- a detailed financial audit regime up-front during commercial alignment and on-going during delivery to provide confidence in the open book outcomes
- embracing comprehensive performance monitoring and accountability to drive behaviour and eliminate surprises
- risk and reward mechanisms made as simple as possible
- risk and reward outcomes based on a performance spectrum relative to Business As Usual (BAU) results so that:
  - performance better than BAU results in better than BAU returns
  - performance worse than BAU results in worse than BAU returns
  - any tendency to sacrifice performance in one area to secure rewards in other areas is discouraged by interlinked mechanisms.

Financial audits

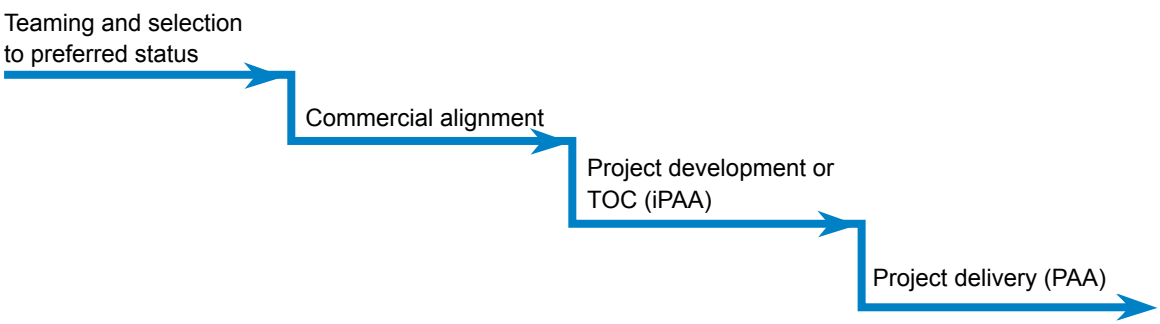
The Owner Participant (OP) normally appoints a financial auditor at the beginning of the project to provide confidence in the transparency and openness of the commercial arrangements. The auditor will usually:

- conduct a confidential analysis of the participant's accounts to understand the Business As Usual (BAU) financial performance of projects similar to the alliance project
- confirm the direct cost rates for salary and other internal costs for both staff and contract employees and advise on a proposed methodology for calculating corporate overhead and profit to be allocated to the project
- produce an audit report identifying the historical financial results for the participants expressed as Limb 1 and Limb 2
- prepare a compensation audit plan for an ongoing program of audits to validate reimbursement of costs under the alliance.

Alliance phases

Alliances typically proceed through the four key phases shown in Figure 6. The phases are described in more detail below.

Figure 6 Alliance phases



Case note 3

Commercial framework in operation

Project: Woodlawn Bioreactor Alliance
Owner Participant: Veolia Environmental Services (previously Collex)
Non-Owner Participants: Laing O'Rourke (previously Barclay Mowlem), AECOM
Value: $50m (alliance $25m)
Duration: 2001 to 2004

The Woodlawn Bioreactor Alliance developed the original facilities for the Woodlawn Eco-precinct site, including:

- waste transfer station for sorting and transfer of waste into rail containers at the Clyde marshalling yards in Sydney
- rail to road intermodal terminal at Tarago 250 km south west of Sydney
- Woodlawn Bioreactor Landfill including rehabilitation of a disused mine site.

Future projects to be developed on site include a 50 MW windfarm, a waste alternative sorting and processing facility, and a composted organics and green waste facility.

Key lessons:

1. The transparent commercial framework enabled the project to be mothballed halfway through construction while a third party approval appeal was resolved. This mothballing was able to occur without claims and in the best interests of all parties.
2. The no blame (no sue) clause and the behaviours built up around the best for project decision making and win/win or lose/lose commercial model enabled a rapid response to a significant problem that occurred two weeks before the project was due to be opened. No energy was wasted in contractual argument as the joint responsibility and cost pain share arrangements were clearly set out from the start of the project. An interim solution enabled the first train to arrive on time and all participants shared in the cost of the rectification.

Teaming and selection

In an alliance, owners need to feel confident the Non-Owner Participants (NOPs) they select will sustain a successful long term partnership and deliver on all of their project objectives. The process that owners adopt to select their partner includes a combination of introductions, assessments of capability and compatibility, and initial tests of the potential of the relationship.

The process typically begins with preparation of a Request For Proposal (RFP) document by the owner. The document will include a description of the works, the owner's expectations and the details required from bidding teams.

The bidding process is typically non-price based with the assessment of bids including both objective and subjective criteria. The bidding process usually involves team development and coaching, bid preparation and a significant investment in both time and money.

Figure 7 Alliance RFP response documents

Selection typically involves the owner's assessment of proponents' submission documents, intensive interviews with short-listed proponent teams and final selection workshops with the two short-listed proponents. The selection is based on what the owner believes will be the 'best for project' team.

Following the selection workshops, the owner's choice of proponent gives them preferred status while (usually) further commercial discussions are held.

Commercial alignment

There are many variations to the theme, but the objective of the commercial alignment phase is to have discussions and achieve commercial alignment while assessing the philosophies and behaviours of the final short listed proponent.

The basis of a successful relationship is a clear understanding of the contribution each participant makes to the relationship. Likewise, in the formation of an alliance the proponent team remains preferred by the owner until an agreed commercial relationship has been established. This commercial alignment phase sees the Owner Participant (OP) and Non Owner Participants (NOPs) come together in a series of workshops to:

- agree the vision and principles for the alliance and the principles that will apply to the commercial discussions
- discuss and agree on the definition of the elements that make up the direct costs for the NOPs and those that fit within the participants' corporate overhead and normal profit
- review the results of the financial audit of the NOPs' historical project records and establish the basis for each participant's direct costs (Limb 1)
- negotiate an agreed rate for each NOP's corporate overhead and normal profit (Limb 2) based on the historical records, the principles of an alliance and a view of the future
- review and align on the gain share/pain share regime including:
- the performance spectrum for the Key Result Areas (KRAs)
- establishing the owner's minimum expectations
- pain share/gain share between the owner and non-owners
- pain share/gain share between the individual NOPs in their own right
- reach agreement on the events that may constitute a variation to the alliance
- resolve any outstanding issues in the alliance agreement.

Figure 8 TrackStar Alliance leadership after signing the PAA

Following alignment on all the alliance commercial aspects, the OP and NOPs execute the alliance agreement. The distinctive features of this agreement are:

- performance obligations are collective, not individual
- the three limb compensation model
- collective governance where unanimous decision making is mandated (no master-slave relationships)
- liability is limited to the compensation model unless a participant wilfully defaults on their obligations
- no right to litigate (no enforceable rights)
- limited or no provisions dealing with time extensions
- owner's reserved right to terminate for convenience
- alliance participants' books open to audit.

These issues are dealt with in Part D, Chapter 4 on the Project Alliance Agreement (PAA). The commercial alignment phase has traditionally been managed in this way, but it is not always the model used and there are variations to this theme.

Project development phase

The project development phase – sometimes called the Target Cost Estimate (TCE) phase or interim Project Alliance Agreement (iPAA) phase – is the early part of the alliance where the participants have high expectations of the future and that a wonderful professional and personal experience will result from working together to achieve project objectives.

This is an exciting time, usually quite high in energy and aspirational goal setting. As the participants spend more time together they get to fully appreciate the challenges ahead and can sometimes become a little apprehensive. There is usually a lot of frenetic activity as systems and processes are developed and quickly implemented. Open communication and a focus on process is the key to this period as participants seek to understand each other and work on the common goal of establishing the long term relationship and setting the targets for the future.

During this period the alliance seeks to:

- establish an integrated alliance team/office
- establish clear goals, accountabilities and responsibilities at all levels
- confirm the scope and key objectives
- focus on innovation to drive a Value For Money (VFM) outcome
- align on performance targets for the Key Result Areas (KRAs)
- develop and implement alliance management systems, plans and procedures
- develop, commit to and implement an alliance charter with an agreed vision and principles for behaviour
- prepare a high performance management plan and initiate team development
- complete developed design for cost estimation (say to 20 to 40% of detailed design)
- complete a risk and opportunity assessment and develop a contingency strategy
- complete a Target Outturn Cost (TOC) for Alliance Leadership Team (ALT) acceptance.

The project development phase usually lasts three to nine months. The key output is the TOC, which must be formally accepted by all alliance participants before the full alliance delivery can start.

In all cases the TOC – sometimes called the Business As Usual (BAU) estimate – is intended to be the best estimate of what the integrated team thinks it will cost (or would normally cost) to deliver the scope of works being undertaken by the alliance within the agreed target schedule and using normal performance standards.

To address the owner's need to demonstrate Value For Money (VFM) in the TCE, it is important to engage with independent industry experts to validate and ensure a solid VFM proposition is being developed.

The alliance participants must develop a clear understanding of the risks borne by the alliance and those that remain with the owner. Resolution of this defines the conditions that may result in variations to the TCE. This is the first real test of a new alliance and the integrity of the conversations will influence its future success.

Managing the drivers of the participants during the TCE phase is important. The Owner Participant (OP) will want to incorporate substantial innovation and mitigate risk in this phase to develop a robust TOC.

The process needs to ensure that as much innovation as possible is generated in the time available for this phase. However, the alliance model encourages continuous innovation throughout project delivery.

Balancing the OP funds expended on developing the TCE, the robustness of that TCE, and the ability of the project to continue to innovate and ultimately proceed can be challenging. The process should be delivered consistent with alliance principles and all participants must feel comfortable with the TCE and the process. Although difficult, the TCE development process usually strengthens the relationships, which augers well for the future of the project.

Project delivery phase

Like all long term relationships, alliance relationships require proactive and attentive care for success. The project delivery phase or the Project Alliance Agreement (PAA) phase is the period during which detailed design is completed and construction occurs, and the full compensation pain share/gain share model applies.

Other attributes of this phase are:

- a focus on leadership and generating high performance teamwork through a truly integrated team
- performance driven by declared commitment to outcomes
- all personnel accountable for their contribution to the alliance
- implementation of team development through activities designed to strengthen relationships
- intense focus on innovation and continuous improvement
- strong focus on implementation of systems and controls
- focused resolution on the challenges and problems that arise without the apportionment of blame that may come with other delivery methods.

Alliance options

The above discussion is grounded in conventional project alliances. Alliance models include:

- project alliance – the owner comes together with designer and constructor participants to deliver a specific project
- program alliance – the owner comes together with designer and constructor participants to deliver a series of projects under a program of works
- services alliance – the owner comes together with either a designer or a constructor to deliver services that the owner requires to upgrade, maintain or operate assets
- sequential appointment alliance – the owner commences an alliance with either the designer or constructor participant and then selects additional participants at a later stage
- strategic alliance – businesses enter into a strategic partnership to achieve a strategic sustainable competitive advantage in their chosen market.
- competitive or dual Target Outturn Cost (TOC) alliance – two teams independently develop TOCs; price is considered, but it is not always price dependent.

Variations to the conventional alliance model have proven very successful in different project environments with different owner drivers and requirements. The price competitive TOC alliance model, known as a competitive or dual TOC alliance, also has its place, and has been used effectively on some alliances.

The owner needs to identify which model provides the greatest opportunity to deliver on their specific project objectives. The owner must choose the model that most suits their needs, and then structure the model and the selection process to achieve the greatest degree of certainty of outcome against those requirements.

Each option will have a different flavour to a project alliance. Some options inherently contain significant factors that may not suit the drivers or conditions of a conventional project alliance. A detailed discussion of alliance variations is contained in Part E.

Note also that the word alliance itself can have different interpretations depending on where an individual's experience has occurred. In particular, the British alliance model differs markedly from the Australian model, so regional nuances need to be taken into account.

Part B
The Owner Participant's perspective

Part B Chapter 1

Planning and participating in alliances

More than 150 alliances have now been successfully setup in Australia, with many currently underway and even more in the planning stages. But why do owners choose alliancing as a project delivery method and what have been their experiences?

This chapter will share some owner experiences, including the thinking and planning that goes into deciding whether or not to use an alliance delivery model. The chapter will also look at owners' preparation for an alliance and the impact on owners' staff.

Owner experiences

The decision whether to use an alliance to deliver a project is often due to a combination of factors. These factors include consideration of the drivers that alliance models are believed to deal with effectively. Owners also look at the kinds of results that other alliances have delivered.

Traditionally, alliances have proven to be very popular with owners in situations where projects are complex, scope is unclear, tight timeframes exist, and community and stakeholder interests are critical.

Previous alliance experiences also contribute to the way that owners think when choosing the right delivery method for their project. So what has the alliance experience been like from the owner's perspective?

Public sector owners

The number of alliances delivered by the public sector has risen, driven by a range of factors including, but not limited to short timeframes, complex projects in brownfield sites, and a resource constrained market. Looking objectively at the take-up rate of alliancing as a delivery method indicates that alliancing is considered to be a successful model – for the right project.

In its desire to deliver Value For Money (VFM) outcomes to stakeholders, the public sector has shown itself to be open to innovation and experimentation. Consequently, public sector owners have been willing to embrace the delivery of complex projects through alliance frameworks and continually refine the framework to deliver good outcomes for all stakeholders.

The experiences of public sector owners can be described from two perspectives: that of the individuals from the owner who participate in the alliance; and that of the overall owner organisation.

Individual experiences

Anecdotal evidence derived from industry conversations suggests that most of the public sector owner representatives who are closely involved (either in the alliance team or as an internal stakeholder) are largely pleased with the results – both financially and in regard to other aspects of importance to the project. These experiences are particularly the case when the alliance has been set up well from the start. There is even evidence to suggest that in some of these cases, the individuals involved – both from the Owner Participant (OP) and the Non-Owner Participant (NOP) – have found it hard to go back to their home organisation at the end of the alliance as their experiences working in a multi-disciplinary environment were very satisfying from both a professional and personal perspective.

The individual experience depends greatly on the extent to which the alliance has not only embraced the fundamental principles of alliancing, but developed them and then internalised them throughout the alliance. Of course, the opportunity for an alliance to achieve its full potential is entirely a function of the processes implemented and the behaviours and attitudes of the people involved.

Organisational experiences

At an organisational level there are varying degrees of solid support at senior levels between agencies, even when the results are exceptional. Some public sector alliances have delivered outstanding results for the owner, with those organisations becoming advocates for alliancing. There are many examples of these in the market which are all considered to have delivered exceptional results. However, not all alliances have achieved to agencies' overall expectations.

Some senior agency representatives still question the ability to demonstrate Value For Money (VFM) in an alliance. This is particularly the case where the agreed Target Cost Estimate (TCE) for some alliances has exceeded the owner's original project budget.

This discussion still continues in the marketplace, but it is generally considered that alliances are delivering good outcomes for owners, with most alliances achieving (+ or -) 5% of the TCE.

A significant organisational benefit that has come from the application of alliances to state (public sector) projects is that they generally have a broad community and environmental focus. Increasingly, alliances are proving to be successful vehicles for serving the community, particularly through better stakeholder responsiveness, and community and environmental legacies.

Organisations have also benefited from the personal development of their staff who have participated in alliances as these learnings spread to other teams and projects.

The private sector view

In contrast to public sector owners, the private sector's project delivery experience in alliancing has not been as prolific. Since the introduction of alliances in Australia the majority have been undertaken on public infrastructure projects.

The private sector experience differs between market sectors. Project alliances were first introduced to Australia through the private sector oil and gas industry with success. Since then there have been experiences in the resources sector from projects that were called alliances but differed from the conventional model as used on infrastructure projects. Service alliances are reasonably common in the resources sector and have proven very effective for many private sector owners. Additionally, the resources market often uses an EPCM (engineer, procure, construct and manage) approach.

In other market sectors, such as transport and energy, private sector owners are now starting to use alliance frameworks to deliver their projects with significant focus given to Key Result Areas (KRAs) that drive value for the owner. It is believed that the rigorous approach taken by the private sector in the development of their project business cases supports the application of alliance frameworks to project delivery. These alliance frameworks are subsequently structured to drive behaviours and outcomes on projects that support business objectives, particularly reputation and shareholder value.

Anecdotally, the move towards alliance frameworks in the private sector is also being influenced by the desire of these owners to have far greater direct control of the project outcomes, which an integrated alliance team allows.

Case note 4

Organisational experience

Project: Tullamarine-Calder Interchange Alliance
Owner Participant: VicRoads
Non-Owner Participants: Baulderstone Hornibrook, Parsons Brinckerhoff
Value: $150m
Duration: 2005 – 2007

The Tullamarine-Calder Interchange (TCI) upgrade involved reconfiguring the Tullamarine and Calder Freeway junction which is adjacent to Essendon Airport 10 km north of Melbourne. The junction is in close proximity to the Western Ring Road and on the way to Melbourne Airport

Key project objectives were to eliminate dangerous weaving and merging to improve safety, and to reduce travel times and congestion.

Construction was completed under traffic with more than 170,000 vehicles per day travelling through the work zone. Much of the construction took place on land within an operating airport. Works needed to be planned and delivered in consideration of the signification project risks and interests associated with complex stakeholders including Melbourne and Essendon Airports, the CityLink Tollway operators and the Commonwealth Games Organising Committee.

The alliance delivered the freeway upgrade more than $12 million under budget with some of the new freeway lanes opening up to ten months ahead of schedule.

Key lessons:

The Tullamarine-Calder interchange upgrade was the first Victorian freeway project delivered by an alliance.

The alliance paved the way for alliance contracting to be considered for the delivery of major infrastructure in Victoria, establishing credibility for alliancing as a project delivery method not just for VicRoads as the Owner Participant (OP), but for the Victorian Government. The project was a test bed for alliancing with government guidelines for public sector alliances based on TCI learnings.

Having VicRoads staff working directly within project teams created a positive experience which enhanced their hands-on knowledge, understanding and development. A legacy of this is that VicRoads is now better-placed as 'informed purchasers' which will assist in managing future projects whether or not they are delivered by an alliance or as design and construct contracts.

VicRoads and Non-Owner Participant (NOP) staff developed strong relationships between themselves and with key stakeholders, which created a better understanding of the critical issues and interests which influence decision-making. This insight is being taken back within partner organisations with behaviours, culture and innovations trialled on the TCI Alliance are now being implemented on other projects.

Case note 5

Private sector owner experience

Project: Southern Link Upgrade Alliance
Owner Participant: Transurban Ltd
Non-Owner Participants: Abigroup, AECOM
Value: $106m
Duration: 2006 to 2009

The Southern Link Upgrade forms part of the larger Monash-CityLink-West Gate Upgrade in Melbourne. The project is primarily intended to increase traffic capacity and improve safety on the freeway corridor. It generally involves adding a traffic lane to the inbound and outbound carriageway along 5 km of the CityLink tollway, from the tunnel portals to the CityLink boundary just east of Glenferrie Road. It also includes development and construction of a freeway management system involving lane management and ramp metering.

Key lessons/outcomes:

- The alliance framework enabled the commencement and staging of construction on the project to best fit with the needs of adjacent major stakeholders and other construction works without claims and in the best interests of all parties.
- The Key Result Area (KRA) framework has focused attention on a key concern of the owner to ensure positive stakeholder relationships are maintained and traffic disruption is minimised throughout the works with excellent results. Minimising traffic disruption was particularly important given the works were taking place on an operating toll road.
- The alliance clearly contributed to building the capability of the owner to successfully deliver large infrastructure improvement works.

Choosing an alliance as a delivery method

Alliances are not a project delivery method suited to all projects. Owners need to carefully choose their procurement strategy to match their objectives with the project characteristics. This analysis of project characteristics should occur as early as possible and preferably as part of the establishment of the project business case.

The key reason that owners, both public and private sector, tend to choose alliances for project delivery is that they think that it gives them a better chance to achieve their objectives. These objectives (with example situations) may include:

- Delivering projects with unclear scope of works
  - scope definition is not able to be achieved in a timely manner (or alternatively such that the risk carried by the owner is unreasonable)
  - complex or brownfield sites require flexibility to modify scope during the project
  - scope definition is best determined with input from the owner, constructor and designer
- Delivering projects with significant risk uncertainty
  - management of risks is best shared
  - risk contingencies are best developed together
  - capping of risk costs enable Non-Owner Participants (NOPs) to participate
  - full multiparty project insurance cover can be obtained
- Managing stakeholder issues
  - full consideration of 'scope' stakeholders in the project definition
  - best management of 'non-scope' stakeholders who can have a significant influence on the project outcomes
- Value For Money
  - ensuring competitive pricing for definable packages of work
  - integrated owner, designer and constructor management of risk items of work
  - full open book accounting of costs
  - flexibility to cost effectively deal with changes to approvals, scope or budgets
  - team alignment to deliver certainty of outcome
  - achieving tight deadlines.

However, the objectives vary between clients and contexts. In particular, the value placed on certain objectives and benefits may be different between public and private sector owners.

Case note 6

Selection of delivery method

Project: Inner Northern Busway Alliance
Owner Participant: Queensland Transport
Non-Owner Participants: Leighton Contractors, AECOM, Coffey, Bligh Voller Neild, EDAW
Value: $333m
Duration: 2005 – 2008

The Inner Northern Busway was a highly complex multi-disciplinary project constructed in the heart of Brisbane City. It forms the Central City Busway link to the Northern Busway including two major bus stations (one underground), a 600 m tunnel and major city infrastructure relocations. Challenges included:

- relocation of all subsurface city centre services along the alignment (water, sewer, power, gas, telecommunications, drainage)
- stakeholder and community management with city centre businesses and communities
- construction under existing city centre traffic 24/7
- design and construction through and adjacent to existing structures including a multilevel car-park, Brisbane City Hall, major hotel, historic church and city traders
- integration with Roma Street local and interstate rail terminal and interstate bus terminal.

Alliance delivery selection:

Queensland Transport held a project delivery workshop in August 2004 to assess a range of potential delivery options for this project. Subsequently, it was decided that the project should be delivered by an alliance. The decision to use an alliance approach was heavily influenced by the impact of this project on key stakeholders and the impact that key stakeholders could have on the project, the complex brownfield nature of construction right in the heart of the CBD, and the difficulty the owner had in defining the scope in detail without the expertise of a multidisciplinary team including architects, structural designers, geotechnical specialists and constructors.

Once an alliance was chosen, a facilitator was engaged and Queensland Transport assembled their team. Importantly, the team was chosen based on their skills, as well as their fit with the alliance culture.

The Request For Proposals (RFP) was put together with the facilitator while the owner's team was engaged in a parallel series of workshops. The workshops delivered a process to teach the department's personnel about alliance behaviours, embedding these behaviours, and then turning the owner's team into an integrated high performance team.

The owner and key personnel from the INB HUB Alliance project have stated that the project could only have been delivered successfully in an alliance. The complex, technical challenges in a brownfield site, the need for a solutions focused approach with owners, designers and constructors working closely together, and the significant stakeholder and community interface could never have been achieved so successfully in a traditional design and construct project framework.

The project was completed nearly six months ahead of schedule, slightly under budget and with award winning success in community/stakeholder relations.

Project suitability

Projects will generally have the traditional time, cost and performance drivers.

Alliances, because of their focus on setting hard targets and building an integrated, collaborative team and project environment, lend themselves to solving non-cost value drivers as well, such as community issues and achieving outstanding safety outcomes. The project should have some, or all, of the non-cost drivers present.

Many public sector owners have developed tools to support the assessment of the most appropriate delivery method for each project. The structure of these tools varies considerably across the various states of Australia and New Zealand. These tools seek to identify likely risks and opportunities, and determine the significance of these to the owner through weightings against the project objectives. The higher the weighting of these risks and opportunities, the more appropriate a relationship-based contracting method. Where the risks and opportunities are generally rated as being low, lump sum design and construct may be a more appropriate delivery method.

Figures 9 and 10 show charts from the Australian Constructors Association and Main Roads Western Australia that have been used for project suitability assessments.

Figure 9 Suitability matrix – project delivery systems

	Weight	Low rating	1	2	3	4	5	6	7	8	9	10	High rating
1. Is early delivery of project of value to owner?	20%	No value at all											Of great value
2. Nature of work - green field versus brown field?	15%	Total green field site											Many critical interfaces with existing operating facilities
3. Technology - proven or radical?	10%	Well proven stable technology (will not evolve during project)											New and/ or evolving technology
4. Risk culture of owner?	10%	Totally risk averse - risk transfer culture											Strategic management of risk - sophisticated view of risk
5. Tight guaranteed maximum price (GMP) essential for project sanction?	10%	Tight GMP essential											Owner flexible within range
6. Industrial relations environment?	10%	Very low risk											Very high risk
7. Proven relationship contracting record with potential engineering contractors?	8%	No track record or bad track record											Good track record
8. Sensitivity to disruption from aboriginal/heritage/ environmental issues?	7%	Very low risk											Very high risk
9. Owner's understanding/ experience of project delivery process?	5%	Little experience											Very experienced
10. Will construction require single (multi-discipline) or many contractors?	5%	Will require many different contractors											Could be constructed by one contractor
	100%	Drop-down totals	-		-			-				-	

Source: "Relationship Contracting", Australian Constructors Association, February 1999

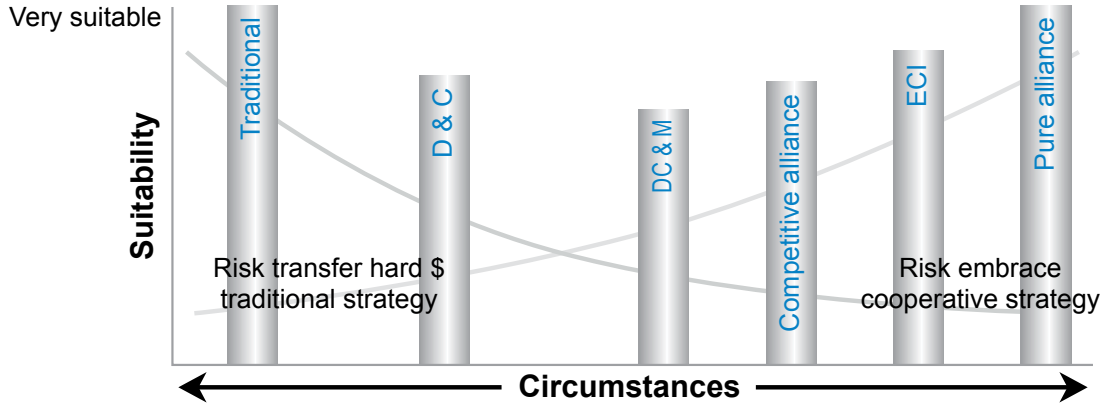
Figure 10 Assessing project suitability

	Weight	Low rating	1	2	3	4	5	6	7	8	9	10	High rating
Importance of project to owner		Minimal											Critical
Owners risk culture		Risk averse											Mature
Scope definition		High											Minimal
Budget constraints		Low											Highly constrained
Schedule constraints		Minimal											Highly constrained
Project complexity		Low											Highly complex
Industry and Stakeholder risk		Low, known											High, unpredictable
Community risk		Low											High
Totals													
			Traditional			More investigation				Relationship			

Source: "Relationship Contracting - The Main Roads Experience", Menno Henneveld, Commissioner, Main Roads Western Australia, 7 August 2007 (PowerPoint presentation)

Figure 11 shows a continuum of project characteristics against suitability for a particular contracting method. The line showing risk transfer on a hard dollar traditional strategy indicates that as the project circumstances become more complicated, its appropriateness decreases. On the other hand, the line indicating the risk embrace cooperative strategy shows that pure alliances are best equipped to handle complex project circumstances.

Figure 11 Project delivery versus project circumstance



Source: "Relationship Contracting - The Main Roads Experience", Menno Henneveld, Commissioner, Main Roads Western Australia, 7 August 2007 (PowerPoint presentation)

Owner intentions

The owner, at this very early stage, must be clear in their intentions when selecting an alliance delivery framework. The first meeting between the owner and the owner's facilitator should be an opportunity to drill down to see if the owner has the appetite and context for alliancing.

Some industry observers believe that the drivers in the public sector are stronger than in the private sector. However, the demands on the private sector in the area of approvals, particularly in community, stakeholder and environmental outcomes, have taken on more significance in the past twenty years.

The private sector is looking to alliancing as an opportunity to deliver on these demands.

The Australian market has experienced 'alliance' projects, where it would seem that the owner has really wanted a relationship-based design and construct project. In this instance, the owner should be clear in stating this in the Request For Proposal (RFP), so that proponents can make bid/no bid choices in full knowledge of the owner's intention and expectations.

Project budget

Owners will sometimes select the delivery method for their project at the same time as the business case is being prepared and submitted for approval. As part of the business case, a project budget is often estimated based on the limited scope definition (particularly for a complex project) and design that is undertaken in this concept development phase.

The alliancing Value For Money (VFM) proposition has been at the centre of a lot of discussion. Sometimes Target Cost Estimates (TCEs) and the original project budget estimates do not align. This can be the result of a number of factors, including incomplete project scoping, cost escalations and changed market conditions. Some projects can take significant time (years in fact) to go from the original development phase to the market. Many things can change during this period.

In more traditional delivery methods (such as design and construct) a difference between the project budget and final tender may be easier to explain as a price competitive tendering process has been adopted. In either case the project budget should be derived to the right level of accuracy.

The owner's team must critically consider, at this early stage:

- Is the initial budget being driven by political pressures?
- Has the budget been underestimated to get the project approved?
- Has the project been fully scoped?
- Has contingency been included to cover the known unknowns and the unknown unknowns, and balanced with the known opportunities and unknown opportunities (based on experience)?
- Has the right allowance been made for escalation in costs?

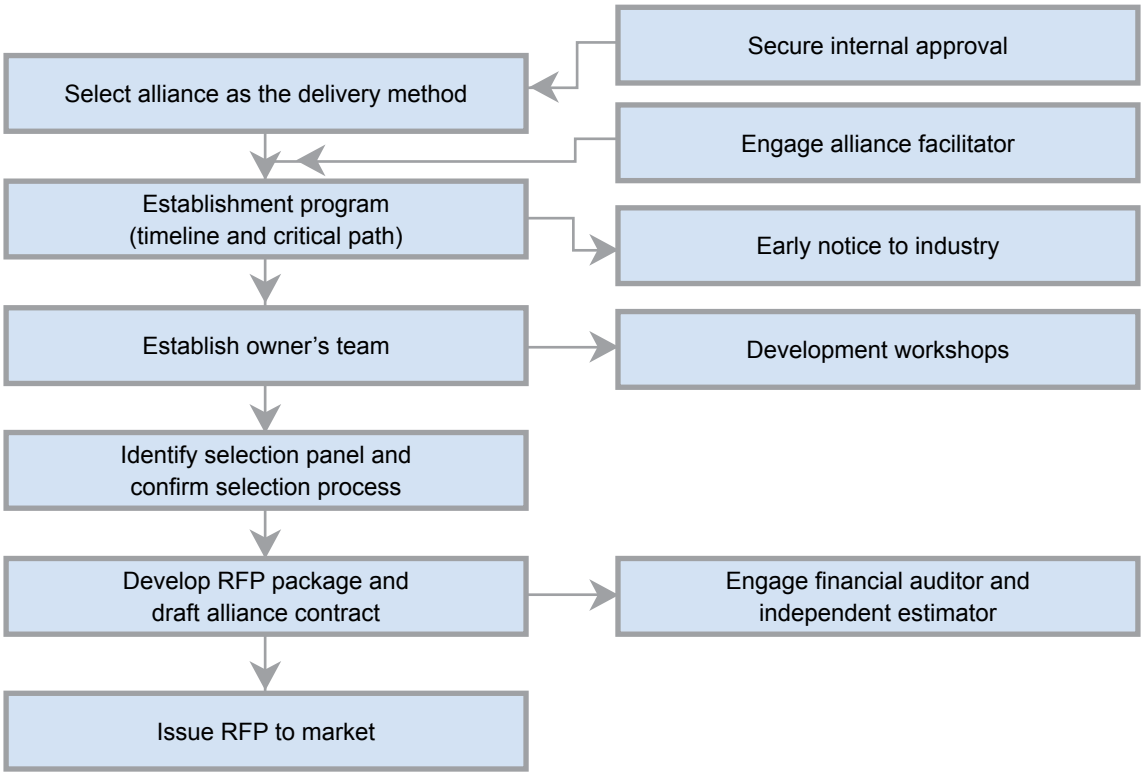
While budgets may be influenced by pressures other than purely project factors, this should be acknowledged and considered when assessing the project outcomes.

Preparing for the alliance

Once the decision has been made to use an alliance as a project procurement method, the owner needs to undertake considerable work before engaging with the market. When the owner goes to the market, it sends a clear message about the style and culture of the organisation, so it is important that this is a positive message.

The major steps are illustrated in Figure 12. Internal approvals processes must be clear and in place to ensure smooth alliance progress. A detailed program must be developed and the owner needs to form its team of people, while also developing the Request For Proposals (RFP) and evaluation procedures. These steps are discussed in more detail below.

Figure 12 Major steps to get to market



Internal approvals

The owner's team should establish the requirements for internal approvals early. This will vary from organisation to organisation, and particularly between government bodies and the private sector.

In the public sector, internal approvals may require endorsement by a series of project and expenditure review committees prior to final approval. These will most likely come from the relevant treasury department. In many cases treasury will, amongst other things, insist on the demonstration of competency within the owner's team to participate in an alliance.

In the private sector, the approvals process may well require an internal project controls group and possibly a senior executive group to sign off before the board formally approves the proposal.

Board/minister/mayor signoff on the decision-making process is important. If the process has been structured carefully, the approvals that are required will be evident. The implications of a particular sign-off and commercial process must be fully explored. Some considerations include:

- Are there interim reporting requirements?
- Does the selection panel have the support and endorsement of the board/minister to make decisions? That is, will their decisions be questioned or not supported, throwing the process into disarray?
- Who should/should not be on the selection panel to gain the board/minister's support?
- Does the owner's organisation have the resources to support the desired delivery method?
- Is the end user engaged in the process?
- Are those with particular commercial or contractual expectations included?

In almost all cases the greatest potential for success is produced by broadly engaging with all internal stakeholders during the approvals process.

Establishment program

Planning is essential for the effective delivery of an alliance project. This starts with the owners when they initially decide to use alliancing as a procurement method. The program is the engine of the process. The owner's commitment to the program is also a measure of their commitment to the alliance and hence it is important for milestones to be achieved.

To support the development of the program, owners will most often appoint an alliance advisor or coach as their first priority. Experienced advisors will normally insist on a further project delivery analysis being undertaken even if the business case has been done and the decision has been made to adopt an alliance delivery method. This process draws out the drivers of the project and hence confirms the most appropriate delivery method. It should also challenge the risk equation to determine which variation of the alliance model best suits.

While every project is different, the major items in the establishment program for the Inner Northern Busway Alliance (provided by Project Control International PCI) are shown in Figure 13. A detailed breakdown of these items is provided in Figure 14. In other alliances, owners have elected to appoint the establishment auditor following the issue of the Request For Proposals (RFP), and the independent estimator once the preferred proponent is selected.

Figure 13 Inner Northern Busway Alliance establishment program major items

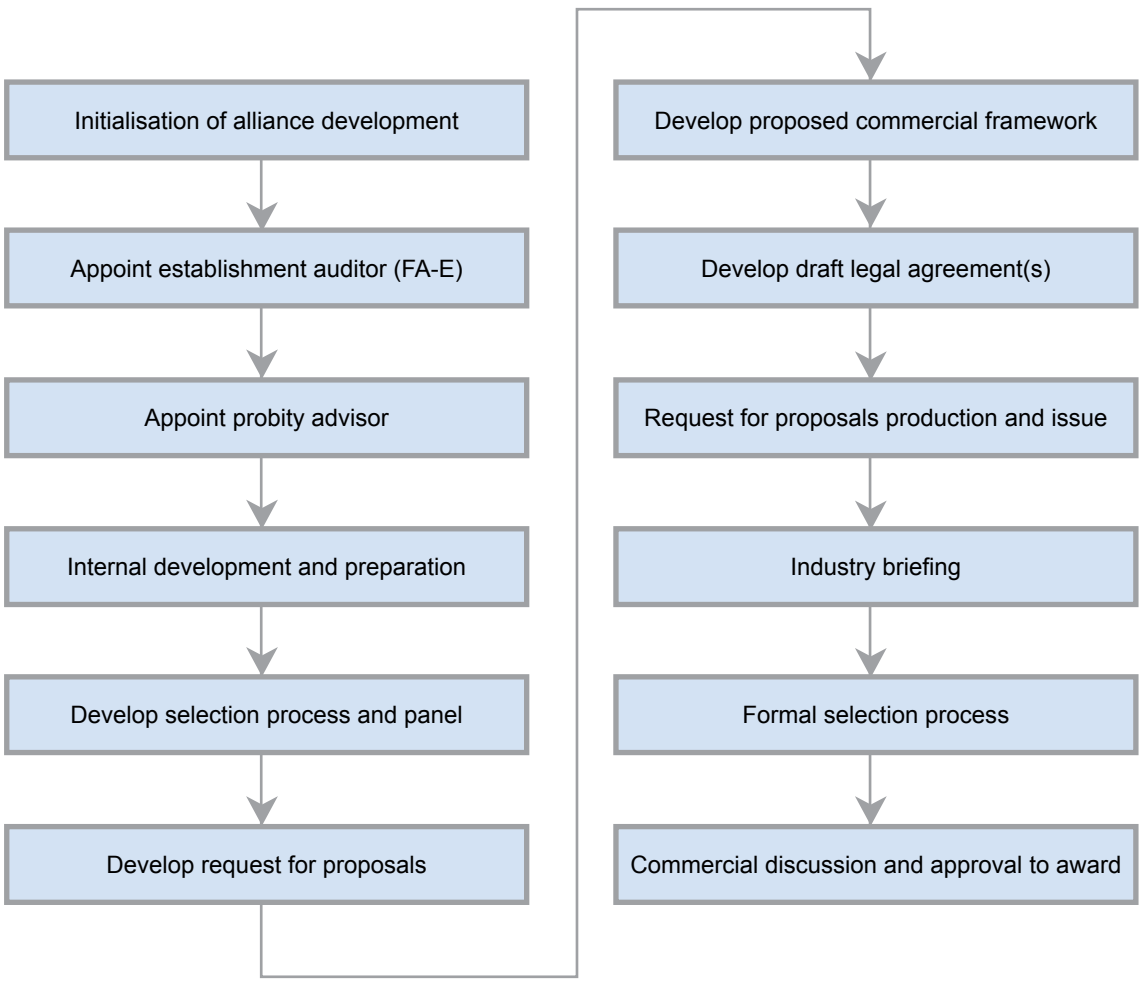


Figure 14 Inner Northern Busway establishment program detailed breakdown

Initialisation of alliance development
- Appoint alliance advisor
- Appoint probity auditor
- Initial meeting with alliance advisor and probity auditor
- Prepare draft establishment program
- Initial review and comment on draft establishment program
- Decide QT representatives to be involved
- Probity session for team
- Appoint legal advisor
- Detailed briefing of legal advisor

Appoint establishment auditor (FA-E)
- Prepare brief for establishment auditor
- Request proposals from establishment auditors
- Appoint establishment auditor (FA-E)
- Brief FA-E

Appoint probity advisor
- Prepare brief for probity advisor
- Request proposals from potential probity advisors
- Appoint probity advisor
- Brief probity advisor

Internal development and preparation
- Internal team workshop 1 – detail, team building
- Internal team workshop 2a – further detail, team building
- Internal team workshop 2b – focus on 2-day development workshops

Develop selection process and panel
- Develop draft selection criteria
- Develop draft assessment and scoring methodology
- Decide panel members
- Panel preparation session 1 – role/criteria/process
- Review draft selection criteria and assessment methodology
- Panel preparation session 2 – finalise selection criteria/methodology

Develop RFP
- Develop preliminary outline of main text
- Review preliminary outline and add detailed context
- Obtain photos, logos, cover
- RFP review meeting
- Develop main text to draft 2
- Finalise RFP ready to issue

Develop proposed commercial framework
- Develop preliminary outline of text and spreadsheet model
- Review preliminary outline and add detailed context
- PCF review meeting
- Develop to draft 2
- Finalise PCF ready to issue

Develop draft legal agreement(s)
- Prepare first draft
- Review first draft agreements
- Meet to review/discuss issues
- Review by legal advisor
- Finalise draft legal agreement(s) ready for issue

RFP production and issue
- Prepare summary CVs for team nominees
- Finalise communications plan
- Collate supporting technical material
- Prepare draft advertisement
- BCC E&C meeting
- Decision to proceed with RFP issue
- Place advert
- Advert lead time
- Produce RFP document/disk
- Issue RFP

Industry briefing
- Notify industry participants
- Advert lead time
- Prepare materials for briefing session
- Conduct detailed industry briefing session

Formal selection process
- Proponents prepare written submissions
- Closing date for submissions
- Prepare briefing note to Minister
- Panel read written submissions & develop possible interview questions
- Check references (if needed) for short listed proponents
- Panel review/selection shortlist of 2 – 4
- Advise all proponents of initial short list
- Facilitator reads submissions from initial short list
- Panel session – prepare for interviews
- Interview short listed proponents
- Decide final 2 and notify successful and unsuccessful proponents
- Prepare update briefing note to Minister
- Issue briefing note to Minister
- Proponents prepare for workshop
- 2-day development workshop – proponent A
- Lay day
- 2-day development workshop – proponent B
- Prepare briefing note to Minister
- Endorsement of preferred by delegated officer
- Notify both final short listed of decision
- Commence early works under interim order

Commercial discussion and approval to award
- Initiate FA-E/IE audits of preferred proponent
- Financial establishment and IE audits
- Commercial discussion meetings
- Prepare final recommendation for approval by Minister
- Approval to proceed into iPAA
- Sign iPAA

Source: Project Control International

Owner's team

The owner's team should be selected based on their skills, but also on their cultural fit and orientation (attitudes and behaviours) aligned with the principles of an alliance culture. The degree to which this occurs varies across owners and is very dependent on the availability of staff to participate. The owner's team has historically been involved within the Alliance Leadership Team (ALT) and Alliance Management Team (AMT), although there is a trend towards more vertical integration.

Ideally there would be an owner's end user of the project on the ALT. If this is not possible, then an end user must be on the selection panel. The owner's end user could come into an ALT role in the 'asset proving stage' (defects liability).

In some instances, owners experience difficulty in populating alliance teams effectively. With limited staff resources, it can be hard not only to find the right person to contribute at the ALT and AMT level, but also to allocate sufficient time to properly fulfil this role. Clients often recognise that they could be more effective and efficient if they had more people.

Occasionally owners will substitute their own staff in an alliance with external contract staff.

It is extremely important for the owner representatives who participate in the alliance to facilitate dealings between the alliance and the owner to achieve exceptional outcomes.

One of the legacies of alliancing that owners are experiencing by placing their own staff into the alliance is the career development and industry exposure that these projects provide.

Experienced alliance advisors will normally work with the owner's team once selected to guide them in coming to terms with the level of rigour that has gone into the project, such as the concept design and budget. They will also aim to do an early assessment of the Value For Money (VFM) outcomes to focus on what is most important to the owner.

Selection panel

The owner should consider carefully who should be on the selection panel.

Selection panels should typically include people who are ultimately accountable along with those who will carry on participating in the alliance post selection. Panels should also include people who are important to the approval process. For example, in some organisations a project may not be awarded unless the 'contracts group' is involved.

If a key person in the approval process is not on the selection panel, how is that person going to be kept informed and kept abreast of the alliance journey in all its intricacies?

The selection panel will generally consist of four to five people with a mix of internal stakeholders. Sometimes the make-up of the panel is based on who is available - but this should be discouraged. Involvement of the people who will live with the outcomes post completion is preferable.

Case note 7

Successful client involvement

Project: TrackStar Alliance
Owner Participant: Queensland Rail
Non-Owner Participants: Thiess United Group JV, AECOM, Connell Wager
Value: $800m
Duration: 2006 onwards

TrackStar Alliance is delivering a range of rail projects, initially including rail and station works, along with state-wide traction power upgrades:

- Caboolture to Beerburrum duplication
- Robina to Varsity Lakes extension
- Corinda to Darra upgrade
- Beerwah grade separation
- Beerburrum to Landsborough duplication (design)
- Traction power upgrades.

Comment:

TrackStar operates with 24 Queensland Rail (QR) people embedded in key roles across all disciplines within the organisation to facilitate integration with QR.

A number of design and construction planning forums have been established with key TrackStar and QR leaders. Integration with QR and close relationships with key managers has led to resolution of difficult scope situations such as the Robina to Varsity Lakes landfill treatment (moved the station location after the Target Cost Estimate was submitted), Robina to Varsity Lakes stabling yard (scope undefined) and Corinda to Darra early works (start up works commenced while awaiting full project approval).

One of the Key Result Areas (KRAs) for TrackStar is "Building industry capability". TrackStar reinvests gain share to build capability in the rail industry and offer opportunities for team members to improve their skills. The KRA benefits both QR and rail industry participants with the following:

- legacy and undergraduate program
- workforce development
- staff development.

Request For Proposal

The selection panel will be tasked with establishing the selection and scoring methodologies, including the assessment criteria and preparing the Request For Proposals (RFPs). It is important that it happens in this order. If developed in a hurry, with the scoring methodology and assessment criteria being developed retrospectively, it can result in a mis-match between the information collected in proponent's proposals versus the information that is required to properly assess the proponents. The selection process is discussed in more detail in Part B, Chapter 2.

In preparing the RFP owners must also define their initial expectations of the commercial framework and the KRAs that are important to them. Some owners are becoming very prescriptive on this, with almost no room for movement. For each of the KRAs the minimum expectations on performance should also be established. These items will provide guidance to proponent teams in their proposal preparation and support the owner's selection of the team that has the greatest potential to deliver their needs.

Increasingly owners are placing strict page limits (in some instances 15 pages plus supporting information) and format constraints on the proposals submitted by proponent teams. There is some suggestion that there may be information overload from the owner's perspective in selection processes. These constraints are primarily designed to reduce the time required for owners to assess written submissions as well as to limit the effort required by proponent teams. To ensure that owners receive the information they need in these constrained proposals, it is critical that the RFP is very clear on the expectations in response to the selection criteria. This is best achieved through a thorough explanation of the criteria and their application and identification of the weighting of these criteria.

In finalising the RFP, owners will generally involve their alliance facilitator or coach and their probity auditor to ensure they draw the required information from proponents and establish a level playing field.

Typically the structure of an RFP will include:

- introduction – an overview of the project and the selection process
- project description – greater detail of the project, its status, the objectives and the scope of works
- alliance approach – the basis for using an alliance, its structure, commercial framework, KRAs and owner participation
- selection process – expected outcomes of the various stages
- selection criteria – both mandatory and comparative
- proposal requirements – what the owner expects to see in written submissions
- owner's advisors – who they are and their roles
- tendering conditions – obligations proponents must meet in submitting a proposal.

Draft Project Alliance Agreement

The draft Project Alliance Agreement (PAA) is critical to establishing the underlying alliance principles. In most cases owners will prepare a draft agreement for inclusion with the Request For Proposals (RFP).

The draft PAA should provide proponents with the comfort of knowing that the alliance principles will be applied and adhered to within the alliance.

While owners may spend considerable time developing the draft PAA, it should not be mandatory that the Non-Owner Participants (NOPs) accept it unchanged or unchallenged. In fact, owners should encourage constructive comment as it shows at an early stage the willingness of all parties to engage in the hard discussions in a constructive manner, something that will be critical in the future of the alliance.

Compensation model

A conventional alliance will normally have a three Limb (or part) compensation model as described in Part D, Chapter 4.

The fundamental drivers for the commercial framework have to mirror the owner's aspirations for the outcome. Typically these include:

- Pain share and gain share on the financial (cost) outcome of the project. Pain share is typically capped at the Non-Owner Participant's (NOP's) corporate overhead and profit (Limb 2) with this sometimes mirrored in the gain share model.
- Key Result Areas (KRAs) and their Key Performance Indicator (KPI) measures which are financially incentivised with both pain share and gain share and which need to reflect the real value of the positive and negative outcomes for the owners.

In earlier alliances the commercial framework was completed from a blank sheet of paper based on first principles, with establishment audits taking place after this. This process resulted in very constructive conversations between participants and true alignment of goals.

More recently owners have become more prescriptive with their draft commercial frameworks, some would say that in so doing, constraining the opportunity for open discussion to achieve true alignment.

Some owners try to make the compensation model too complex, or try to modify the underlying drivers in the conventional model. Too many KRAs and Key Performance Indicators (KPIs) can reduce their effectiveness in influencing outcomes. Owners do this at the risk of undermining the fundamental principles which lie at the heart of an alliance.

The KRA framework must be supportive of the alliance principles, not give contra indications. For example, some alliances have severe downside pain such as all margin lost in one event. While there may be highly critical driving factors, such as safety, severe downside pain will result in protective behaviour, rather than collaborative behaviour, constraining the effectiveness and potential of the alliance.

Conversely however, owners should only recognise the KRAs of most importance to them in the commercial framework. Other KRAs can be included as performance measures for the alliance but not be incentivised in a commercial sense.

The sharing ratios for gain and pain are also an area where owners may unnecessarily overcomplicate arrangements.

Overall, the compensation model should reflect an equitable sharing of the gain based upon positive drivers, and an equitable sharing of the pain with appropriate, but not demotivating, negative drivers.

Participating in the alliance

Principles for participation

As indicated in this chapter, the owner's team must be selected on the basis that they have the right skills and alignment with the alliance culture. Considerations for owner participation include:

- owner's negotiators need to be engaged with the project
- people involved need to have real ownership of the project
- Alliance Leadership Team (ALT) representatives must have good relevant experience and line accountability
- all should be willing to listen to the financial establishment auditors to get confidence that the audit of proponent teams will achieve transparency in the commercial negotiations
- inclusion of an independent person who can play the "devil's advocate" role
- vertical representation in the alliance from the owner's side including representatives for the ALT,

Alliance Management Team (AMT) and Wider Project Team (WPT) and particularly someone in the key areas of concern, for example community and stakeholder engagement.

The PEPPR Map developed by Jim Ross and Ken Lowe (PCI) based on the work of Peter Senge can be used to generate alignment in the owner's team. The team members will most likely come from diverse backgrounds so it is important to have them aligned on what is most important to the alliance. The components of the PEPPR Map are:

- **Purpose:** what we want
- **Essence:** who we are
- **Principles:** what we believe
- **Practices:** what we do
- **Results:** what we get

The practices and results outcomes flow from the first three items which must be aligned around alliance principles. For example, the essence could include truthfulness, commitment and equity.

Case note 8

Owner participation

Project: Southern Link Upgrade Alliance
Owner Participant: Transurban Ltd
Non-Owner Participants: Abigroup, AECOM
Value: $106m
Duration: 2006 to 2009

The Southern Link Upgrade forms part of the larger Monash-CityLink-West Gate Upgrade in Melbourne. The project is primarily intended to increase traffic capacity and improve safety on the freeway corridor. It generally involves adding a traffic lane to the inbound and outbound carriageway along 5 km of the CityLink tollway, from the tunnel portals to the CityLink boundary just east of Glenferrie Road. It also includes development and construction of a Freeway Management System involving lane management and ramp metering.

Key lessons / outcomes:

- The owner made a significant commitment to having their people in the team at all levels with up to seven actively involved
- Owner representatives took key roles in the ALT, AMT and WPT for community and stakeholder engagement and traffic operations - two of the Key Result Areas (KRAs) with greater importance

These outcomes are then used to shape the commercial framework for the alliance along with the criteria used for selecting the right Non Owner Participants (NOPs).

From the owner representative's perspective a shift in purpose, essence and principles will occur when the team stops thinking about building the owner's facility, and starts to think in terms of designing and building their 'own' facility. Full understanding comes when the team understands and takes ownership of the project and sees it as 'their' facility. Just as most people would hope to live and work harmoniously within communities, so too should the team want to make a positive contribution to the environment they find themselves operating in, in line with a 'guests in the community' context.

Owner's drivers

Quality

Some owners struggle with the concept of quality management in the alliance framework. In particular this applies to the roles that quality auditors, certifiers or independent verifiers would provide on more traditional delivery methods. These practitioners tend to work within industry statutory requirements that are not necessarily aligned with alliancing. Alliances typically provide their own design and construction verification which does not deliver the independence that the owner's organisation may seek.

Most recently, some owners are seriously considering the use of independent verifiers to support their intent to demonstrate that quality outcomes and Value For Money (VFM) are being delivered through alliance frameworks. In the case of private sector owners there are already alliances underway where independent verifiers have been engaged directly by the owner to verify the alliance is delivering in accordance with their expectations.

Value For Money

Demonstrating Value For Money (VFM) is a necessity in an alliancing environment where the Non Owner participants are typically selected without price competition.

Sensitivity around this issue also occurs in instances where target cost estimates derived by the alliance have significantly exceeded the owners pre-alliance budget (for whatever reason).

Further discussion on this issue is included in Part E, Chapter 3. The Project Control International (PCI) web site (www.pci-aus.com) also contains information and discussion around VFM.

Part B Chapter 2

Selection process

The owner has carefully evaluated the procurement options and decided to use an alliance. They now need to set up and implement the methodology and process to select the team who will join with them to form the alliance.

This chapter will explore the decision making methodology and process for a conventional project alliance, concluding with a discussion of selection processes for alternative alliance procurement strategies. But first, the chapter will consider some industry implications of the owner's selection process.

Industry considerations

The owner's selection process should be rigorous and comprehensive. This will mean that proponents will go to great lengths (and often expense) to participate in the process.

To assist in minimising the use of industry resources, there are four critical areas that the owner *must* be absolutely certain about before embarking on the selection process. These critical points are:

- **Intention** – the owner must be committed to the alliance process. If the owner really wants a variation of another contract style with a relational element bolted on, or a variation of an alliance model, then that should be stated firmly in the Request for Proposal (RFP), so that Non-Owner Participants (NOPs) have absolute clarity about the owner's intent, and make their choice whether or not (or how) to proceed in full knowledge.
- **Criteria** – the owner must carefully select the criteria that will be applied during the assessment, and be transparent about those criteria.
- **Evidence required** – the owner must agree the type and quantum of evidence required in the proponent's response to the RFP.
- **Selection process** – the owner must agree and adhere to the selection process established (with the assistance of the owner's facilitator) and this must be stated clearly in the RFP.

Providing information to the market and the selection process is discussed in more detail below.

Before the Request For Proposal is issued

Owners who choose to deliver their project through the alliance model generally flag this intent to the market well before the Request for Proposal (RFP) is issued.

Given the highly competitive nature of the business development process, in most cases proponents will begin to prepare themselves organisationally for the process to come, particularly in relation to teaming arrangements, resource allocation, bid management, and team development. Proponents also use the period before the RFP is issued to build an appreciation of the owner's requirements, and start to put together the team with the right fit to deliver on all the owner's critical success factors.

Non-Owner Participants (NOPs) who have been through alliance selection processes will know that, while they all follow a template of sorts, there are always variations to the theme depending on the owner, the project, the industry, time pressures and the owner's facilitator. Proponents will therefore need to reference their preliminary thinking against the actual RFP contents when it is issued.

The more clarity that the owner can give the market before the formal issue of the RFP, the less wastage will occur and the better prepared proponents will be. This typically extends to nominating the owner's team, commercial framework and sometimes the draft Project Alliance Agreement (PAA).

Selection process

Many industry participants are concerned about the demanding nature of the alliance selection process, from both a human capital and a financial point of view. Some say that the cost of producing benchmark submissions, then committing key people to a selection process that can occupy a significant amount of their time for a number of months, is a very high price to pay.

On the other hand, some say that the investment in people development during the selection process and the relationships developed with the owner's team is such that parent organisations benefit regardless of whether they win or not. They believe that benefits transfer into the company through things like better team work, people development and deeper owner relationships.

Industry expert Jim Ross refers to the 'Psychology and Physiology' of the alliance framework. Many agree that one of the benefits of the selection process is that it helps prepare proponent teams psychologically for what will be a very different type of delivery model. The elements of self-awareness, awareness of others, team development, communication and the principles of high performance are all central to success in alliancing. The process also prepares teams in a physiological sense as assessment of mechanical and physical workings of the team provide evidence of the team's vital functions, including growth and development. The selection process is designed to help develop these competencies (and more) in teams.

The strength of an organisation comes not only from its systems and procedures but also from the quality of its people. The initial stage of the alliance selection process assesses the essential but tangible organisational criteria (track record, systems, procedures, financial capacity) while following stages are geared significantly towards assessing individuals. It is the quality of the relationships of the people in the team which will have the greatest impact on the success or failure of the alliance, so proponents should be prepared to put the most suitable and qualified people in their team. Their individual and collective impact on the selection panel, not just the company's reputation, is very important.

To achieve an overall assessment of potential Non-Owner Participants (NOPs), and to develop the owner's team, the selection process requires a focus on both the objective (skills, experience, track record) and the subjective (behaviours, attitudes) criteria, and will necessarily therefore be a demanding, time-consuming process.

Balance is the key, and in recognition owners are generally moving towards shorter submissions and shorter selection time-frames. Industry just wants to 'get on with the job', so owners are tending to tailor their selection process to achieve more in less time.

Owners and advisors should still ensure that adequate submission length and selections process are adopted for proper assessment outcomes.

The written submission – keep it short

The emphasis on the written submission should be, and in some cases is being, rationalised, in particular eliminating that which should be assessed face-to-face and circumventing to a large degree the dreaded 'cut and paste' approach.

Ideally, submissions should be between 30 and 50 pages with supporting information. Any shorter, and proponents find it difficult to fully address the criteria (particularly project experience) and differentiate themselves. Any longer, and proponents spend too long in the writing stage.

Owners also need to take great care in putting their Request For Proposal (RFP) together so that they are absolutely clear about stating their expectations. Many proponents have participated in bid strategy meetings dissecting the RFP ad-infinitum with endless discussions on semantics in the quest to find out what an owner is really asking for.

Selection interview and workshop

Following the review of the written submissions by the selection panel, a number of proponents will be short listed and invited to a half or three-quarter day interview. Owners should be careful to shortlist the minimum number of proponents to properly compare competing capabilities – usually two to four teams. In the event that only a small number of proponents have submitted proposals, all may be invited to the interview.

The interview is part of the typical alliance selection process, and is a precursor to the main event, the selection workshop. The owner will normally shortlist from the interviews down to two teams for the selection workshops – again, the minimum number of teams to properly compare competing capabilities without wasting industry resources.

Proponents must carefully consider how much preparation they put into the interview and workshops. But from the owner's side, the emphasis should be on evaluating team capabilities. And beware any over-coached performances.

Selection preference

Non-Owner Participants (NOPs) appreciate that sometimes owners may try to achieve certain industry or government objectives through their selection processes. This may include such things as encouraging a greater number of middle sized constructors into the 'space', or perhaps up-skilling or refreshing sections of the private sector. These are all valid objectives and should be declared so that proponents can be fully informed when deciding to bid, and preparing their submissions and presentations.

Selection panel

The make-up of the selection panel is critical to achieving the best outcome at the end of the selection process.

The selection panel should include owner's representatives and, ideally, an external person able to bring objectivity to the process. These people must be fully conversant and aligned with the principles of alliancing.

The owner's representatives on the selection panel should ideally comprise people who will continue to work within the project – in particular, the senior people who will ultimately take on Alliance Leadership Team (ALT) or Alliance Management Team (AMT) roles. This ensures that they will have a level of ownership from the beginning and a vested interest in ensuring that the right proponent is chosen.

At least one panel member should ideally have the skills to bring a broader viewpoint to the panel, rather than all panel members having only a technical focus.

The selection panel should be aligned through workshops before the evaluation interviews and workshops are conducted. The panel must agree on the types of questions to be asked, the scoring system, weightings and ranges. The panel must have real alignment, not begrudging agreement, particularly on the issue of what happens if two scores are close.

Above all, panel members must do their utmost to bring an open mind, clear of any baggage or personal bias to the process to ensure the best possible outcome for all.

Facilitator involvement

The owner's facilitator is not part of the selection panel. The role of the facilitator is to guide the decision-making process, not to shape the decision or influence the selection process. There are many good facilitators in the market and these facilitators will ensure that the selection intent, criteria, evidence required and selection process are rigorous and valid, and then let the process run its course with the selection panel.

Probity advisor

A probity advisor may be appointed by the owner. These practitioners provide an advisory service to give confidence to senior executives, boards, parent organisations and government ministers that the owner's representatives have undertaken the selection of the successful proponent with procedural fairness and without bias. This is particularly important given the alliance selection process typically excludes price competition.

The probity advisor will give advice on matters of probity and may sit in on interviews, workshops and meetings of the selection panel. Again, their role is to guide procedural fairness and to ensure that the process is transparent and conducted without bias, not to influence the selection panel's decision.

The probity advisor should be involved early in the process, and ideally prior to the Request for Proposals (RFP) being called, so that fairness and equity can be ensured. However, the advisor must not take over the process. The right person can make a difference by ensuring a level playing field is in place, but the team should always be in control.

Selection methodology

The selection methodology, process and procedures must be decided early and adhered to. Alliance facilitators base their selection methodologies on an historically similar approach that has evolved different features over time. Owners with significant experience with alliances have also started to influence the evolution of, and simplify, the selection process. It is a good thing that this evolution continues to ensure proponents (and facilitators) are challenged to continually improve.

Intention

A robust selection process is needed that enables the owner to make an informed decision about the people who will be joining them in the alliance.

The fundamental thing for the owner's team to align on early is, "What is the intention of the process and what are the success factors that will drive the process?" The PEPPR Map discussed in Part B, Chapter 1 can be used to drive this alignment.

The owner's intentions must be clearly stated in the Request For Proposal (RFP), and the briefing documents for the follow up selection interviews and workshops, so that proponents are able to respond with the information that the owner requires.

Above all, the owner needs to be absolutely certain about what they want to achieve and how they want to achieve it, and to clearly state that to the market via the RFP and the selection process.

Criteria

The main criteria and weightings should be confirmed by the owner and included in the Request For Proposals (RFP) document. Each of the main criteria will also have multiple sub-criteria, which are also normally disclosed, although it is not usual to disclose the sub-criteria weightings.

Importantly, the criteria should drive a process which is repeatable, consistent, fair and able to be monitored.

The criteria will typically include a combination of mandatory and comparative evaluation elements. Proponents that fail to address the mandatory criteria are generally excluded from further consideration. The comparative evaluation criteria are used to differentiate the proponent teams and allow the owner to select the team they believe is best suited to work with them to deliver the alliance.

The criteria should be structured to assess that the owner is getting the best team for the job through:

- proven track record of people
- what they are capable of doing on this job
- what it will be like working with them
- commercial elements
- organisational support and commitment.

As the industry evolves, consideration should be given to applying further criteria in the selection process. These could include:

- insurance implications of particular proponents
- interfaces between parent organisations and the alliance systems support
- what is included or excluded from Limb 1 and Limb 2.

Evidence required

Based on the intention of the process and the selection criteria, owners must consider the evidence that is required to effectively assess the proponents. Evidence may be provided through:

- written submissions
- site visits
- reference checks
- interviews
- workshops.

Each stage of the selection process will suit a different style of evidence, both the objective and subjective.

The written response to the Request For Proposal (RFP) will provide basic information on the proponents, their capability and personnel. The claims made in the response may be referenced checked. Calling referees often provides insightful information on the proponents' key staff - some intended, some not. The majority of this evidence is objective.

However, it is not until the selection interviews and workshops where evidence of team dynamics, individual working styles and commitment to alliance principles will become evident. These sessions are principally designed to test the attitudes and behaviours of the proponent teams, to varying degrees their knowledge of the project and their ability to complete the project successfully.

As William James, a pioneering American psychologist and philosopher said, "A great many people think they are thinking when they are merely rearranging their prejudices." The alliance interviews and workshops are constructed to test these prejudices and determine the capability of the individuals in the proponent teams to be flexible in their thinking, thus unleashing the potential to achieve outstanding results.

Case note 9

Selection criteria

Project: Kingsgrove to Revesby Quadruplication Alliance
Owner Participant: Transport Infrastructure Development Corporation
Non-Owner Participants: Leighton Contractors, AECOM, SKM, MVM Rail, Ansaldo STS
Value: $450m (estimated pre-TOC)
Duration: 2007 - 2010

The project is part of the NSW Rail Clearways Program designed to improve capacity and reliability on the CityRail network.

The project involves the construction of two additional railway tracks between Kingsgrove and Revesby to allow the separation of local and express services on the East Hills Line. The alliance was awarded in 2007. Construction commenced in 2008 with major construction works scheduled to be completed in 2010 prior to commissioning.

Selection criteria:

The selection criteria defined in the Request for Proposal (RFP) document were:

Mandatory criteria

- satisfaction of the prequalification conditions
- provision of fee expectation and project financial data
- adequate evidence of the required core capabilities.

Comparative evaluation criteria

- experience and track record of proponents
- people – individuals for nominated positions
- resource strategy.

For each of the above criteria, detailed sub-criteria were provided in the RFP to guide proponents.

Selection criteria were also nominated for the second stage of the selection process as:

- individual and team capabilities
- potential to be a high performance team
- potential to achieve commercial alignment
- readiness to proceed
- corporate support and track record.

Scoring

Each of the main criteria is generally scored using the sub-criteria on a scale of one to 100. There may be six to 10 sub-criteria for each of the main criteria. A scoring sheet must be used to consistently evaluate all the proponents. Cost is not considered until the commercial alignment stage of the evaluation process. This ensures that the evaluation process is focused on the quality of the team, rather than the proposed fee structure.

While evaluation of the written response to the Request For Proposals (RFP) will result in an initial score, subsequent stages of the selection process will either confirm or moderate this initial score. Selection methodologies may progressively adjust the initial score from the written response during subsequent interviews and workshops. Alternatively, the method used may retain scores for selected criteria for the short-listed proponents following assessment of the written submissions and progressively assess other criteria from that point on.

One of the potential flaws in the evaluation of evidence is different panel members scoring on different scales. For example, one panel member may consider a response to be a '9', while a different panel member may consider the same response to be only a '6'. Both consider themselves to be right, but they are scoring on different scales!

One way to overcome this inequity is to define levels of scoring very early in the process using word pictures so that all panel members clearly understand what a particular score means in terms of the visual referencing. Alignment of the selection panel around those measures must be gained to ensure that the scoring system is standardised and consistent.

The facilitator and selection panel should not lead the proponent while gathering and assessing the evidence. This can be unwittingly done by asking leading questions. This possibility may arise when conducting workshops for the second proponent, where conversations already conducted with the first proponent may (subconsciously) influence the questions. The probity advisor should be aware of these issues and ensure that the second proponent is not given an unfair advantage.

The selection panel should not know the progressive scores as each stage of the process unfolds. The alliance facilitator should decline any requests to see the progressive scores, and should encourage the panel to say what needs to be said at the time. This prevents bias creeping into the process via panel members modifying their scores, and encourages the panel to be open and honest in the evaluation.

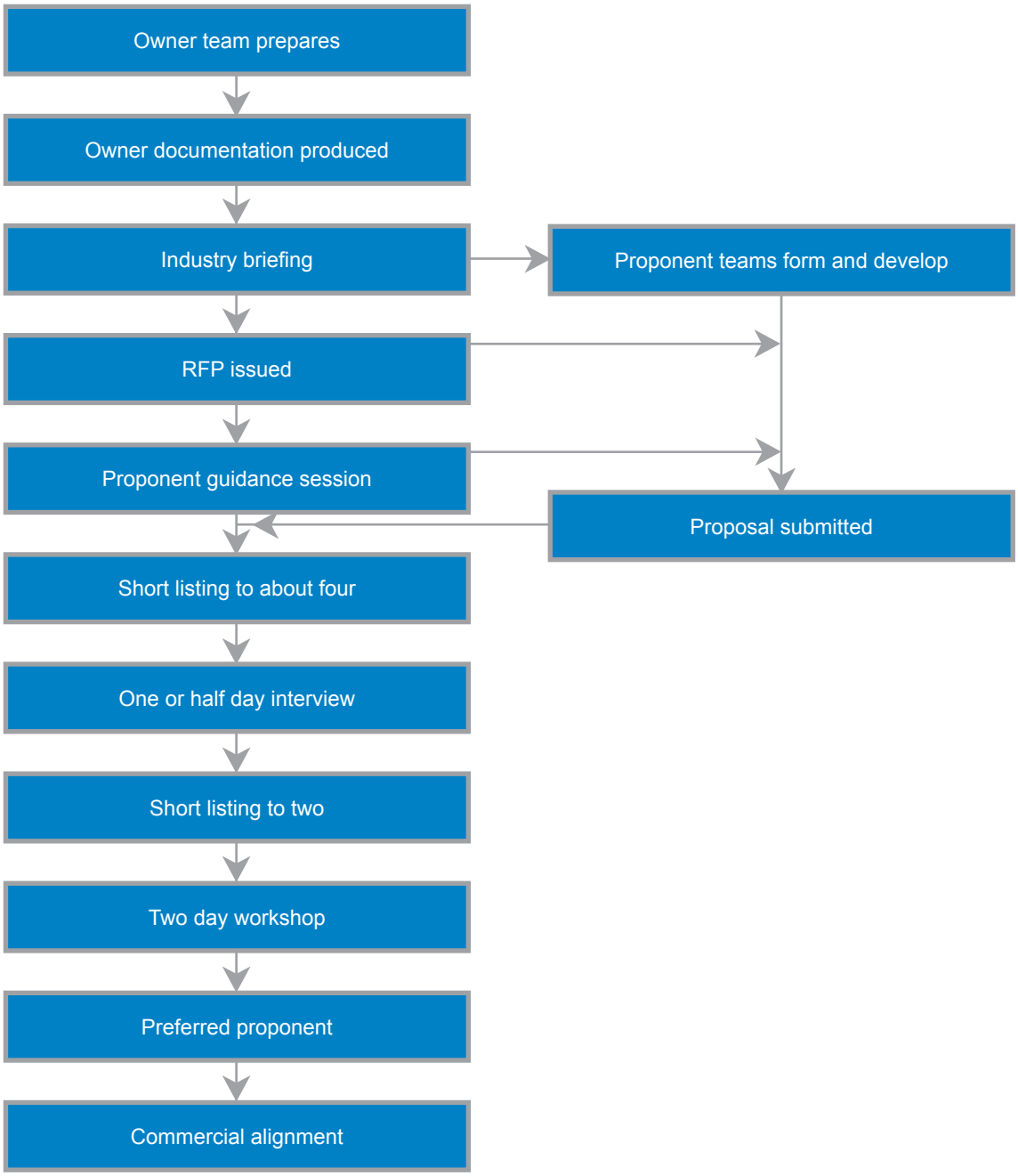
After each stage of the selection process, the score should be revealed and alignment reached by the selection panel as to whether the initial score goes up or down. This is not about averaging the scores of the individual selection panel members, but reaching full alignment on the score. It is worth noting here that if there is a robust process, the selection panel should trust the process no matter how close the scores. This notion is discussed further below in the selection of the preferred proponent.

Selection process

The selection process should allow the selection panel to make an informed decision about the team that will deliver the project.

A typical selection process is shown in Figure 15, although each alliance facilitator will bring his or her own particular version or nuances. The process must also be tailored to the special characteristics of the project and owner.

Figure 15 Typical proponent selection process



Request For Proposals

Proponents respond to the owner's Request for Proposals (RFP) with a document addressing the nominated criteria. These proposals are then assessed by the selection panel and collectively scored with the objective being to shortlist a small number of participants to proceed to the interview stage.

Note that this initial assessment is largely objective, based on the proponent's capabilities, experience and track record. It is meant to assess the mandatory criteria thought to be the minimum pre-requisites for successfully delivering the project.

The shortlist to the interview stage would usually comprise the three highest scoring proponents, but this depends on how many proponents have submitted a proposal.

The RFP stage may take up to eight weeks (usually less, but again, depending on the owner's process) from the initial issue of the RFP to the notification of short-listed proponents to proceed to the interviews.

Interview

The purpose of the interview is to provide an opportunity for the selection panel to meet and critique the core team nominated in the proponent's proposal, and to assess their capability to deliver an outstanding project.

This assessment is more subjective, building on the information provided in the proposal, and helps the panel to gain a greater appreciation of:

- the breadth and depth of relevant skills and experience
- the proponent's level of project understanding
- individuals' intrapersonal and interpersonal skills
- individual and team potential to form a high performance team.

Ideally, the interview is more of a discussion than a presentation, and therefore circumvents the possibility that a team delivers a 'performance' – something to be avoided as it is not a good indicator of real knowledge and capacity to be part of a high performance team.

The scoring for the interview should not generate an entirely new score. Instead, it should seek to confirm or moderate those scores already given in the assessment of the Request For Proposal (RFP) response.

In some instances the interview and the following workshop are combined into a single process.

Workshop

The main purpose of the workshop is to simulate the start of the alliance and to continue to build relationships amongst the team, including the Owner Participant (OP) and Non-Owner Participants (NOPs). This is done as the team works collaboratively through the processes of establishing:

- the vision statement
- project objectives
- alliance principles
- alliance behaviours
- roles and responsibilities: particularly the Alliance Leadership Team (ALT), Alliance Project Manager (APM) and Alliance Management Team (AMT)
- the mobilisation plan
- the organisation structure
- Key Result Areas (KRAs)
- approach to key technical challenges
- other alliance matters as directed by the owner.

Like the interview stage, the scoring for the workshop should not generate an entirely new score. Instead, it should seek to confirm or moderate those scores already given in the assessment of the Request For Proposal (RFP) response and the interview. However, there have been selection processes where scoring has re-commenced from the interview stage.

Generally speaking, participants are encouraged to enter the workshop stage with the mind-set that they have already 'won' the project, and are in fact commencing 'Day One'. This enables the conversations and activities to be more realistic – to be more like the kinds of working sessions that you would expect during project start-up.

Given the importance of Value For Money (VFM) to owners, some are introducing the initial phase of the commercial alignment discussions into the selection workshop to provide an element of margin competition between proponents. The difficulty with this is that owners can not guarantee that they will achieve an 'apples with apples' comparison of the proponents.

The selection panel will then make a determination following the workshop on which proponent/proponents will be invited to the commercial alignment workshop.

Selection of the preferred proponent

The final decision before commercial alignment *should* be easy, but it can be very hard.

One school of thought is that if proponents' scores are within 2%, then the proponents are deemed to be the same and a deadlock breaking process is entered into. This can include risk assessments of each of the proponents or sensitivity tests of the selection criteria weightings. If there are differences in what panel members think, then it can be a very late night.

However, an alternative (and preferable) approach is to consider that the selection process has been carefully and diligently developed and carried out, and that any difference in the scores, no matter how small, provides an outcome of a winning proponent. To achieve this, the selection panel must be aligned at the elemental level, and agreement that the panel will select the proponent with the best score, even if the panel has a bias towards a different proponent.

Commercial alignment

The commercial alignment phase is the first stage that the actual cost of a proponent is considered in a conventional alliance framework.

Preliminary commercial alignment may be run with the final two proponents. However, in a selection process this discussion is only partly about the actual multipliers, margin and gain share/pain share, but more about the quality of the conversations and attitudes of the proponents displayed during the discussions. The owner's financial auditor will provide their opinion on the openness of the proponents to the commercial principles for the alliance.

Total acceptance of all the owner's recommendations in relation to the commercial discussions is not necessarily evidence of 'best for project'. In fact, proponents who have the capacity to constructively challenge (where they feel challenge is genuinely required) and the ability to engage maturely and respectfully in critical conversations, show that they are ready and able to have the critical conversations which will inevitably arise throughout project delivery.

The negotiations on the commercial framework should be supported by a set of commercial principles that are agreed by all participants. Owners may take the opportunity to commence the discussion on these principles during the selection workshops. This supports their assessment of the willingness of proponents to be flexible in their expectations. The principles will be finalised as the first component of the commercial alignment workshop and then form the foundation for all discussions that follow.

During the commercial discussions, owners and proponents should aim to:

- build strong and mature relationships that will underpin the ability to have very constructive, critical conversations
- discuss and obtain agreement around the commercial alignment process
- consider critical issues such as terms and conditions, Limb 1, Limb 2 and Limb 3 including the margins, percentages put 'at risk' through the commercial framework and the pain/gain arrangements
- discuss the interim Project Alliance Agreement (iPAA) and Project Alliance Agreement (PAA)
- consider the audit process going forward.

The conversations that take place around the commercial arrangements are critical and can assist owners to gain a real insight into the organisational culture, mindset and behaviours of those with whom they are about to embark on the alliance journey.

Case note 10

Selection process

Project: Roe Highway Stage 7 – Roe 7 Alliance
Owner Participant: Main Roads Western Australia
Non-Owner Participants: AECOM, Clough Limited
Value: $66m
Duration: 2003-2006

This alliance was the last stage of the construction of Roe Highway – a freight route that connects the State's rural highway system (Great Northern Highway, Great Eastern Highway, Toodyay Road, Brookton Highway, South Western Highway and Albany Highway) to key destinations (such as Kwinana Port, Canning Vale Industrial Area, Kewdale Industrial Area and Perth Airport). The highway has been delivered in stages over 20 years.

The physical infrastructure involves approximately 4.5 km of dual carriageway with three interchanges, three bridges and a grade separated principal shared path. Roe 7 Alliance was responsible for design, construction, community and stakeholder engagement, and environmental approval through the habitat of the Grand Spider Orchid (a declared rare flora).

Lessons learned:

The proponents were shortlisted to four after evaluation of responses to the RFP, and then to two through a half-day workshop. A two-day workshop with each of the two shortlisted proponents was then used to select the preferred proponent.

Experiences from the selection workshops were:

- Main Roads included potential alliance project team members who were not part of the evaluation team and they needed to be included by the Non-Owner Participant (NOP) team in activities undertaken during selection.
- The selection process was designed to test the ability of the proponent team to make the owner's potential alliance members feel welcome and part of an integrated team.

Case note 11

Principles for commercial alignment

Project: Southern Link Upgrade Alliance
Owner Participant: Transurban Ltd
Non-Owner Participants: Abigroup, AECOM
Value: $106m
Duration: 2006 to 2009

The Southern Link Upgrade forms part of the larger Monash-CityLink-West Gate Upgrade in Melbourne. The project is primarily intended to increase traffic capacity and improve safety on the freeway corridor. It generally involves adding a traffic lane to the inbound and outbound carriageway along 5 km of the CityLink tollway, from the tunnel portals to the CityLink boundary just east of Glenferrie Road. It also includes development and construction of a freeway management system involving lane management and ramp metering.

Key lessons:

Prior to negotiating the fee structure for each of the Non-Owner Participants (NOPs) in the alliance, a set of principles for commercial alignment were agreed. These were:

- gain and pain is linked to real risk and benefits that affect the value of the project to Transurban
- the only way to exceptional return is outstanding performance
- Transurban is committed to NOPs earning 100% of their possible gain share entitlements for outstanding performance
- each alliance participant has meaningful financial incentives
- the separate elements of the gain share regime are interdependent to provide no incentive to sacrifice performance in one Key Result Area (KRA) to secure reward in another
- the commercial framework must drive the right behaviour - the right behaviour is the behaviour consistent with the alliance principles
- simple and easy to understand
- outcomes must be win/win or lose/lose between all participants
- the framework must be able to withstand independent scrutiny
- equitable reward commensurate with performance
- all transactions based on an open book process subject to external audit.

Alternative selection strategies

This chapter has so far discussed the selection methodology and process primarily used for a conventional alliance. However, if a variation on the conventional alliance is chosen, then a different selection process may be used.

Multiparty sequential alliance selection process

In a sequential, or staged alliance selection process, the owner selects one of the Non-Owner Participants (NOPs) first and forms a working alliance with this party before selecting the second. The owner may or may not include the first NOP in the selection process for the second.

Case note 12

Multiparty sequential alliance selection process: designer first

Project: West Gate Bridge Rehabilitation
Owner Participant: VicRoads
Non-Owner Participants: Sinclair Knight Merz, Flint & Neill Partnership, John Holland
Value: $240m
Project start: December 2007

The project involves improving traffic carrying capacity (including extra peak period lanes) of West Gate Bridge, as well as strengthening, risk mitigation and rehabilitation of the existing structure. It will be delivered in four stages:

Stage 1: Structural analysis (calibrated computer model)
Stage 2: Scope development and business case approvals
Stage 3: Detailed design and development of Target Outturn Cost (TOC)
Stage 4: Site works (construction and commissioning)

Comment:

VicRoads has adopted a sequential alliance selection model that establishes an alliance between design participant(s) and VicRoads for the first two stages of the project. A constructor was then be invited to join the alliance during Stage 2. A separate agreement will be established between VicRoads, the design participants and the constructor for Stages 3 and 4 of the project.

VicRoads elected to use this approach as the scope of the project was very unclear. Significant structural modelling, option assessment and business case analysis was required before the construction contractor could be selected and commence. VicRoads also wanted to ensure it got the most skilled and appropriate designer to complete the initial structural analysis.

Where lack of clarity surrounds the scope of a project, owners can typically team with the designer first to develop concept designs for the works and hence, improve the understanding of the scope. With clearer definition of the scope, the constructor with the most appropriate skills can be selected. Alternatively, if the key challenges for the project are construction related, the constructor can be chosen first. Hence for sequentially selected alliances, the key project challenges typically drive the owner's decision as to which NOP is initially engaged.

Some outcomes of a sequentially selected alliance can be:

- a level of dominance may develop in the first selected proponent if it participates in the selection of the second proponent
- the alliance culture may need to be built twice
- not enough diversity in the team in the initial stages to stimulate innovation
- can be hard to create a culture when there is only one organisation involved – lose the excitement of creating a new multiparty culture!

Case note 13

Multiparty sequential alliance selection process: constructor first

Project: TrackStar Alliance
Owner Participant: Queensland Rail
Non-Owner Participants: Thiess United Group JV, AECOM, Connell Wager (TrackStar Alliance)
Value: $800m
Duration: 2006 onwards

A sequential alliance selection process was used by Queensland Rail (QR) for the selection of constructors and designers to partner with them to deliver a number of rail infrastructure projects as part of the South East Queensland Infrastructure Plan.

Comment:

The selection process was:

- QR appointed Project Control International (PCI) to assist in developing the selection process
- PCI worked with QR to build alliance competencies in key personnel who would be involved in both the selection process and the delivery of the program alliances
- QR held an industry briefing
- Staged selection process for constructors ONLY
- QR confirmed selection of constructor
- QR and chosen constructor formed selection panel to assess designers
- Staged selection process for designer
- QR and chosen constructor confirm selection of designer
- QR, chosen constructors and designers form integrated team to deliver program of project alliances (this team became the TrackStar Alliance).

Dual Target Outturn Cost

Alliance selection processes incorporating a dual Target Outturn Cost (TOC) are often called competitive alliances. These selection processes involve the two short listed proponent teams each being paid to develop a TOC. The notion of competitive alliances has arisen from the Value For Money (VFM) debate – if two proponents both develop a TOC, then there is a price component in the final selection decision.

It is interesting to note that the organisations that have used the dual TOC selection processes have typically not adopted them as their general selection method although may have been used them more than once.

The owner does not achieve integration in the two competing teams as would be the case in a conventional alliance. As a result, the same level of closeness and intimacy that is a hallmark of the early stages of culture development may be compromised.

Consideration needs to be given in assessing 'like for like' in the TOC of each proponent team. The risk profile of each team needs to be normalised to make a fair comparison.

The dual TOC process also keeps two high performance teams involved for up to four months potentially at zero margin rates.

On a purely commercial basis, the numbers also can be questioned. In a conventional alliance with development of a single TOC, between 60% and 70% of the project cost is typically procured in a market tested competitive environment. Therefore, savings can only be found in 30% to 40% of the project cost. The cost of the dual TOC process may exceed any cost benefit found in this part of the TOC if cost minimisation is the driver for selecting the dual TOC process.

Despite these reservations, there are good reasons why an owner may choose a dual TOC alliance process. For example, if the technology offered by two proponents is significantly different, it would be prudent to obtain a TOC from each before making the final selection. In other instances a dual TOC process may be mandated by the owner.

Case note 14

Dual TOC alliance #1

Project: Windsor Road Alliance
Owner Participant: NSW Roads and Traffic Authority
Non-Owners Participants: Leighton Contractors, AECOM, Coffey Geosciences
Value: $108 million
Duration: 2005 – 2006

To complete the dual carriageway between the M2 Motorway and Old Windsor Road, the New South Wales Roads and Traffic Authority (RTA) set up a dual Target Outturn Cost (TOC) alliance framework and engaged two teams to derive a TOC and project scope for assessment. The proponent teams were judged on the following criteria:

- proposed approach to undertake and deliver the project
- capability and past performance in delivering similar projects in an alliance delivery mode
- proposed approach to community and stakeholder concerns
- experience and expertise of the key personnel
- Value For Money (VFM) offered by the proposed TOC.

Comments:

The selection process involved a registration of interest stage followed by a Request For Proposals (RFP) stage from two short listed proponents. The Roads and Traffic Authority (RTA) had intended to go to the market with 'construct only' contracts, however the level of concept design for the two sections of the ultimate project differed significantly. During the preparation of the TOC, the RTA provided a project representative to assist each proponent. Given the competitive nature of the bidding process it ended up apparently feeling more like a typical design and construct contract than an alliance.

The proposed performance regime proved to be a challenge in driving high performance by the alliance team. The bonus pool was coupled to the outturn cost with zero bonus paid if the Actual Outturn Cost (AOC) exceeded the TOC by 10% or more. At one stage in the alliance the forecast AOC looked like it may exceed the TOC by more than 10% which challenged the teams's motivation to deliver on other Key Result Areas (KRAs). In reality, the alliance team produced an exceptional project outcome delivering it ahead of program and budget with a non-cost KRA outcome described by an independent auditor as somewhere between breakthrough and outstanding performance, despite the above commercial model shortcomings.

Overall, the RTA concluded that the Windsor Road Upgrade was an exceptional project outcome which represented a Value For Money (VFM) result far in excess of what could have been achieved through traditional lump sum procurement methods. Nevertheless it was conceded that although the dual (or competitive) TOC alliance model satisfied the need to demonstrate market price testing, it fell short of achieving an equitable 'best for project' outcome, fully mobilising the resources of both the government and private sector.

Case note 15

Dual TOC alliance #2

Project: Tugun Bypass - PacificLink Alliance
Owner Participant: Queensland Main Roads
Non-Owner Participants: Abigroup, SMEC Australia
Value: $543 million
Duration: 2006 to 2008

The Tugun Bypass provides a high standard road link between the southern Gold Coast and northern New South Wales. The project includes:

- four lanes with the provision to be upgraded to six
- grade separated interchanges at both ends
- 334 m tunnel underneath the Gold Coast Airport's runway extension
- twin bridges over Hidden Valley
- preserved rail corridor allowing for a future rail line from Robina to the Gold Coast Airport.

Tugun Bypass was completed six months ahead of schedule in June 2008. The project had been under investigation for more than 10 years and had a number of false starts. Originally to be delivered as a design, construct and maintain, in early 2005 Queensland Main Roads converted the delivery model to a competitively bid alliance.

Lessons learned:

Known as a 'dual TOC' or dual parallel alliance process, two consortiums were selected to commence this model in September 2005 and were required to submit a final proposal in December 2005. Main Roads set up a 'Chinese wall' and placed personnel in each consortium for the bidding process. This gave Main Roads, RTA and the Federal Government a high level of certainty of completing the essential tunnel works by 10 November 2006. Main Roads contributed towards each of the bids, thus allowing the intellectual property from the unsuccessful consortium to be used in the final detailed design.

The dual TOC parallel alliance process worked well for this project allowing a fully detailed design for the tunnel, the development of sub alliances for the critical aspects of the tunnel construction and the combined input of Main Roads into each bid. For Main Roads, this approach required extra resources and therefore it is not suited for every project.

Part C
The Non-Owner Participant's perspective

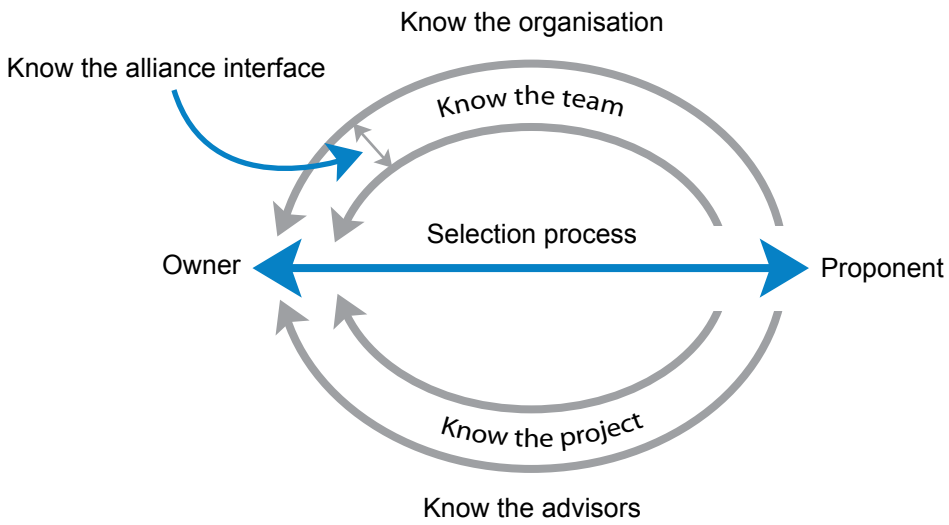
Part C **Chapter 1**

Building relationships with the owner

Understanding the owner's project drivers and expectations is essential for a prospective Non-Owner Participant (NOP) before committing resources to bidding a project, forming the team and responding to the Request For Proposals (RFP). The best way for proponents to have this knowledge is to have good relationships at multiple levels within the owner's organisation. The other important factor to take into account is whether a particular project fits into the strategy and business plan of the companies considering bidding for the work.

Figure 16 illustrates the multiple levels at which owners and proponents need to get to know each other to be fully prepared for an alliance. Ideally, the owner has developed a rigorous selection process to get to know the proponents, taking into account the objective and subjective criteria. Similarly, the proponents should have a well-planned process to get to know the owner and their project.

Figure 16 Full alliance readiness



The owner's organisation

Do owners pick the successful Non-Owner Participants (NOPs), or do the proponents pick the owner they would like to do business with? The truth is, it works both ways.

Most organisations now have well structured relationship management programs in place to identify those owners that they believe are aligned with their business goals. These programs and subsequent owner relationships can make a difference when bidding for and delivering alliances.

Owner characteristics

In establishing relationship management programs, organisations will identify the key characteristics of the owners. Typically, the owner characteristics that seem to rise to the top in these lists include:

- capability to embrace one-on-one relationships – they are relationship driven in their own right and are prepared to invest in long term collaborative relationships
- ability to trust the organisations that provide them with support and deal with them in a fair and respectful manner
- being value driven and recognising Value For Money (VFM) in the services provided
- being sophisticated, knowledgeable and educated about their own business and about the business of potential Non-Owner Participants (NOPs), thus creating the potential to achieve win-win outcomes
- being a successful, winning business in their own right with strong growth prospects.

Interestingly, the majority of the owners that are prepared to embrace an alliancing form of delivery have these characteristics, as it is these characteristics that most commonly drive success in alliances.

Knowing the project

Once the Non-Owner Participant (NOP) proponents have identified the owner that they want to work with, they must then identify a future project to bid on. Bidding, workshopping and winning is dealt with in Part C, Chapter 3, but at this stage the proponent must make the decision whether they want to bid for the project at all.

Alliances are frequently used as the preferred delivery method because the project is going to be challenging, and this often leads to overall project uncertainty. Figure 17 illustrates some of the many factors that commonly impact on alliance projects that proponents should try to understand.

If the proponent knows the owner well and has relationships at several levels in their organisation, then knowing the project will come more easily. Some of the questions they may want to ask include:

- Does it fit with core business?
- Is it a client they want to work with?
- Is it a client they currently have a relationship with?
- Is this a new target area for the businesses, such as a new business line or client?

Figure 17 Project drivers

Project needs, drivers and expectations

Well before the Request For Proposals (RFP) is issued, teams intending to submit a proposal should know the owner's needs, drivers and expectations in relation to the project.

Proponents should understand the owner's business operating context, that is, the political, program, financial and other influences that govern their response to situations that arise. They should also understand the owner's level of commitment to alliancing and the key drivers that are influencing their decision to use this as the delivery model.

Some of the questions proponents may ask owners to help generate an understanding of the project are:

- What is the project delivery context the owner is operating in?
- What are the issues and challenges that concern them?
- What is keeping the owner awake at night?
- What would constitute a great project outcome for them?
- What would an outstanding project outcome look like?
- Do they have sufficient resources to commit to the project team?
- What are the critical success factors for the project?

These are the kinds of questions that should be answered (or at least seriously thought about) well before the RFP is issued. The answers to these questions should then help to focus the proponent's efforts and preparation for the alliance selection process, which will ultimately be decided against the assessment criteria.

Owner's team

Understanding which organisational modes operate within the owner will benefit potential Non-Owner Participants (NOPs). It is possible that the overall organisation mode will differ to the mode that individuals within the organisation are experiencing. The Chief Executive Officer could well be in growth mode looking to significantly increase revenue and profit, while the engineering manager could be in even keel mode with no real incentive to seek external help to get things done. Hence, the challenge for proponents becomes one of not only understanding the owner's organisation, but also appreciating the individuals within the organisation. When the owner comes to the market with an opportunity to participate in an alliance, proponents will need to appreciate what the alliance means to the owner's staff who are or will be involved.

The depth of relationships with the owner will also test proponent's ability to predict what will be important to the owner in an alliance, that is, what are the likely Key Result Areas (KRAs) and who they will put forward to participate in the Alliance Leadership Team (ALT), Alliance Management Team (AMT), and Wider Project Team (WPT).

Authentic relationships

Successful business outcomes, including in alliances, are often achieved off the back of good relationships with the owner. Having several healthy point-of-contact relationships across the owner's organisation is an indicator that the proponent organisation and the owner already have good communication occurring. In essence, such communication provides the foundation for a thorough understanding and appreciation between the two of the project delivery landscape, drivers, deliverables and expectations. This augurs well for the future alliance.

Non-owner organisations will require people with a variety of skill sets to complement the relationships within the owner organisation. Examples include the requirements of the operations personnel, the financial personnel, the technical and leadership skills of the owner organisation etc.

Case note 16

Knowing the owner's team

Project: West Gate Bridge Rehabilitation
Owner Participant: VicRoads
Non-Owner Participants: Sinclair Knight Merz, Flint & Neill Partnership, John Holland
Value: $240m
Project start: December 2007

The project involves improving traffic carrying capacity (including extra peak period lanes) of West Gate Bridge, as well as strengthening, risk mitigation and rehabilitation of the existing structure. It will be delivered in four stages:

Stage 1: Structural analysis (calibrated computer model)

Stage 2: Scope development and business case approvals

Stage 3: Detailed design and development of Target Outturn Cost (TOC)

Stage 4: Site works (construction and commissioning)

Key learning:

One of the VicRoads considerations during the evaluation of the proponent teams was that for one of the unsuccessful proponent teams, some of VicRoads' younger Wider Project Team (WPT) members were not confident that the proponent team would provide the leadership they expected to inspire their career development. When participating in these alliance selection processes Non-Owner Participants (NOPs) must be aware that everyone present is important to owners making their final decision.

The alliance interface

Non-Owner Participants (NOPs) must gain an appreciation of the interface that exists between the owner's alliance team and the 'parent' organisation. The better the dynamics that exist between these entities and the communication channels that are established, the better it will be for the alliance.

Ideally all relationships should contribute to the capacity of the alliance to deliver the works successfully. The greater the NOPs' understanding of these relationships, the greater their ability to help to effectively manage the interface to the benefit of all. The importance of this interface has become more evident to owners as they experience more alliances. For example, the News South Wales Government Roads and Traffic Authority (RTA) usually include the position of 'interface manager' in their alliances to help connect the alliance to the 'parent' organisation.

Knowing the owner's advisors

In preparing for an alliance, owners need to engage a range of external advisors to form part of their team. The role of the advisor is to lead conversations with the owner. It is for the benefit of all to 'get the conversations right'. Advisors help to 'construct' a particular mind-set, one which will illicit the best thinking and dialogue around a particular issue or topic. Similarly, the advisor needs to engage in the conversation skilfully to allow the appropriate conversation around the issues to occur.

The owner's advisors may include a facilitator or coach, a financial auditor or commercial advisor, a probity advisor, a legal advisor, an independent estimator and an independent verifier. The probity advisor has the responsibility to ensure a consistent, fair approach by the owner, and to heighten their awareness around this responsibility. From a Non-Owner Participant (NOP) perspective, the external advisors that will have greatest influence on the selection process are the owner's facilitator and their financial auditor. The role of the probity advisor is discussed in Part B, Chapter 2, while Part D, Chapter 1 describes the role of the financial auditor, so this discussion will focus on the facilitator.

The role that the owner's facilitator undertakes depends on the depth of alliance experience in the owner's organisation. In organisations new to alliancing, the facilitator will most likely:

- coach their staff on what it takes to be involved in an alliance
- help prepare the Request For Proposals (RFP)
- facilitate the discussions within the owner organisation to determine the objectives for the alliance and the Key Result Areas (KRAs)
- establish the scoring framework for the alliance
- take the leadership role in the interviews and selection workshops with the NOPs.

As owners become more skilled in alliances, they often take on the responsibility for delivering more of these activities themselves. For example, the New South Wales Government Roads and Traffic Authority (RTA) procured the services of designers to form a design-only alliance without the support of facilitators.

It is important that NOPs understand the approach and process that the appointed facilitator will take as it will assist greatly with preparing for and bidding on the project. Each facilitator has their own approach and process to the selection process.

A lesson learned: facilitators are continually looking for ways to evolve their approach to selection, so what may have been the norm in the past will not necessarily be the case in the future. As NOPs bid for more alliances, they will come across a variety of facilitators thus creating the challenge of constantly having to adapt and be flexible to best respond to the process being used.

Occasionally owners that are seriously short of internal staff to participate in the key roles in an alliance will engage consultants to participate on their behalf.

The important thing to remember is that if the proponent's team is thoroughly familiar with the project's requirements and has the capability and capacity to deliver, has good relationships with the owner, is collaborative and really keen to embrace the alliance principles in delivering the works, then their team will shine.

Part C Chapter 2

Teaming process

One of the greatest challenges for Non-Owner Participants (NOPs) is forming the right team to meet the expectations of the owner. This is first tested during the selection process, and often strongly influences which team the owner chooses to deliver the project.

Conversations with Alliance Leadership Team (ALT) and Alliance Management Team (AMT) members, and Alliance Managers (AMs) indicate that one of the key learnings from alliancing is that a degree of focus and rigour should be applied to team integration and communication, not just at the beginning of an alliance, but throughout the project's life.

Alliances are frequently used as the preferred delivery method because the project is going to be difficult. In these complex, multi-disciplinary projects 'critical moments' will occur throughout the project's life. Building a team that is able to face these critical moments with courage, open conversations and determination to align around a solution or way forward is key to a successful alliance. Providing the team with the tools and techniques to have these hard conversations and move on positively is a necessity, and should be the responsibility of the ALT and AM.

Of course, there must be a balance struck between developing people's skills in these areas and allowing them to get on with the job. Nobody wants to waste time in meaningless workshops and meetings. But equally, not all people inherently have the skills to be able to work in integrated, communicative teams. The challenging part is getting the balance right.

Importance of the team

Before even beginning to consider which organisations to team with, let alone which staff will be nominated for the project, prospective (proponent) Non-Owner Participants (NOPs) must fully understand the owner, the project, and their drivers and motivators.

As described in Part B, owners carefully structure their selection process to make sure they choose the right organisations and people to deliver on their expectations of outstanding results for that particular project. Through a combination of objective and subjective assessments, the owner will progressively shortlist proponent teams until there is only one remaining. Although the owner may have worked with the organisations previously, they may not have worked with the particular people nominated and hence their decision can still be, in part, a leap of faith.

How can NOPs 'second guess' what the best (and winning) team will look like? Proponents need to convince the owner though the selection process that they are the right organisations to work with in delivering the works. This is largely about the steps taken putting the right team together and consideration of the project.

The corporate track record of the organisations in the team and their reputation with the owner is important to success. However, it is not the companies that do the work but the people from those companies who deliver the outstanding results expected. Hence, teaming decisions – including which organisations to go with and which team members to nominate – are critical.

Determining the composition of the team presented to the owner will be based around an early judgement of what is important to the owner. The important thing to remember is that the goal is to assemble a team that will best deliver what the owner needs and wants for that particular project. Hence, the decision should be driven by the owner and their requirements for optimum project delivery.

Forming the alliance proponent team

Alliance success usually results from the right blend of team skills, experience, appropriate resourcing and behavioural characteristics; that is, the objective and the subjective criteria talked about so often in this book. Teaming with the right proponent companies and then choosing the individuals who will form the core team is very important, and involves both an objective and subjective assessment.

How should proponents go about this task? Should they assume the relationships that are strongest between their own company and a prospective partner are the ones to choose in bidding for the alliance? Not necessarily. Different alliances will require a different capability mix. Teaming with another proponent team with complementary capabilities is what really matters.

Other factors to take into account are:

- the relationship that exists between a potential partner and the owner
- the relationships between potential partners that may benefit the project
- understanding of another proponent's systems, processes and people (as this can and does provide a good springboard for project start-up)
- resource capacity of another proponent.

Choosing partner organisations

The key issues to be considered when selecting a partner to form the best possible alliance proponent team include:

- technical skill sets that are essential for delivery of the alliance objectives and the organisations that can best deliver these skill sets
- aligned corporate culture between the organisations, ensuring that this culture allows for flexibility to embrace the owner once selected for the alliance
- an understanding of what the owner really wants in participants
- availability of people within the organisations to deliver on the owner's expectations – this is particularly challenging in a resource-constrained market place
- the right balance of skill sets at the Alliance Leadership Team (ALT), Alliance Management Team (AMT) and Wider Project Team (WPT) levels.

Ultimately, the proponents must be able to show the owner that they have the resources and key team members to produce smart solutions and deliver the project.

The number of proposed alliance partners and sub-alliance partners is important to think about at this stage. Most ALTs consist of six to eight people. It is not advisable to have large ALTs (more than eight) as these can become cumbersome and unwieldy. Some ALTs have more than one member from an organisation, depending on the individual characteristics of the alliance. At times it may be necessary for the designer or constructor partners who are taking a supporting role on the project to be nominated as sub-alliance partners. All of these possibilities should be given careful consideration before determining what best suits the particular alliance and the delivery of the owner's project objectives.

Case note 17

Bidding challenges

Project: SAFElink Alliance (Ipswich Motorway – Wacol to Darra)
Owner Participant: Queensland Main Roads
Non-Owner Participants (proponents): Leighton Contractors, BMD, Arup, AECOM
Value: $800m
Duration: 2007 to 2010

The project involves widening the Ipswich Motorway to six lanes between Gailes and Darra, upgrading the Centenary Highway interchange, bridgeworks, and new pedestrian and cyclist paths. Additionally, earthworks and bridgeworks for the Darra to Springfield rail line, passing through the Centenary Highway interchange, will be constructed.

Lessons learned:

SAFElink Alliance was bid at a time when the outcome of tenders for the major Gateway Upgrade project was unknown and the tender for Airport Link was being prepared.

Given the potential for competing demands for resources, Leighton Contractors decided to team with BMD, a growing mid-size constructor not normally involved directly in these tenders. Leighton also chose a lead designer from each of the finalist Gateway teams (AECOM and Arup) to demonstrate that whatever the Gateway outcome, one of the designers would be able to provide the bulk resources, with the other designer supporting with specialist resources. This resourcing strategy was carefully mapped out in the bid and demonstrated with wall charts and presentations in the selection interview and workshops.

In building the bid team with four participants, Leighton Contractors and AECOM, who had worked together on other alliances, had to ensure that BMD and Arup had consistent knowledge of:

- commercial framework and audit requirements
- team expectations
- Target Cost Estimate (TCE) and delivery expectations
- the key individuals from all participants.

The process was assisted by the fact that the BMD Alliance Leadership Team (ALT) and Alliance Manager (AM) nominees had worked with all participants on other projects (and at least one alliance) while working for another contractor.

One of the conference rooms in Leighton's office was set up for the bid team. A specialist team coach was appointed to develop the relationship in the team both on site and at external locations.

Selecting team members

When proponents construct their teams, a key challenge is the identification of the individuals who will be nominated to participate as part of the Alliance Leadership Team (ALT) and Alliance Management Team (AMT) and, critically, who should be the Alliance Manager (AM). From an internal perspective, this is important to the participant organisations because it defines expectations around the roles and responsibilities that each takes on. It is also important from the owner's perspective when demonstrating the appropriate 'fit' or 'match' of the team to the owner's expectations. However, flexibility is required as the Request For Proposals (RFP) may contain unexpected details that require changes to the team structure.

In selecting the ALT, the discussion starts by identifying the organisations that will form part of the main alliance with the owner and those that will support the team either as a sub-alliance or subcontract role. Those organisations that will have 'skin in the game' are usually represented on the ALT. Most owners seek to limit the size of the ALT, so the primary focus must be on identifying the key challenges the owner faces and matching the organisations that are in the best position to manage these challenges. The organisations represented on the ALT must also have a meaningful contribution to make to the works in a financial sense given they actively participate in the gain share/pain share arrangements.

Once the organisations at ALT level have been defined, the representatives from those organisations must be chosen. These representatives will generally either have a responsibility within their organisation to manage the resources available or will have a specific skill or experience that is relevant to the owner's challenges. The ALT will be acting as a nominee team, so they need to be able to make some decisions during the bid process. More is said about the ideal characteristics of these representatives in Part D, Chapter 1.

The AM in many alliances can be the most critical person to select. This individual takes the primary leadership role for the team delivering the day-to-day requirements of the alliance so it is essential to get the right person for the job. Part D, Chapter 1 describes the characteristics of this person to assist with their selection.

Case note 18

Finding the right Alliance Manager

Brisbane Water issued a Request For Proposals for three wastewater treatment plants at Sandgate, Oxley and Wacol for Brisbane Water.

Key lesson:

Abigroup, Connell Wagner and AECOM came together, hired an alliance coach and commenced team building and technical review activities to bid for this project. Part way through the Request For Proposals (RFP) response writing process, the Alliance Leadership Team (ALT) nominees identified that the team did not have a strong enough Alliance Manager (AM) candidate fully available to deliver the alliance and win the bidding process.

After much deliberation on a variety of candidates and despite having completed a lot of team preparation work (and costs spent), the ALT decided not to proceed with the bid.

The structure of the AMT and the selection of representatives from the participant organisations are driven by the issues that the owner sees as being important – reflected in their Key Result Areas (KRAs) – and what is needed to deliver the works.

In other delivery methods, such as design and construct, the equivalent of the AMT will have a strong focus on the design and construction management skills that are required to get the job done.

In an alliance, however, other functional areas which are important to the alliance's success are represented. These functional areas may include community and stakeholders, environmental, traffic operations, culture and relationships, and systems and controls. The structure and representation on the AMT must also include candidates the owner will put forward. The roles the owner's representatives perform will depend on the outcomes that the owner ultimately seeks from the alliance. Again, the characteristics of AMT representatives are described in Part D, Chapter 1.

Following selection of the alliance proponent team, the focus then shifts to building the team's understanding of the owner's project challenges and identifying how the team will solve them. During the process of bidding for an alliance, it is very important that the team develops the mindset that delivery of the alliance works has commenced. Adopting this mindset will ensure that all of the conversations held with the owner in the lead up to final selection are focused on the specifics of the works and exclude, to the extent possible, an emphasis on 'sales' or 'performance' language. This approach opens the opportunity for authentic conversations that build rapport and ultimately trust in the relationships between owner representatives and those from the proponent.

Once the team has been chosen, the proponent must commit their best team and honour that commitment by ensuring the team remains in the alliance for the required duration. This can be a very serious challenge in a resource constrained market. Sometimes it is appropriate to change personnel for different stages in the alliance; ideally this should be identified early in the program, and the owner should be part of the discussion on the appropriate use of resources for different alliance stages. If there are any legitimate reasons for a late starter, the proponent must have identified the mechanisms that will seamlessly handle their introduction. A compelling induction for all new starters throughout the project life is a critical tool in maximising the team's potential to be fully functional all the time.

Beginning team development

In a typical selection process owners will give proponents a limited amount of time to submit their proposal following issue of the Request For Proposal (RFP). Generally, this will be somewhere between four to six weeks. From submission of the proposal to the initial interview owners will again try to keep the timeframe as tight as possible, generally no more than one to two weeks. So when do proponents find the time to construct deep, productive relationships within the team while all of these other activities are occurring?

The activities involved in bid preparation do a lot to support team development. However, it is becoming far more common for proponent teams to begin team development well in advance of owners issuing their RFP. In most instances this will benefit the bidding team, although it does present a risk as well.

Part C, Chapter 3 explores development of the team throughout the bidding process.

Case note 19

Early preparation risk

In South Australia an owner had proposed an alliance for delivery of upgrade works to a major road in Adelaide. The Non-Owner Participant (NOP) proponent organisations came together well before the Request For Proposals (RFP) was issued to commence team development and initiate their thinking on the issues that were (potentially) important to the owner.

Unfortunately, a mix of both external and internal influences led the owner to cancel the proposed alliance, leaving the proponent teams high and dry. Even though there is residual benefit to team members from the activities that take place in these circumstances, the cost to the NOPs is significant.

Commercial arrangements between Non-Owner Participants

The early and potentially difficult conversations that take place between NOPs about the commercial arrangements are generally about how to handle the bidding costs and how to deal with sharing the gain and pain in the alliance with the owner, should the team be successful.

Bidding costs

The costs involved in bidding for an alliance include:

- alliance coaches, whether external or internal, can be expensive depending on the nature of the alliance, the existing capability of the proponent team members and the expectations of the owner
- direct costs associated with the workshops that are used to build the team (for example travel, accommodation, venue hire and meals)
- cost of the time team members allocate to the team development workshops
- cost of time that is invested in 'starting' the alliance – proponent teams are increasingly placing much greater emphasis on having the team undertake technical work to:
  - improve their understanding of the owner's proposed works
  - identify potential innovations and therefore demonstrate to the owner their capability in delivering a game-breaking performance
  - demonstrate well advanced thinking on systems and procedures
- cost of time that is spent on preparing the proposal and the direct costs of proposal production including specialist writers and editors, document design and printing.

In response to concerns expressed by proponents, owners are attempting to reduce these bidding costs by limiting the size of proposals. This will help with the direct and indirect costs of the proposal. However, because the emphasis during selection is on demonstrating capability as a team and ability to deliver game-breaking performance, the effort (and costs) required in team building and developing potential innovations will remain.

The question of how to appropriately allocate bidding costs between the Non-Owner Participants (NOPs) in the proponent team requires consideration of the relative inputs and ultimate benefits. In most cases the majority of the technical thinking committed during the bidding phase is delivered by the designer participants in the alliance. Reimbursement would be made for this thinking in a design and construct bidding process, albeit at a discount to normal charge rates. Quite often the designer participants will carry these costs in an alliance bid and hence, it is common for the constructor participants to accept a greater share of the direct costs of the bid as an offset to the cost invested by the designers.

Gain share/pain share pre-agreement

The way proponents deal with bidding costs is an agreement that does not involve the owner. However, the follow-on conversation about how the Non-Owner Participants (NOPs) in the proponent team share the gain and pain associated with the alliance (should they be successful) is important to the owner. One may think that owners should only be interested in how the split will occur between themselves and the NOPs collectively. However, if the split between the NOPs does not result in equitable win-win or lose-lose outcomes for all participants, the owner may suffer the consequences through less than optimal performance. More detail about how this sharing may work is provided in Part D, Chapter 4.

NOPs will align on their sharing arrangement during the bidding phase and will bring this to the table with the owner, either during the selection workshop or the commercial alignment workshop. However, it is unwise for NOPs to remain fixed in their views on this as the owner may bring a completely different perspective.

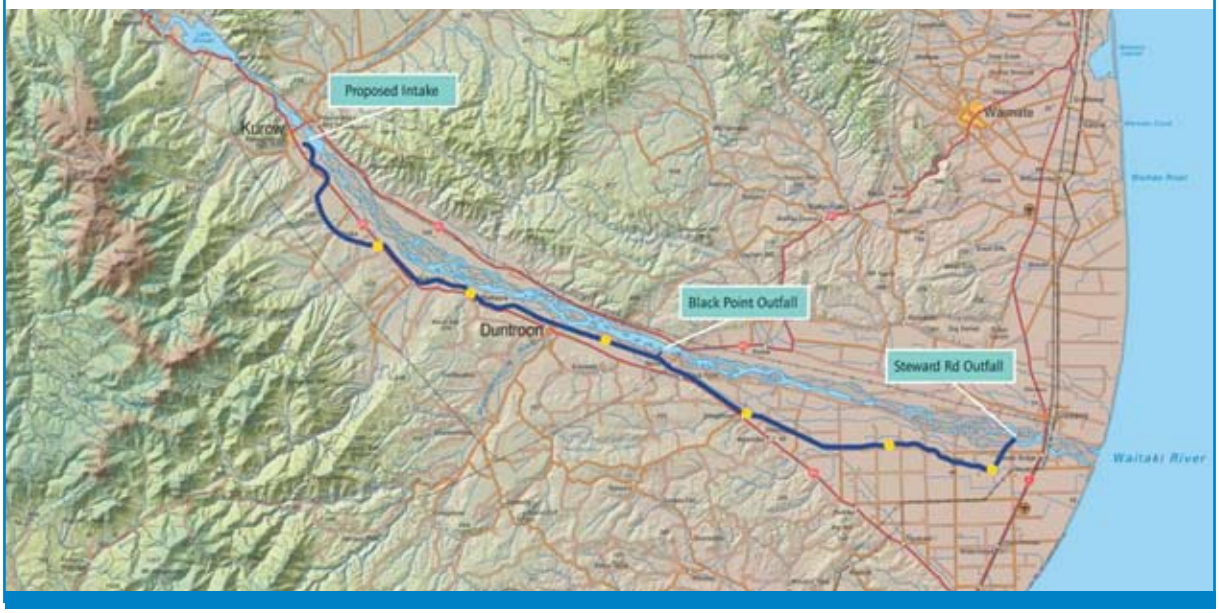
Case note 20

Non alignment of commercial expectations

Project Aqua was a major hydropower project in the south island of New Zealand. It consisted of a major river diversion and six hydropower stations. Meridian Energy selected an alliance framework because of uncertainty with the approvals process outcome.

Key lesson:

Meridian Energy selected the constructor participant first and then the designer. AECOM teamed with two specialist designers: one for the river diversion structures, and one for the turbine infrastructure. This team was successful all the way to the final selection workshop where one of the issues that lost them the job was misalignment of the NOPs' commercial expectations. During the critical commercial alignment Alliance Leadership Team (ALT) meeting at the selection workshop they had to ask for 'time out' to get a consistent answer to the question, "Are you willing to put your entire Limb 2 at risk?"



Joint Ventures

An alternative that is now sometimes used is the creation of bid, win and then deliver Joint Ventures (JV) between Non-Owner Participants (NOP). Opinions are divided on whether these formal joint ventures between NOPs are consistent with 'best for project' and transparency commitments made by all alliance participants. One view is that the JV agreement potentially creates obligations between the JV parties which are in conflict with alliance principles.

One way that has been used to overcome this concern is for the JV parties to hand over to the Alliance Leadership Team (ALT) the management and decision making powers which are usually given to a JV managing committee. Of course, that might not always be possible where the JV was not set up exclusively for the alliance project and has other projects in progress.

Part C Chapter 3

Bidding, workshopping & winning

The focus for prospective Non-Owner Participants (NOPs) so far has been on building relationships, understanding the Owner Participant (OP) and the project before the Request For Proposals (RFP) is issued, and forming the right team to bid for the project.

Now it is time to write a focused and targeted submission that captures the attention of the owner's selection team (at least as much as is possible with the written word) and then prepare the proponent's team to demonstrate without question its ability to integrate with the owner's representatives and deliver a 'game breaking' performance.

Maximising success

Bidding, winning and delivering alliances requires a lot of hard work by many very dedicated and talented people. It is never the result of just one thing or person. Completing the following actions will all contribute to the proponent's success.

- Appoint a bid manager so there is a very focused approach to the submission delivery.
- Establish agreed budgets, timeframes, team membership and the desired culture for the bid phase.
- Achieve clarity around roles and responsibilities.
- Select the best systems and processes.
- If teaming with other organisations, ensure everyone is aligned on the agreed vision, goals and behaviours that will serve them well in the process, complement the owner's own culture and help to win the work.
- Inspire, encourage and document innovative thinking and design processes that will showcase innovation through the bid phase and help to deliver value for money for the owner.
- Do not leave team development or culture to chance. Use process and methodology to build integrated teams – external coaches are valuable in this process.
- Build the team's competencies in commercial framework knowledge, insurance coverage, incentivisation and Key Result Areas (KRAs).
- Build the team's competency in effective communication and relationship building.
- Do not assume leadership just happens – help build this competency through a targeted development program.
- Build a clear project delivery strategy to present to the owner.
- Make 'best for project' team appointments using both objective (core technical competency) and subjective (attitudinal / behavioural) criteria.
- Consider a relationship manager or culture and peak performance manager to drive the leadership, strategy and implementation of an authentic alliance culture. This is particularly relevant for major projects with a large number of participant organisations.

This may all sound quite daunting. However, with the right strategy, preparation and guidance, it is entirely possible to deliver on these objectives. All it takes is a firm commitment by the organisation and the individuals involved to being open in their thinking, and to embrace and trust the process.

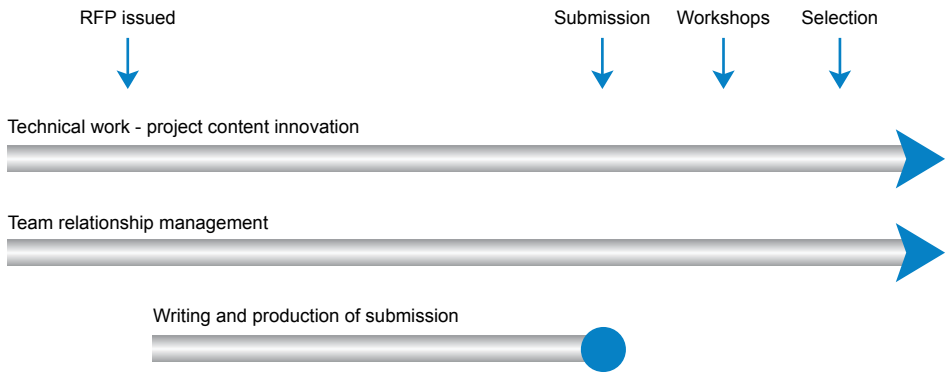
Following is further discussion of some of the critical areas to maximise the chance of success.

Bid management

In contrast to many other delivery methods, the bidding process for an alliance is more than just the production of a written proposal. As shown in Figure 18, the process includes three primary streams of activity:

- technical work to build appreciation of the owner's project, innovation and the critical success factors
- coaching the team to build relationships and an authentic understanding of, and connection with, the alliancing principles
- writing and production of the proposal in its own right.

Figure 18 Three streams of activity



Bid team

The only way to be successful in the production of the response to the Request for Proposals is to carefully project manage the submission. This means having a team of people to complete the nominated tasks on time and budget.

There are a number of significant roles in preparing a successful bid, including:

- **Bid manager** – this person should have excellent project management skills (it is not good if the bid team are working past midnight in the final days before the submission is due!), be the conduit for technical and writing resources as required, and have the final say on content questions.
- **Nominated Alliance Manager (AM)** – ultimately charged with delivering the project, this person must be fully involved in developing the proposal document, be completely familiar with the content and comfortable delivering on the promises made. If the nominated AM is not part of the bid process, it will become evident during the interview and workshop stages. This is true also for the design manager in the case of a split process.
- **Technical experts** – a small team of people with the expert knowledge, skills and experience to contribute the main technical content of the submission. It is important that this group also has a holistic appreciation of the project (such as community, stakeholder and environmental; not just the technical elements).
- **Editor** – another set of eyes with technical proofing and editing skills will ensure that the submission is written with a consistent style. This person may also help the team develop their key messages and themes, and normally would be intensively required for the final three weeks of writing.
- **Document designer** – develops the physical look of the document to ensure that it is visually appealing and easy to read. They may also be involved in creating an overall branding look and

feel. The designer is generally required early to set up the overall look and feel, and then required intensively in the last two weeks of the submission.

- **Approvals team** – senior leaders from each of the Non-Owner Participant (NOP) teams who will ultimately sign off on the submission. They should be involved in the document production journey to ensure that all critical content is approved progressively, not at the last minute which may lead to the entire submission being scrapped! These people often end up being the Alliance Leadership Team (ALT) members.
- **Commercial/legal** – contributes content and approves the commercial and legal aspects of the document to ensure the proponent's legal and financial status is appropriately represented.

In the case of smaller bids, a number of these roles may be undertaken by one person.

The role of the bid manager deserves some special examination because of their crucial role. The bid manager must establish a rigorous bid management process and manage the team in delivering on their commitments.

The bid manager should:

- establish the budget for the bidding process
- facilitate the process of document structure/construction
- facilitate the key messages/themes workshop
- develop a critical path and determine the timeframes and the resources for tasks/actions to be delivered
- assist the Alliance Leadership Team (ALT) and Alliance Manager (AM) nominees in establishing the team membership
- identify the roles each will undertake during the bid phase
- help determine what systems and processes will be used
- help with writing/constructing the document.

The production of the bid document typically runs in parallel with team members delivering other project work, the proposed team being involved in team development workshops, and other technical workshops to scope out the project and develop innovations and methodologies.

Senior leaders within Non-Owner Participants (NOPs) who would be nominees for the ALT will also find the bidding period very challenging. A significant proportion of their time will be required to:

- make the critical decisions on the structure of the team
- nominate people for key roles
- prepare for the commercial discussions
- be committed and available for team workshops
- be effectively operating as an ALT for the alliance, providing the leadership to the team whilst also dealing with other issues that arise
- deliver on their normal day job.

If ALT nominees are nominated on a number of alliances being put to the market within a short space of time, it can be a very busy period. As a result, some companies limit the number of ALT nominations for each senior executive to two.

The writing room

One of the principles of alliancing is to co-locate the alliance team to maximise the opportunity for collaboration, sharing of information and knowledge, problem solving and innovation, thus assisting in generating a culture of peak performance. Ideally, this should start during the bid phase, with the bid team being based in one room for the duration of the preparation of the response to the Request For Proposals (RFP).

The submission

The background preparation has been done and the proponents are now ready to respond to the owner's Request For Proposals (RFP). A well structured RFP will (mostly) identify the project goals and will provide details of the key objectives and result areas that have driven the owner to select an alliance framework for the delivery. But how well has the proponent read and understood the RFP, and how well do they know what the owner's real expectations are?

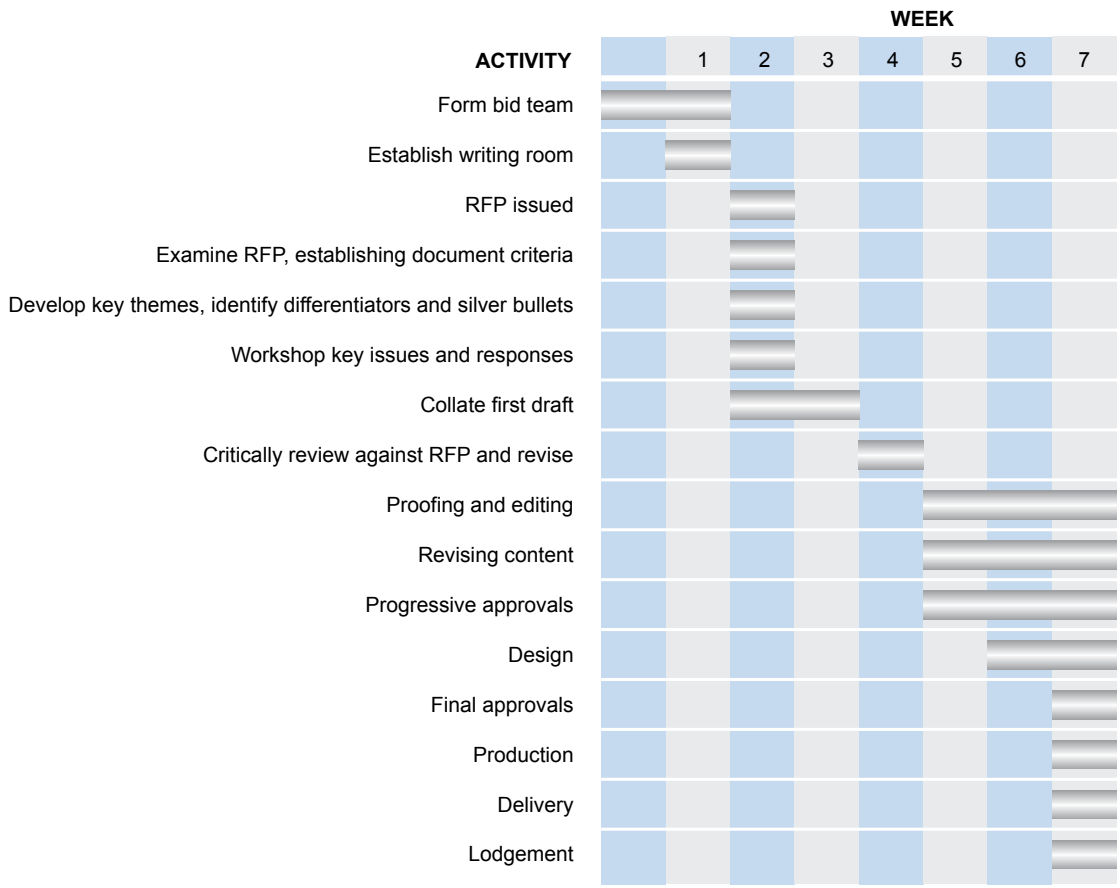
Given price is not a key determinant in the selection of most alliance teams, other elements assume much more significance in the proponent's success … or failure.

Proponents must be able to state their company's case clearly and definitively against the nominated selection criteria, while also providing a point of difference to maximise their chance of making it through the submission phase to the interview.

Those who have been through the process will know that is easier said than done. Many in the industry believe that most constructors and designers are capable of delivering the majority of projects that owners put to the market. Stating a team's case and making the team stand out from the other proponent as the ones who will excel is a skilful art.

The bid manager must ensure that the tasks required of the team to prepare a good submission are managed and executed well. Time management is critical. A typical bid process and timeline is shown in Figure 19.

Figure 19 Bid process and timeline



RFP requirements

Owners are normally highly prescriptive in their requirements for the response to the Request For Proposals (RFP). Items detailed may include:

- pre-qualification
- financial capacity
- probity declaration
- code compliance
- core capability
- appropriate Limb 2 fee
- page limit, including what is counted within the page limit, font sizes and page margins
- number and labelling of copies
- response schedules and required information
- lodgement instructions (including time for delivery).

Non-compliance with the requirements of the RFP shows a lack of understanding of alliance principles and may lead to the submission being excluded from the selection process.

Owners usually place a page limit on proposals, in part to try to restrict the amount of effort that proponent teams need to invest to respond, but also to reduce the volume of material that needs to be assessed during selection. Page limits have been reduced significantly over time from what used to be between 60 and 100 pages, to most recently a limit of between 15 and 50 pages.

Although it may not sound like a significant challenge to produce a 15 page proposal, it can be difficult to adequately state the proponent's case and profile their experience in such a limited number of pages. Clever thinking in terms of information presentation – and a judicious editor – are essential.

Assessment criteria

Even though the alliance selection processes for Non-Owner Participants (NOPs) typically do not involve pricing, they are still very competitive. Without 'price' the owner's key determinants in choosing the 'best for project' proponent include both objective and subjective assessment criteria including:

- quality and suitability of personnel for the required scope (such as the right 'fit')
- company reputation and, importantly, alliance reputation and/or affinity
- experience and track record in delivering similar sized, scoped projects
- attitudinal/behavioural attributes – owners want to see positive, solutions-focused team attitudes and behaviours which will contribute greatly to the alliance culture and form the basis of the alliance's ability to work through the challenges that will occur during project delivery
- the right capability, skills and experience to deliver the works
- thorough understanding of the owner's business operating environment and drivers
- quality of the communication that takes place between the NOPs and the owner during the bid phase – and historically from previous working relationships
- capacity to work together – does the owner feel comfortable that they can join with the NOP personnel as an integrated team?
- an innovative approach to ideas generation and opportunity and risk management.

While owners typically have a highly structured set of schedules to respond to, proponents must also consider the weighting of the assessment criteria. For example, if track record and experience is 25% of the assessment criteria, then it would be normal that a sizeable part of the submission (around 25%) is about track record and experience.

In an alliance selection process, these key criteria are measured through several distinct stages by objective and subjective processes. The more the NOPs know of the owner's drivers and key concerns, the greater the probability of success.

Submission branding

Branding of the alliance proponent team and the submission depends on a few factors. If a staged process (with constructor and designer bidding independently) is being used, then it is probably best not to brand the team. This would be best done when the preferred proponents come together with the owner to form the alliance.

If constructor and designer have joined forces to bid together, then there is an opportunity to brand the team and the document and, if successful, take that idea to the alliance for discussion.

As an aside, owners who are not interested in branding may not fully appreciate the power of a brand for the newly formed 'virtual organisation'. A brand helps to create and maintain project and team identity with both internal and external stakeholders and is critical to alliance members leaving their company hats at the door. If people are still wearing their home company logos, then the alliance may not achieve complete personal buy-in.

No matter what level of branding is incorporated in the submission, ultimately the branding of the alliance may be dictated by government style guides and corporate branding requirements.

Team development

The foundations of team development are laid when selecting the right partners to bid with for the alliance. Proponents make 'best for project' team appointments, using both objective (core technical competency) and subjective (attitudinal/behavioural) criteria (see Part C, Chapter 2).

While undertaking the bidding phase, the proponent team will begin team development activities. When they meet the owner's selection panel in the selection workshops, they should be a team which shows the potential to be part of a high performance team. The team must leave the selection panel in no doubt that they have what it takes to deliver the project and will be a great team with which to share the journey.

Further development of the team will occur during the bidding and workshopping stage when Non-Owner Participant (NOP) proponents start to work with the Owner Participant (OP). The first cultural building blocks are being laid for the future alliance.

Team development must not be left to chance. Most organisations will engage a coach to help them through this process, although some constructor and designer organisations may have these skills in-house.

While each coach has their own process, generally the coach will guide all members to be aligned around the shared vision, goals, and behaviours that will complement the owner's own culture, or indeed to help build a new culture, which will in turn empower the alliance to deliver the project successfully.

Through the process the coach will develop the team in such a way as to build an appreciation within individuals of how to contribute their best in the pursuit of the alliance's goals and objectives.

Part D, Chapter 2 addresses the concepts of relationship management, team development and culture in greater detail.

In this process, the team will also consider the systems that will be adopted from the relevant organisations for the alliance. This includes quality, environment, community and stakeholder, health and safety, design management, construction management and IT.

The coach should also drive the process of building the team's competencies in areas such as commercial framework, insurance coverage and innovation, and the Key Result Areas (KRAs).

Selection interviews and workshops

Based on the written submission, two or three proponent teams will be asked to undertake selection interviews and/or workshops. The format and flavour of the selection workshops will vary by owner and be particularly influenced by the preferences of the owner's facilitator. It is important to understand the owner's perspective, which is discussed in Part B, Chapter 2.

Preparation and participation in the selection workshops will require absolute commitment from all involved.

Preparation

Proponents should anticipate and prepare for the selection workshop structure. They must consider the purpose behind the structure and respond accordingly. This will naturally lead to considering the likely scenarios that will be used as an opportunity to watch and assess the team at work.

An inquisitive approach will keep the proponent team asking the questions: "What are they really looking for here? Why are they really asking us to do this? What is the real point behind this?"

Presentation skills

Workshop preparation will include presentation skills and scenario planning.

While it is important that team members are able to stand in front of a selection panel and deliver a message, they should not be over coached. Some of the things to consider are:

- presentation skills – the team should be themselves; if individuals have a thorough appreciation of the project and the part their skills can play in it, then their presentation will be authentic, not rehearsed
- team energy matters – maximise and manage it
- self-awareness in the team will manifest in team members knowing what and how their colleagues will contribute and how they will integrate their skills so that the whole is much greater than the sum of the parts
- build confidence in team members
- if the team really has it covered, then over-rehearsal becomes redundant.

Being authentic

A key attribute required to participate in the selection process and ultimately win an alliance, is to be authentic.

Strong relationships within the proponent team in the first instance, and then with the owner's team, is central to success both during the selection process and in the delivery stage of the alliance itself.

Team development is about helping (and coaching) people to be the best they can be in that team – not to be something they are not, nor to 'put on a performance'. There is definitely a place for a well considered, well executed team development plan, and it is a question of balance and authenticity.

Different industry coaches have different approaches and put emphasis on varying aspects of the workshop regime. Usually a proponent's team is being coached by one facilitator, while the owner is being coached by another facilitator with a slightly different view of the world.

What is important is that the intent and attitude of all involved is authentic, and the team's behaviours show a deep understanding of and a genuine commitment to the fundamental principles of alliancing.

Case note 21

Expect the unexpected

Project: SAFElink Alliance
Owner Participant: Queensland Main Roads
Non-Owner Participants: Leighton Contractors, AECOM, Arup & BMD
Value: $750m
Duration: 2007 – 2010

The project involves widening the Ipswich Motorway to six lanes between Gailes and Darra, upgrading the Centenary Highway interchange, bridgeworks, and new pedestrian and cyclist paths. Additionally, earthworks and bridgeworks for the Darra to Springfield rail line, passing through the Centenary Highway interchange, will be constructed.

Key learning:

During the final selection workshops for the SAFElink Alliance, Main Roads decided to test the team support and depth of skills in an unusual way. They set a scenario for the team which had community, technical, and time and cost pressures and allowed the team response to begin. After about an hour one of the owner representatives quietly asked the nominees for Alliance Manager and Communications Manager to step outside – and then took them for a two hour lunch!

The assessment panel were asked to observe how the team responded to this "real life" situation in managing the scenario.

The winner and the losers

We are all competitive to a degree as we live in a world that is very competitive. Telling the team that they have been successful in winning the right to partner with the owner to deliver the works is a task that anyone would take on with pleasure. Winning is great – it is rewarding for all involved and a clear demonstration that they have come together very well as a team.

But how does a leader of an organisation or business unit tell their team (who have put their heart and soul into trying to win an alliance) that they have been unsuccessful?

This is when true leadership comes to the fore. Leaders must quickly deal with their personal emotions as the journey they have participated in will have raised expectations of what could have been a great opportunity for the team and for the business. Their team will have also generated their own expectations of success through the positive attitudes and approaches their leaders have displayed and through their own personal and professional development. This is the time when a true leader will learn the lessons from being unsuccessful on this occasion, bring those lessons back into the organisation, acknowledge the team's efforts and take them onwards and upwards towards the next opportunity.

It is worthwhile contemplating that there are three types of losing team responses:

1. teams that criticise the owner
2. teams that believe the owner has made a mistake
3. teams that take their hats off to the owner and selection team and say 'we were excellent, so the winning team must have been exceptional'.

The third type of team is generally the one that takes a positive approach to identifying the lessons learned, and then moves on to be successful bidding future alliances.

LHD Link Alliance
(Lawrence Hargrave Drive)

Part D
The alliance

Part D Chapter 1

Alliance structure

The alliance structure and teams were introduced in Part A, Chapter 3 at a basic level. This chapter will explore these concepts in more detail including how an alliance is structured; what are the roles, characteristics, accountabilities, and challenges for the key players; and who are the owner's key advisors and what do they do.

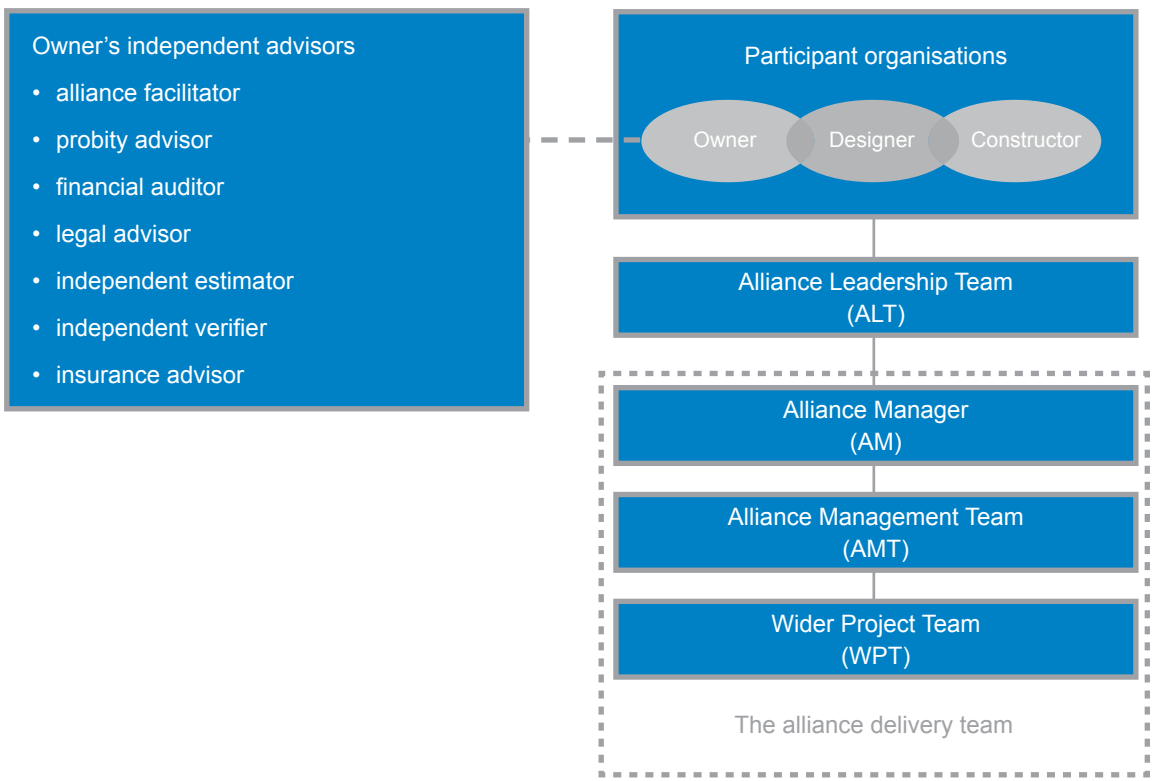
Alliance structure

The owner has completed the planning and selection processes. The Non-Owner Participants (NOPs) have teamed up and successfully bid and won the project. Now it is time for all participants to come together to form the alliance.

The organisation structure for a typical project alliance is shown in Figure 20. It generally consists of three levels: an Alliance Leadership Team (ALT); an Alliance Management Team (AMT), including the Alliance Manager (AM); and a Wider Project Team (WPT).

Each level is staffed by project personnel drawn from the alliance participant organisations selected on a 'best for project' basis. In addition to these personnel, the Owner Participant (OP) will engage independent advisors in a range of disciplines including finance, legal, cost estimation and insurance.

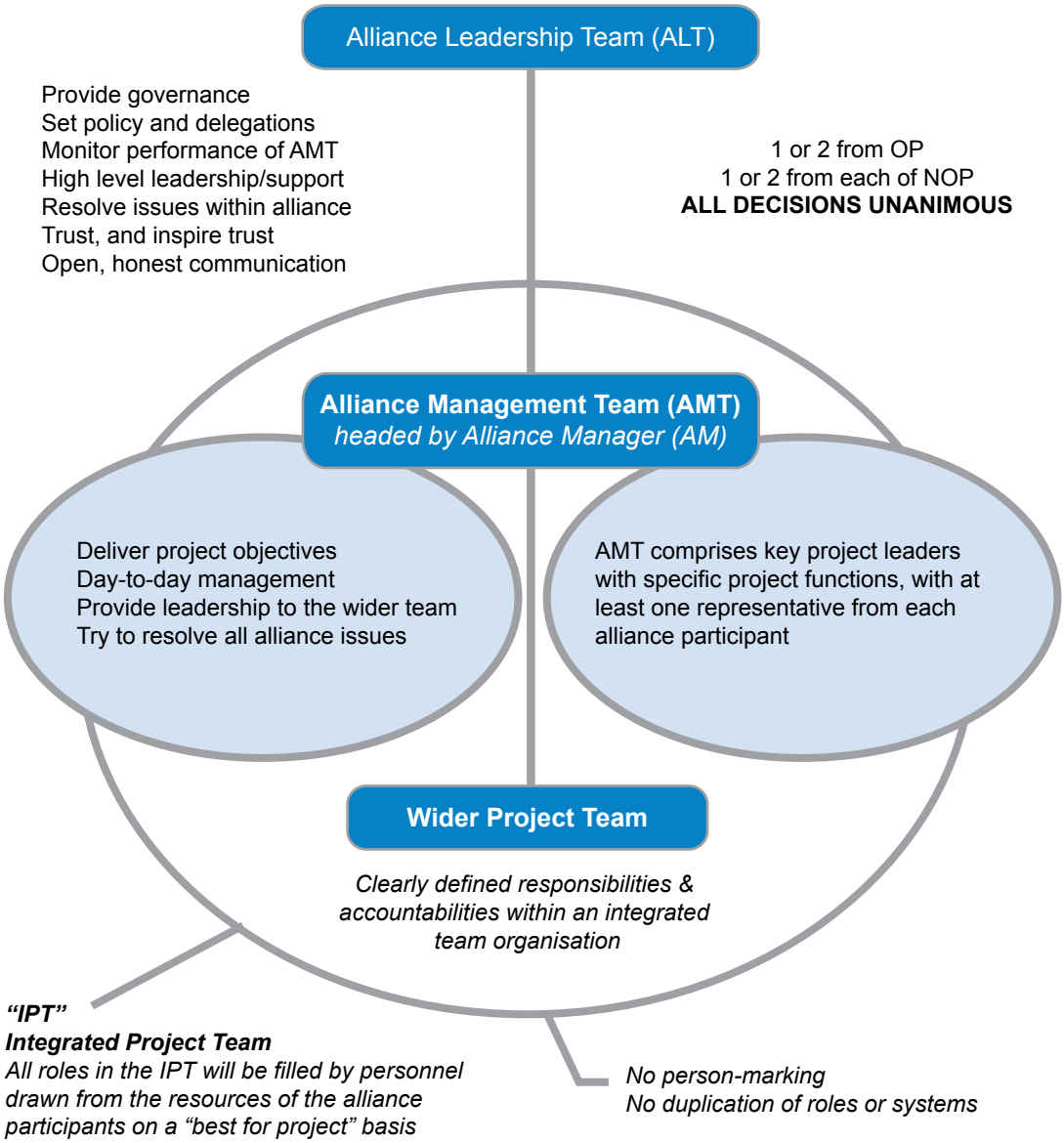
Figure 20 Typical project alliance organisation structure



The structure of an alliance may be compared with that required to run a virtual company to deliver a project. The ALT equates to a board of directors charged with the responsibility to provide corporate governance and leadership to the company. The AM is the equivalent of the Chief Executive Officer of the company with the responsibility to deliver the vision and objectives set by the board. The AMT performs the role of the management team of the virtual company that is put in place to deliver the day-to-day operating requirements. This team is headed by the AM. The WPT provides the required resources, skills and experience to undertake the day-to-day activities.

These roles and responsibilities are shown in Figure 21 and described in more detail in the following sections.

Figure 21 Alliance team roles and responsibilities



Source: Project Control International

Alliance Leadership Team

The Alliance Leadership Team (ALT) – sometimes called the Project Alliance Board (PAB) or Alliance Leadership Group (ALG) – consists of representatives from each of the participating organisations in the alliance, including the Owner Participant (OP).

The ALT will usually have two owner representatives and two representatives from each of the Non-Owner Participants (NOPs). However, the ultimate representation on the ALT will depend on:

- Keeping the total size of the ALT to no more than six to eight members, although this does vary. Restricting the size of the ALT is done to optimise its performance in fulfilling its obligations in the alliance. If there are more than two NOPs then representation may be limited to one from each organisation; but preferably, constructors and designers with a small role should be subcontractors, not alliance partners with ALT representation.
- Selecting members with the right skills to contribute to the ALT. On some occasions, if the alliance has extremely challenging issues to overcome in a particular discipline then an ALT representative with appropriate skills may be added to the team.
- Fulfilling both the governance and strategic leadership roles on the ALT.
- Considering ALT members' responsibilities to both the alliance and their participant organisation.

When two representatives are chosen from each organisation, it is common for one to come from the participant's operational area and have the ability to influence the alliance resourcing and management protocols, while the other may have specific technical or alliance-related leadership skills or experience to complement others in the ALT and address the project challenges.

The project may benefit from different ALT representatives as the project progresses. This must be managed and can be relatively easily achieved where there are two representatives of each participant on the board – one person stays throughout the project; the other changes depending on the project phase. Where there is only one representative on the ALT, it is important to transition the new person into the role before the first person is replaced. A planned transition strategy is very important for the continued effectiveness of the ALT.

The ALT will appoint a chairperson on a 'best for project' basis. Needless to say, the selection of the chairperson role is critical to the project and it is preferable that they have previous alliance experience.

In many alliances the chairperson will be an owner's representative to give confidence that the alliance is delivering on the owner's expectations and to facilitate effective interactions between the alliance and the owner organisation. The chairperson rotating through the ALT representatives also occurs.

Characteristics

The required attributes or characteristics of the Alliance Leadership Team (ALT) representatives include:

- sound knowledge of the commercial framework, insurance and accountability aspects of an alliance (understand the commercial 'skin in the game')
- delegated authority to make decisions for the companies they represent
- strong leadership skills and a thorough understanding of relationship management as the vehicle for collaborative project delivery
- visibility and accessibility to the team
- self awareness such that they are open to seeing and understanding the views of others and demonstrate the agreed alliance behaviours through their own actions
- line accountability within their participant organisation
- flexible and adaptable approach, and not prejudiced by their past experiences
- embody their 'governance' and 'strategic leadership' role, acting as a sounding board to the alliance
- behaviours based on trusting and being trustworthy.

Some organisations are developing staff that take up ALT positions on projects in more than one region based on their extensive experience. The justification for the additional direct (travel) costs for these ALT members must be made on a Value For Money (VFM) basis.

Accountabilities

The accountabilities of the Alliance Leadership Team (ALT) are generally consistent across all alliances and normally documented in the alliance agreement. Examples of some of the ALT accountabilities are to:

- set goals and project development
- make unanimous decisions if called upon to do so on a 'best for project' basis
- lead the alliance
- set the vision, goals and behavioural principles for the alliance and promote the adoption of these throughout the alliance team
- appoint the Alliance Manager (AM)
- approve the organisational structure for the alliance and the representation on the Alliance Management Team (AMT)
- empower the AMT to deliver on the commitments, principles and objectives of the alliance
- approve the cost and non-cost performance frameworks including the measures that are used to assess the alliance's performance against this framework
- address the commercial, insurance and risk issues
- resolve issues
- develop Key Result Areas (KRAs)
- mentor and coach individuals in the alliance as required
- proactively challenge the team to achieve outstanding outcomes
- take decisive action when required to intervene when conditions are inconsistent with the objectives of the alliance
- provide all of the required corporate reporting to the owner on the performance of the alliance
- review the Target Outturn Cost (TOC)
- undertake value management.

In some alliances the ALT representatives also champion one or more of the alliance KRAs. This enables each ALT representative to be more visible to the alliance team and to challenge the team to deliver outstanding outcomes in the respective KRA.

It is important to state that alliance ALT members (both owners and non-owners) have a clear accountability back to their home organisations. They therefore have two sets of objectives: one for the project, and one for their home organisation. The ALT members must realise and discuss this.

Commitment

During the early phases of the alliance, the Alliance Leadership Team (ALT) will often meet at least fortnightly to provide the required leadership and governance. Once these phases have been successfully completed, the ALT will usually meet on a monthly basis through to the completion of the alliance. The meetings of the ALT will often include the Alliance Manager (AM) and Alliance Management Team (AMT) members to present reports on specific issues. ALT members will have other responsibilities within the Alliance between these meetings.

Challenges

Critical to the success of the alliance is a strong, collaborative, working environment between the Alliance Leadership Team (ALT), Alliance Manager (AM) and Alliance Management Team (AMT). Good open communication between these groups will result in better decisions and actions.

Some ALT representatives who come from a project management background may be challenged by the governance role and become too involved in the day-to-day operation of the team. The AM and AMT must feel empowered to deliver on their accountabilities through the actions of the ALT.

Case note 22

Trust between ALT representatives

Project: Kingsgrove to Revesby Quadruplication Alliance
Owner Participant: Transport Infrastructure Development Corporation
Non-Owner Participants: Leighton, AECOM, SKM, MVM, Ansaldo STS

The project is part of the NSW Rail Clearways Program designed to improve capacity and reliability on the CityRail network.

The project involves the construction of two additional railway tracks between Kingsgrove and Revesby to allow the separation of local and express services on the East Hills Line. The alliance was awarded in 2007. Construction commenced in 2008 with major construction works scheduled to be completed in 2010 prior to commissioning.

Key lesson:

The Alliance Leadership Team (ALT) for this alliance has eight members. Two of these are from the Owner Participant (OP), two are from one of the designers (one as the organisation representative and the other as a technical specialist advisor to the ALT) and one each from the other Non-Owner Participants (NOPs). During the selection phase Transport Infrastructure Development Corporation expressed concern about the large size of the ALT, but it was decided that the benefits outweighed the disadvantages.

The ALT decided that there would be no alternative representatives and that a quorum would be reached with a minimum of five attendees including a minimum of one owner's representative.

As a consequence, there is the need for complete trust between ALT representatives to do the right thing by all the participants. The no alternate rule means that if any of the NOP representatives cannot attend, then their company will not be represented and the ALT can make decisions on their behalf. This is an extension to the usual position where decisions need to be unanimous. In this case, a unanimous decision can be reached without one or more of the NOPs being present.

To date this has not caused any issues and the ALT has functioned effectively irrespective of whether or not all parties have been represented.

Alliance Manager

The Alliance Manager (AM) is appointed by the Alliance Leadership Team (ALT) on a 'best person for the job' basis. The role of the AM is critical in any alliance.

In alliances that involve both design and construction activities, the AM often comes from the constructor participant(s). However, the AM can come from the owner or designer with the selection ultimately being made on a 'best for project' basis.

Characteristics

The required characteristics or attributes of the Alliance Manager (AM) are:

- strong leadership skills with the ability to inspire those within the alliance team to achieve outstanding results
- excellent track record in project management, particularly of multidisciplinary teams, and proven performance to deliver results
- ability to embrace a collaborative work environment and live the alliance vision and principles
- excellent communication skills
- ability to manage upwards as well as downwards
- flexible and adaptable approach to changing circumstances
- ability to recognise and deal with strategic issues (the 'big picture') as effectively as dealing with the day-to-day operational challenges.

Accountabilities

The Alliance Manger (AM) is accountable to the Alliance Leadership Team (ALT) and ultimately responsible for delivering or exceeding all of the alliance objectives. Some of the other responsibilities of the AM are to:

- provide leadership to the Alliance Management Team (AMT) and Wider Project Team (WPT)
- recommend an alliance structure and members of the AMT to the ALT for approval
- facilitate communication between the ALT, AMT and WPT
- provide early and accurate written and verbal reports to the ALT on progress
- represent the AMT in discussions with the ALT
- implement the decisions and determinations of the ALT in conjunction with the AMT offer
- facilitate a holistic approach to project delivery with an open and collaborative management style while always remaining firmly committed to all project goals and milestones.

Challenges

If an Alliance Managers (AM) has come to an alliance with a track record in adversarial contract delivery methods, he or she may find it a significant challenge to embrace the behavioural commitments of an alliance. One-on-one coaching may be required to create the space for seeing things differently. It may also be challenging for these individuals to embrace the governance role of the Alliance Leadership Team (ALT) as traditionally they have been largely autonomous delivering projects without this interface. This may cause tensions between the ALT and AM, resulting in a suboptimum working relationship.

The AM has a significant influence on proponent selection decisions made by the owner's selection panel. Their individual 'brand' is a very important part of helping a team to win and deliver the alliance.

There is also an argument for having two successive AMs: one to deliver during the Target Outturn Cost (TOC) phase, and another for the construction phase. This has occurred on several alliances and has proven successful.

Case note 23

The case for changing Alliance Managers

Project: INB HUB Alliance
Owner Participant: Queensland Transport
Non-Owner Participants: Leighton Contractors, AECOM, Coffey Geosciences, Bligh Voller Neild Architects, EDAW
Value: $333m
Duration: 2005 – 2008

The Inner Northern Busway project was a highly complex multidisciplinary project constructed in the heart of Brisbane City. It forms the Central City Busway link to the Northern Busway including two major bus stations (one underground), a 600 m tunnel and major city infrastructure relocations.

Key lesson:

The alliance experienced a change in Alliance Manager (AM) after the development of the Target Outturn Cost (TOC). This was due mainly to organisational changes in one of the NOPs which required the AM – who had led the team through an extended Target Cost Estimate (TCE) phase – to return to HQ to assume a senior management role.

A second AM was appointed following TOC development. The management styles of the two AMs were quite different, but suited the alliance phases they were responsible for – TCE and delivery.

The change of AM was ultimately considered a good outcome for the particular stage of development the alliance was in at the time.

Alliance Management Team

The Alliance Management Team (AMT) – sometimes called the Integrated Management Team (IMT) – is led by the Alliance Manager (AM).

Personnel nominated to the AMT are drawn from the alliance participant organisations or from outside these organisations on a 'best for project' basis. The structure and representatives that make up the AMT are endorsed by the Alliance Leadership Team (ALT).

Sometimes owners can experience difficulty populating alliance teams effectively. It can be hard to find the right person to act at the AMT level, but also allocate sufficient time to properly fulfil the role. The alliance will benefit if the owner is able to contribute to the AMT, particularly if these staff have responsibility for Key Result Areas (KRAs).

Characteristics

The required characteristics or attributes of the representatives of the Alliance Management Team (AMT) are:

- strong leadership skills
- excellent track record in their field of expertise and proven performance to deliver results
- ability to embrace a collaborative, multi-disciplinary work environment and live the alliance vision and principles
- strong communication skills
- flexible and adaptable approach to changing circumstances
- ability to confront what is preventing the achievement of performance outcomes and make the necessary changes
- ability to see the 'big picture' and how their day-to-day activities influence it.

Accountabilities

The Alliance Management Team (AMT) is accountable to the Alliance Manager (AM) and is ultimately responsible for the day-to-day management of all aspects of the alliance. Some of the other responsibilities that the AMT has are to:

- appoint and empower the Wider Project Team (WPT) through effective leadership
- implement the management and operational processes and systems
- implement the decisions and determinations of the Alliance Leadership Team (ALT)
- deliver the works, meeting or exceeding the alliance objectives
- measure, forecast and report performance to the ALT
- resolve issues and take appropriate corrective action
- proactively identify and manage all risks and opportunities.

Challenges

In most alliances, the participant organisations are represented on the Alliance Management Team (AMT), although this should not govern the selection of representatives. The size of this team can be quite challenging with some examples of twelve or more people making up the AMT.

The AMT membership can vary through the different phases of the alliance as the works progress from project scoping and development through to implementation.

Another challenge for the AMT is achieving high performance working relationships as the range of disciplines represented can be very diverse.

Wider Project Team

The Wider Project Team (WPT) members must:

- have the skills and experience to effectively complete their project role
- understand the alliance delivery method
- be personally aligned with the vision and goals of the project
- be totally accountable for their own work performance
- understand how their role influences or drives the achievement of outstanding outcomes
- work harmoniously within the culture established by the alliance.

The WPT will contribute greatly to the energy of the alliance, and will need to be consistently encouraged to support the project and behavioural commitments established by the alliance.

The alliance will certainly benefit if the owner is able to vertically integrate their contribution by providing staff to participate in the WPT. Key to the success of the alliance is that all teams clearly understand the owner's objectives and vertical participation certainly supports this.

The WPT will have great diversity in its membership given it comprises people with both professional and trade qualifications. Selection to this team requires an assessment of appropriate technical skills and experience. However, just as important is an assessment of their attitudes and behaviours. The ability of the alliance to deliver on all Key Result Areas (KRAs) will depend on the WPT appreciating the importance of non-cost and time objectives.

Independent advisors

The Owner Participant (OP) will appoint a range of advisors to ensure that the alliance delivers on its objectives, the alliance principles are embraced by all participants, and the contractual and commercial commitments of the Non-Owner Participants (NOPs) are being observed.

Reference checks are appropriate for all advisors, just as they are for the proponents.

Generally, the financial auditor and independent estimator would bid for public sector work. The probity advisor usually bids, but not always, and there is a tendency to draft the legal advisors from panels, with bidding or sole sourcing a rarity.

Owners need to make sure that the advisors are aligned with the project objectives, and have clarity around their role and function. The general prerequisites of an advisor are:

- availability
- experience and reputation
- interpersonal skills
- price.

Alliance facilitators

Alliance facilitators have an important role in alliancing from both the owner and non-owner perspectives. This is a specialised field of work which brings benefits to both owners and Non-owners in alliances from their independence and wide range of experiences with many clients and across many different types of projects. There are many talented facilitators in the market who provide valuable advisory, process and coaching services to owners and non-owner participants.

The range of services provided includes:

- advisory services to owners to assist the decision-making process on whether or not an owner will deliver a project through an alliance framework
- working with the owner to establish the strategy, framework and process for the alliance delivery model
- working with the owner's team to coach and prepare them for participation in an alliance
- working with the owner's selection panel to prepare them for the selection process
- working with the owner's team to develop the commercial framework and the DRAFT alliance agreements
- facilitating the selection process for the owner (including interviews and workshops)
- advisory services to non-owners to assist in the development of strategy and preparation of bids and proposals
- coaching services to non-owners' teams during the selection process
- coaching services to the alliance, including leadership coaching and high performance coaching
- general advisory services in relation to alliancing, commercial agreements, contracts, coaching and team development

Selections of the facilitator who is most suited to the client, the project type and the Non-owner participants is important in delivering real value in an alliance.

Financial auditor

One of the great challenges of alliancing is to demonstrate Value For Money (VFM) for the owner. In part, the appointment of an external financial auditor by the owner provides a degree of confidence that the commercial position of the Non-Owner Participants (NOPs) is based on auditable financial records of similar projects or works.

The auditor will normally complete audits in parallel with the process of selecting the NOPs and the early commercial alignment sessions. They will then undertake regular audits during the project to make sure that the commercial commitments of the participants are being observed.

At the beginning of the alliance, the owner will appoint the financial auditor to:

- conduct a confidential analysis of the participant's accounts to understand the Business As Usual (BAU) financial performance of projects or works similar to those of the alliance
- confirm the rates for salary and other internal costs for both staff and contract employees
- advise on a proposed methodology for calculating non-project related overheads and BAU profit to form part of the alliance commercial framework
- produce an audit report and a compensation audit plan for an ongoing program of audits to validate reimbursement of costs under the alliance.

Audits will be undertaken throughout the delivery of the alliance at times specified by the owner. These will typically be completed at the date of each progress claim (often monthly or quarterly) and are usually only an audit of claimed hours and support data.

The financial auditor will have a relatively short time to become familiar with the accounts and project profiles of the NOPs, so administrative staff from these participants should be well prepared. Each auditor will also have their own view as to how the financial accounts should be structured to enable them to assess project versus non-project related costs.

For the avoidance of doubt it is important for the owner to work with the financial auditor during commercial alignment to try to resolve all potential commercial situations that may arise during the alliance. Examples include:

- treatment of overtime by designer or constructor staff – how is it approved and what multipliers apply
- resolution of project or site allowances for design and construction staff
- treatment of travel and accommodation costs for Alliance Leadership Team (ALT) representatives to attend meetings.

Legal advisor

The owner will appoint a legal advisor to draft the alliance agreement and to prepare any subcontract or sub-consultant agreements required to deliver the works. The first draft of the alliance agreement is commonly provided to the proponents bidding to be a part of the alliance for their review, with comments to be included in the proponent's proposal.

The legal advisor will normally be involved during the selection process to review comments by proponents on the draft alliance agreement and the commercial alignment sessions to prepare the alliance agreement. Their role in these discussions is to document the agreed outcomes between the participants rather than lead the debate over the wording of the agreement. However, it is also essential that the legal advisor ensures that any obligations the owner has in their legislative framework or overarching head agreement are reflected in the alliance agreement.

Once the alliance agreement is finalised and executed, the legal advisor can support the alliance team (including all participants) through to final delivery of the works. They can assist with the negotiation and preparation of subcontract or sub-consultant agreements and advise on the form of these agreements. The agreements with the subcontractors or sub-consultants can either be based on the more traditional lump sum risk transfer model or aligned with the alliance through a sub-alliance agreement. The legal advisor can support the team in making the most appropriate judgement.

Independent estimator

The role of the independent estimator sparks discussion and debate in the context of alliancing. Some considerations that must be assessed in the context of the specific project are:

- How independent does the independent estimator have to be?
- Are they involved from day one, and if not, do they understand the process?
- Should the independent estimator be completely independent, acting as overseers, not participants? If this is so, will they fully understand the alliance behaviours and drivers?
- Do the independent estimators come in as advocates and protectors of the owner, or should they remain independent?
- What is the actual role that the owner is looking for? To benchmark against industry? Or to offer an opinion on the Target Cost Estimate (TCE)?
- Does the independent estimator role bureaucratise the process, or is the real outcome to ensure a good job is done?
- Should the process include carrying out parallel audits?
- Should proponents submit a critique of the owner's budget?
- Should there be an estimating systems audit by the independent estimator to get them keyed into the process?

Generally, an independent estimator will be appointed by the owner to independently assess the target cost established to deliver the works and again provide greater comfort that the alliance will deliver Value For Money (VFM). More is written about the Target Cost Estimate (TCE) phase of the alliance in Part D, Chapter 3.

In selecting the independent estimator, owners should examine their experience in:

- design and construction cost estimation, including probabilistic estimation
- quantity surveying and measurement
- establishing benchmark data on works of a similar nature
- exposure to a broad range of economic markets, particularly when costs are escalating significantly on an annual basis
- risk assessment and measurement
- participating in alliance delivery methods and working collaboratively with integrated teams.

The independent estimator will normally only support the owner during the TCE phase. However, increasingly owners are engaging the services of the independent estimator much earlier in the delivery of their works, and particularly to support them in the preparation of their budget estimate in the business case.

Independent verifier

The owner occasionally appoints an independent verifier to ensure that the design and construction components of the alliance are delivered in accordance with the required brief, standards and guidelines.

Owners will often prepare a project scope and technical requirements document that guides the alliance in delivering the works. If appointed, the independent verifier will review design outputs to ensure they align with the documented requirements and will undertake general overview and reasonable checking of construction activities to ensure the works are constructed in accordance with the design.

These activities are yet a further element of the owner's confirmation that the alliance is delivering Value For Money (VFM).

The independent verifier will normally work in parallel with the alliance's own internal verification processes.

In selecting the independent verifier, owners should examine their experience in:

- design and construction of works of a similar nature
- delivery of verification services that are based on general overview and reasonable checking
- alliance delivery methods and the ability to work collaboratively with teams.

Insurance advisor

One aspect of alliances that has changed substantially over recent times is the availability of insurance that is purpose built for this project delivery method. These developments have been led by owners' insurance advisors. These advisors ensure that the interests of the owner are protected, but also deal with the insurers and underwriters to ensure they fully understand the alliance arrangements.

One of the insurance advisor's primary roles is the assessment of insurable risk and definition of mitigation strategies. Insurers will seek to determine the capability of the alliance to manage these risks, particularly through their understanding of the depth of relationship between the Alliance Leadership Team (ALT) representatives.

Part D Chapter 2

Culture and teams

Just about every alliance Request for Proposal (RFP) put to the market today refers to the 'high performance team' and developing a 'high performance culture'. This is the language used by owners and facilitators to describe a performance that is believed to deliver well beyond historical or Business As Usual (BAU) expectations.

But what is a high performance team? What does that look like in a project delivery context? And how can a high performance culture be built?

This chapter looks at these and associated aspects of alliancing – culture, team development, communication, connection and emotional intelligence in high performance teams.

The approach in this chapter is to set the context in a theoretical and definitional sense, link that theory to the alliance world and then pull it all together by suggesting that understanding and applying the principles of (what is) behavioural science can enhance the performance of teams.

The application of this science in an alliance manifests itself in tangible management plans that take a structured approach to individual and team development, which is then linked to project performance. When implemented well these plans can be the difference between good and outstanding outcomes.

Even though the alliance may develop specific plans around individual and team performance to enhance project delivery, fundamentally it's all about assisting and empowering individuals and teams – that is, people – by providing the kind of working environment where they can use their talents, be the best that they can be, feel they have contributed and in so doing, be happy.

High performance culture

This book has referred to the importance of culture a lot. It is a powerful tool in alliancing. But just exactly what is culture? And why is culture so important within the alliance framework?

Of course, the relevance of culture is not confined to alliancing. Culture plays an important part in families, communities, organisations, and nations. Culture, and its effects, is to be found everywhere.

Culture can be difficult to nail down in a linear, definitional sense. Everyone has a different idea of what culture is, and some even relegate it to that 'soft stuff' that is not relevant to the engineering and construction industry anyway.

However, whether or not we think about it, we all work and live within multiple cultures. So the culture we operate in might as well be the one we create for ourselves, the culture which best suits the achievement of our goals, the culture which helps us to get where we want to go.

There are many books written on the subject and many concepts expounded around the idea of high performance and high performance teams, and readers are encouraged to read widely around the subject to gain their own perspectives. Generally speaking, the concept of a high performance culture is thought to include elements such as:

PURPOSE: where people are deeply connected to compelling goals and objectives

MEANINGFUL CONTRIBUTION: where people are able to contribute meaningfully towards the achievement of these objectives and they feel and behave as part of something larger than themselves

CONNECTIVITY: people experience high levels of positive connectivity (communication and relationships) and think, speak and act together

EMPOWERMENT: people work in an operating environment that is based on trust and openness, has best-practice systems and is governed by principles that support them to work in a generative, solutions-focused way, thereby nullifying negative or blocking influences

GROWTH: people grow personally and professionally through their work experience

These are some of the elements that make up the road map for how to get to be a high performance team (or organisation).

Defining culture

The book *Alice in Wonderland* by Lewis Carroll, contains a wonderful passage where Alice, on her journey through Wonderland, comes to several forks in the road.

She looks up at the Cheshire cat, sitting in a tree, and asks, “Please, can you tell me which road I should take?”

The Cheshire cat looks down at Alice and, grinning, replies, “Well, that depends on where you’re going.”

“I don’t know where I am going,” replies Alice.

“Then it doesn’t matter which road you take”, says the Cheshire Cat.

Culture is a bit like that. If you do not know what your project objectives are (where you’re heading), and if you do not have the right road map (or enabling culture) to get there, then it does not really matter which road you take.

Culture is important in any organisational sense, and in alliances. The right culture can provide a dynamic, empowering project delivery environment. Culture is one of the key ingredients in alliance success.

So, what is culture?

For years scholars, cultural anthropologists and behavioural scientists have studied and worked with the concept of culture. Consequently, there is a substantial body of work from which to gain insights into what constitutes culture and how individuals behave in certain environments. There are many definitions that could be applied and these different definitions reflect the various theoretical bases for understanding, or criteria for evaluating, human activity.

To appreciate the quantum of research that exists on this subject – and as a precursor to discussing why culture is important in alliancing – we will briefly explore a couple of studies.

One well-known anthropological consensus definition is derived from American anthropologist and social theorist Clyde Kluckhohn (1905-1960), best known for his contributions to the development of the theory of culture within American anthropology, who stated that, “culture consists in patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiments in artefacts; the essential core of culture consists of traditional ideas and especially their attached values.” (Kluckhohn, 1951).

In his book *Culture’s Consequences* (2001) Professor Geert Hofstede describes culture as, “the collective programming of the mind that distinguishes the members of one group or category of people from another.” The ‘mind’ stands for the head, heart and hands (that is for thinking, feeling and acting, with consequences for beliefs, attitudes and skills). This is, in essence, a shorthand definition of Kluckhohn’s more extensive definition, and is also taken up by Philippe Rosinski, in his book *Coaching across Cultures* where he states that, “a team’s culture is the set of unique characteristics that distinguishes its members from another group.”

In Figure 22, these unique characteristics are pictured as the layers of an onion proceeding from visible and conscious to buried and typically unconscious. The other diagram shows culture as an iceberg with a visible tip and immersed parts (Rosinski).

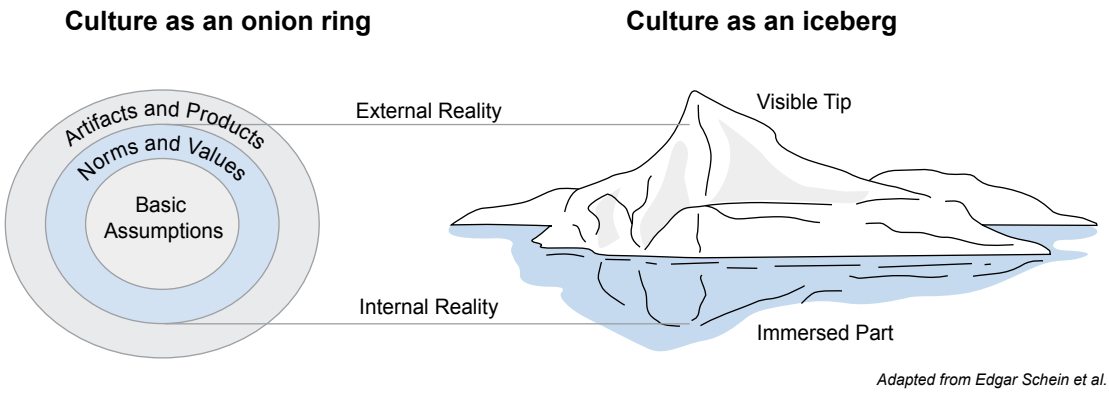


Figure 22 Manifestation of culture at different levels of depth

Rosinski suggests that artefacts and products are the *visible manifestations of culture* (the outer layer of the onion, and the tip of the iceberg). Examples of these from the alliance world would be the alliance language (including all those acronyms!), the project office, alliance shirt, alliance logo, awards, office layout and special furniture or project symbols and Alliance Charter. They are the *visible* parts of the alliance culture. All the observable alliance behaviours belong to this layer as well.

The next layer of the onion ring is composed of norms and values. Norms consist of what is considered right, appropriate, and acceptable *by the cultural group*. It also includes the rules you live by in practice. The values include what is important to us, and how we live or show those values. In an alliance, the norms and values would include the vision, objectives, principles and behaviours that have been developed and agreed by the alliance team, and most probably displayed on the Alliance Charter.

The third layer is basic assumptions and beliefs. This covers what *individuals* believe to be true and false. In an alliance, these would include what individuals hold to be their own personal thoughts, assumptions or beliefs – perhaps aligned with (and sometimes at odds with) the alliance principles.

It is this layer of culture which contains the secret ingredient of alliancing (and indeed organisations). When an individual (or team) truly connects to (something about) the alliance at that third layer, it propels them to a level of ownership and commitment that results in them giving their all – their hearts and minds – to deliver an extra special performance or contribution.

Examples of what might inspire this type of deep connection between an individual or team and their performance might be a compelling project vision, an inspirational leader (or leaders), an outstanding technical challenge, a chance to leave a positive community legacy or a chance to do something positive for the environment. All of these have the potential to satisfy an individual's quest for meaning, purpose and contribution, things which act as turbo-boosters in our daily work and life performances.

Carolyn Taylor in her book "Walking the Talk: building a culture for success" (Random House, 2005) asserts that culture is about messages sent, and that these messages demonstrate what is valued, what is important, what people do to be accepted and rewarded. Carolyn suggests that the messages come from three broad areas:

- Behaviours
- Symbols
- Systems

There are many variations to the theme of culture, but for the purposes of this book we will defer to Hofstede's definition of culture, shared by Rosinski (and aligned with Taylor) that:

Culture is the set of unique characteristics that distinguishes the members of one group or category of people from another

And that

These characteristics influence a human group's response to its environment.

This definition encompasses the visible (behaviours, systems, language and symbols) and the invisible (values, beliefs, principles) which go to the heart of culture.

In essence, this is why culture is so important in alliancing – a team's culture influences how it performs in and reacts to its project delivery environment.

Viva la difference!

The word culture can be applied to any human collectivity or category – an organisation, a profession, an age group, a gender, or a family. According to Rosinski everyone belongs to multiple 'collectivities' and therefore we operate within multiple cultures.

This melting pot of multiple cultures starts to have an impact during the bidding phase in alliancing, when organisations come together to begin the process of integrating into a seamless, unified team for the purposes of bidding and privilege of (hopefully) winning a project. Indeed, some organisations actually come together *because* they are culturally aligned, and believe this will be a success factor in their bid efforts.

Those who have experienced the bid phase of alliancing will know that different sectors of the engineering and construction industry have distinct cultures; different organisations have different cultures; and different disciplines within the industry have different cultures. None of this is wrong, it just is.

The challenge becomes real when two organisations with markedly different cultures join forces. These cultural differences will often come into play and should, for best results, be addressed early on through an alignment process to ensure all are heading in the same direction.

In alliancing, where different organisations come together to create a new team, it may be useful to examine each different organisational culture, as well as different discipline working styles and preferences, before agreeing and aligning around the desired culture of the newly-formed team.

Conversely, if cultural alignment is not achieved, then different drivers and behaviours may become apparent, and may divert time, energy and focus away from the main game, that is, to win the right to work with the owner to deliver the project.

Cultural differences also manifest when the preferred proponent (which may consist of more than one organisation, depending on the selection process) joins with the owner to form the new virtual organisation.

All participants in the newly formed alliance should aspire to become one in a cultural sense, so alignment process needs to occur almost straight away. This is an important step, as it helps all to understand that there is a new way of thinking, being and doing that will underpin the delivery of project outcomes. Most alliances use external coaches or facilitators to take them through this process and it generally starts with real urgency at the foundation workshop.

The newly formed team should ideally develop and then align around the preferred way of thinking, being and doing things to achieve outstanding project objectives – the Project Charter generally incorporates these objectives and behavioural characteristics. Usually these charters are developed at the foundation workshop (also called start-up or kick-off workshop), which should ideally be attended by all team members, and which should happen as soon as possible after the alliance is awarded.

Case note 24

Aligning cultures

Project: TrackStar Alliance
Owner Participant: Queensland Rail
Non-Owner Participants: Thiess United Group JV, AECOM, Connell Wager
Value: $800m
Duration: 2006 onwards

A sequential alliance selection process was used by Queensland Rail (QR) for the selection of constructors and designers to partner with them to deliver a number of rail infrastructure projects as part of the South East Queensland Infrastructure Plan.

Comment:

In this alliance process former competitors (both constructors and designers) teamed to present the most technically comprehensive and resource ready team to prepare the submission and undertake the workshops in an effort to (hopefully) win and deliver the work with the owner.

In one proponent team, that of AECOM and Connell Wagner, much effort went into developing the new team, with a strong focus on setting and aligning around goals, and developing the behaviours consistent with achieving those goals in a mutually respectful way. A lot of effort went into providing opportunities for connectivity and constructive communication, and successfully too, with panel members commenting on how surprised they were that the two design organisations had 'gelled' into such a unified team.

Although the two organisations were quite different both had common areas to build upon (such as technical quality and results orientation) so those qualities laid the foundation for the new team 'identity'.

The key to the success of this combined design team was alignment of goals and connectivity.

It is very important that the team achieves *alignment* around the way forward. Just because it is an alliance does not mean that people automatically agree about everything. In fact, alliances should try to create the kind of environment where tough conversations can be held with respect and without fear, where the hardest decisions can be made and where people can work together towards resolution with respect and trust truly maintained.

Be aware that it is not as simple as once the commercial framework is developed and signed off, then you automatically have an alliance with a commercial framework that drives all sorts of great behaviours. As if it all just magically happens. It does not. There is no magic wand to turn the alliance participants into a unified team all working collaboratively towards a common goal. But there are many good specialist coaches and facilitators who can work with teams to help the team to become an integrated, solutions-focused working group.

Culture champions

The roles of the Alliance Leadership Team (ALT), Alliance Management Team (AMT) and Alliance Manager (AM) are important in helping to ensure the project objectives and behaviours are well understood and can be connected and linked to the day-to-day activities of the alliance. This ensures that there is no mistaking where the alliance wants to go, and how it is going to get there. This is particularly so on a large alliance where there are a number of Non-Owner Participants (NOPs) and a large, multi-disciplined project team. Sometimes the larger, more complex alliances may decide to have a peak performance or relationship manager to work closely with the AM to link the project vision, objectives and behaviours (culture) with the day-to-day activities of the alliance. Examples of this are INB HUB Alliance, TrackStar Alliance, Southern Hume Alliance, SafeLink Alliance.

For the appropriate project, this model can potentially help the take-up of key project objectives and behaviours.

The ‘soft’ stuff can be challenging

Culture is not the ‘warm and fuzzy stuff’ it is sometimes neatly labelled as. Building a high performance culture and managing the relationships within a project delivery team can be challenging. Culture should not be left to chance.

The concept that a team’s culture is the set of unique characteristics that distinguishes its members from another group has already been discussed. On an alliance, these characteristics may include:

- what the team values – for example Value For Money (VFM), community engagement, legacy, safety, quality, environmental gains
- what the team represents – such as professionals delivering quality infrastructure that benefits people’s lives
- what the team wants to achieve – perhaps the team wants the best project outcome in parallel with a rewarding project experience for all
- how the team wants to achieve – such as through collaborative behaviour, innovation, courage, respect, honesty, constant benchmarking of self and others.

Australian alliances typically set very high performance targets for their teams to achieve. But before a team can get anywhere, it needs a framework for performance (the ‘what’ and ‘how to’) to underpin the delivery of these game-breaking outcomes.

The role of alliance coaches and facilitators is important in helping to develop the alliance frameworks – the ‘what’ and ‘how to’ part of the alliance. These industry experts provide the structure and methodologies for teams to develop the vision, goals and behavioural commitments that form the backbone of the alliance, and indeed give the alliance its own unique personality.

Case note 25

The power of culture

Project: INB HUB Alliance
Owner Participant: Queensland Transport
Non-Owner Participants: Leighton Contractors, AECOM, Coffey, Bligh Voller Neild, EDAW
Value: $333m
Duration: 2005 – 2008

The Inner Northern Busway was a highly complex multi-disciplinary project constructed in the heart of Brisbane City. It forms the Central City Busway link to the Northern Busway including two major bus stations (one underground), a 600 m tunnel and major city infrastructure relocations.

Key lessons:

On the INB HUB Alliance in Brisbane, a project team of around 200 (at its peak) delivered a complex, multi-disciplined transport infrastructure project in the heart of Brisbane's CBD.

Even though this project involved designing and constructing a tunnel right through the city heart – within the context of a labyrinth of public utility and plant including water mains, electricity cables and gas mains which were all keeping the city of Brisbane functioning – the team achieved in the 'exceptional' range for its purpose, culture and people KRA.

The team's culture of collaboration across disciplines, respect, trust and the relentless pursuit of the project objectives contributed greatly to its success.

The following are all factors which contributed to the success of this project:

- Queensland Transport (QT) was very involved in the alliance from the beginning. This integretion was both through involvement at the Alliance Leadership Team (ALT) level, with initially two QT representatives (John Chambers and Shane Doran) and a representative (Bob Atkinson) on the Alliance Management Team (AMT). This was an important part of the alliance success, ensuring full visibility and involvement of the owner.
- Culture, relationship management and peak performance were not left to chance. The Alliance Manager (AM) and peak performance manager established very early on a framework for a high performance team, including a peak performance plan which linked the alliance's day-to-day activities to the project vision and objectives.
- The alliance proactively engaged with stakeholders, including having Brisbane City Council as well as client representatives on its AMT.
- In the initial stages of the alliance a stakeholder advisory group, consisting of representatives from all key stakeholder areas, met weekly.
- The alliance induction was a critical and powerful tool in aligning new team members around the alliance's vision, project objectives and behavioural commitments (the project charter).
- The community and stakeholder team was an important part of the alliance, ensuring the community and stakeholders were well informed and engaged in the project every step of the way.
- There was a strong focus on systems and processes, with the systems and processes manager developing a new web-based management plan
- There was a strong focus on obtaining outstanding results with champions from the ALT identified for each KRA.

Do not leave culture to chance

Alliances often have a high performance plan which incorporates a relationship management and culture component to support the achievement of a high performance outcome. The Alliance will draw on the expertise of external coaches who bring specialised skills into the mix as required, and in conjunction with the project program.

The high performance plan is closely intertwined with the other project plans, and links best practice processes with the project program to achieve great outcomes across all project constructs.

This high performance plan will include strategies, processes, tools and techniques aimed at building and accelerating positive team processes, behaviours and outcomes that will amplify the project's results across the board.

The plan may include such things as team development programs, innovation and knowledge workshops, powerful meeting architecture, refresher programs, silo-busting programs, critical conversation workshops and communication coaching. All these activities will link in with the project program, to ensure they are delivered at exactly the right time to elevate the achievement of specific project milestones.

There are many components to the high performance plan. Generally the plan is built around the elements of systems, symbols and behaviours, for it is the combination of these three elements that fundamentally create the culture of the alliance. Examples of systems include the project management plans, processes and tasks, the reward and recognition program, and team and individual development plans. Behaviours include the vision and objectives, how they are agreed and communicated across the team, the team and individual responsibilities and accountabilities, and those behavioural characteristics that the team develops to serve them well in achieving project objectives. Symbols include the team branding, awards, office layout, display of project targets and objectives, and meeting protocols. All of these (and many more elements) help to create the culture of high achievement in alliancing.

Team development activities act as vehicles for delivering fast-tracked relationship building – both on a micro and macro scale. Sure, they can be enjoyable exercises, but the real benefits lie in the accelerated positive team behaviours (contact and communication) that results.

Rapport and relationship are the precursors to trust, and most would agree that trust lies at the heart of any successful team. The team building exercise is one tool in the culture toolbox to accelerate the development of positive relationships and team behaviours that will translate into better project outcomes.

Many constructors and designers are investing significantly in the development of its human capital operating in alliances. In many organisations alliance personnel participate in leadership development programs which aim to enhance the suite of inter-personal and intra-personal capabilities required to operate within a high performing, relational-based, collaborative project delivery framework.

High Performance Management Plan

Some owners will require a High Performance Management Plan as part of their approach to delivering outstanding project outcomes. Each alliance is different and will therefore have a different approach to suit their specific project environment and goals.

The following High Performance Management Plan Table of Contents shows the range of elements that can be part of the High Performance process.

Figure 23 High Performance Management Plan elements

High Performance Management Plan
Project Scope (especially outcomes required)
Alliance Culture
- Vision, goals, objectives, behaviour commitments

High Performance strategy & expected outcomes
High Performance Implementation
- Establishment phase, delivery phase, operational readiness and handover, project completion
- ALT, AMT, WPT – roles and responsibilities / position descriptions / expectations / commitments
- "One Team" approach - systems, symbols, behaviours
- Key Stakeholders
- Induction Program
- Reward and Recognition Program
- Innovations Program
- Opportunity and risk approach
- Value for Money approach
- KRAs and KPIs
- Management Plans
- Performance champions program – ALT, AMT, WPT
- Refresher Program
- Succession and emergency replacement plan

Project specific communications
- Communication approach and expected outcomes
- Internal Communications (within alliance and to parent companies)
- External Communications (including client's requirements and expectations)

Critical success factors
Evaluation, feedback mechanisms and metrics, implementations of actions
Accountabilities and commitments
- Accountability Matrix

Leadership as a tool in driving the desired team culture

One of the key elements in winning alliance projects and in the success of alliances is the role that leadership plays across a range of constructs including building and maintaining team culture. Leadership is not only found at the top of an organisation or team; leadership often comes from within an organisation or team. The presence of culture leaders throughout the team is an important factor in successful alliances as these people act as visible symbols of that culture living what the alliance values and is working towards.

Alliance leadership is about awareness; first and foremost awareness about yourself. This is one of the fundamentals of emotional intelligence, a competence that is desirable for alliances – discussed in more detail in the next section.

Secondly, you need to be aware of others, and to be able to see and interpret the patterns in thinking and behaviours that occur within a team – all this as a precursor to leading and leveraging the kinds of thinking and behaviour that will drive and deliver great project outcomes.

Effective leadership in alliancing is also about being a good coach and mentor; providing constructive feedback and motivation for the team to deliver the project outcomes – and providing the kind of project environment that empowers people to be the best they can be. Real leadership is a selfless pursuit – it is about empowering others, not showcasing self.

Connectivity and culture

This chapter deals with the behavioural and attitudinal aspects of alliancing, so it will necessarily require an appreciation that human beings, and teams in particular, cannot be completely understood using linear models and linear thinking.

Drawing on a substantial literature in organisational and management theory, Stacey (*Strategic management and organisational dynamics*: 1996) established that teams in particular and organisations in general are non-linear feedback networks that are continuously involved in ongoing processes of positive and negative feedback. These networks can not be fully understood using linear models because linear models fail to capture the complex dynamics inherent in the strong interaction processes that prevail in teams and organisations.

The interaction among the parts – their connectivity – is essential to understanding any phenomenon whose complexity cannot be fully explained by a linear approximation. Alliancing, with its principle of co-locating different organisations together under one roof to create a new team, and the emphasis on open communication and knowledge sharing, opens up enormous potential for greater levels of connectivity – both in terms of quality and quantity - and therefore, potentially, higher levels of performance in teams.

Achieving high levels of positive interaction among the parts (connectivity) combined with creating a culture around those parts based on principles which support the team to think and work innovatively and in a forward moving, solutions focused way, begins to make the concept of a high performance team very real and achievable.

High performance team development – the power of connectivity and relationships

Peter Senge, the American scientist (aerospace engineer) and author of the book *The Fifth Discipline: The art and practice of the learning organization*, spoke about this concept of connectivity when he wrote:

> *"When you ask people about what it is like being part of a great team, what is most striking is the meaningfulness of the experience. People talk about being part of something larger than themselves, of being connected, of being generative. It becomes quite clear that, for many, their experiences as part of truly great teams stand out as singular periods of life lived to the fullest. Some spend the rest of their lives looking for ways to recapture that spirit." (Senge 1990: 13)*

Senge's work is very valuable in understanding how alliance teams learn to function powerfully. On the concept of team learning Senge asserts that such learning is viewed as, 'the process of aligning and developing the capacities of a team to create the results its members truly desire' (Senge 1990: 236).

It builds on personal mastery and shared vision – but, he asserts, these are not enough. People need to be able to act together. When teams learn together, Senge suggests, not only can there be good results for the organisation, members will grow more rapidly than could have occurred otherwise.

The discipline of team learning starts with 'dialogue', the capacity of members of a team to suspend assumptions and enter into a genuine 'thinking together'. To the Greeks, *dia-logos* meant a free-flowing of meaning through a group, allowing the group to discover insights not attainable individually…. [It] also involves learning how to recognise the patterns of interaction in teams that undermine learning. (Senge 1990: 10)

This concept of people speaking, thinking and acting together is at the core of great team development and is essential in alliancing.

In a similar vein as Peter Senge, John Syer and Christopher Connolly in their book *The Dynamics of Effective Team Development (1996)* point to three critical elements in creating great relationships within teams: contact, complexity and contribution.

"People form teams and work together because together they have the potential to create something they can not create alone. By maximising the relationships between team members, teams maximise their performance." (Syer and Connolly, 1996).

Even though we may not have been aware of the theoretical bases of it, this is a fundamental premise of the alliance model (of course not confined to alliancing). It therefore makes all the sense in the world to spend time and effort in creating an alliance environment that focuses on connectivity and quality relationships.

Syer and Connolly assert that the quality of *contact or connectivity* between team members affects all aspects of their relationships and the team's overall performance. Without contact, people misunderstand each other, information and opportunities are lost and relationships fail to express their potential. With contact, or connectivity, communication can become meaningful, understanding of others is increased, insights are shared and the abilities of people are acknowledged. Trust takes root.

It is not surprising, therefore, that the alliance model strongly recommends co-location of team members into a dedicated project office, where quality 'connectivity' and where the 'thinking and acting together' that Senge speaks of can take place and where it becomes an important tool in optimising the team's performance. Many alliances even design the physical layout of the office to ensure contact between different disciplines (for example constructors, designers, architects and community consultation) to maximise meaningful conversation and increase the thinking, understanding and doing together, across disciplines.

Conversely, there are lessons to be learned from alliances where co-location has not occurred, or where it has occurred only in part, with some team members remaining in the parent organisation's office. Tales of misunderstanding, poor communication and lack of information sharing are not uncommon in this latter scenario.

The alliance model utilises a lot of workshops, meetings, thinking and innovation sessions, once again as tools to encourage collective thinking and acting as per Senge's model whereby you 'suspend assumptions and enter into a genuine thinking together'. Workshops are important culture tools, but obviously these should be planned to align with the program so that the appropriate workshop is scheduled when it is going to effect the greatest outcome with the least amount of negative impact in terms of people's time.

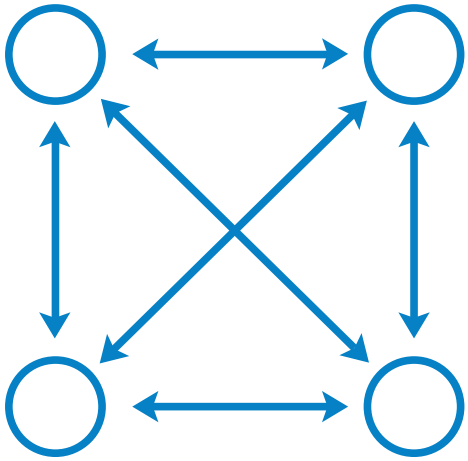
Co-locating an entire team for the project duration is not an easy thing to do. It is just not that simple. Competing demands from other projects, company restructures, relocations, retention and the project program itself all impact on this organic, ever-changing project delivery landscape. However, it is preferable to have as many as possible of the project team co-located under one project roof to allow for as much quality connectivity to take place, and therefore add to the team's potential for high performance.

The second element of Syer and Connolly's model for team development is complexity. People are *complex* systems and so are the teams of which they are a part.

The relationship between two individuals in a partnership, marriage or friendship is a complex system, let alone the relationships in a large project team! As shown in Figure 24, a team of four individuals has six relationships. A project team of 20 has 190 relationships and is a system so complex that it is unlikely ever to discover its full potential.

But if the right kind of positive intra-team connectivity and communication is occurring within a project culture that aims to amplify or expand the types of dynamics possible for that team, then the power of that team's untapped potential is enormous – and exponential!

Figure 24 Four individuals, six relationships



Peter Senge also explores the Systems Theory of team dynamics, adding to this the recognition that people are agents, able to act upon the structures and systems of which they are a part. All the disciplines are, in this way, "concerned with a shift of mind from seeing parts to seeing wholes, from seeing people as helpless reactors to seeing them as active participants in shaping their reality, from reacting to the present to creating the future" (Senge 1990: 69).

This resonates well with alliancing, as the setting of aspirational goals and stretch targets is intrinsic to the way alliances go about achieving exceptional project outcomes. How often have we listened to facilitators encourage teams to go beyond the usual thinking and to imagine what might be achievable. This type of aspirational thinking is founded in the systems theory of team dynamics, which allows people to shape their own realities, to create their own futures.

The third element of Syer and Connolly's model is contribution. People also have an innate need to *contribute*. They want their community to grow and thrive; they want their network of friends and colleagues to have meaningful work, and they want the personal and extended team community to be happy and to prosper. "Without the ability to contribute, people slowly lose touch with their essence". (Syer and Connolly)

So it follows that when teams have these three elements in place, they have the environmental tools they need to create great relationships that produce better thinking and that optimise project outcomes.

For alliancing, the great opportunity (and challenge) is to create the kind of cultural environment where teams can manage their own relationships and processes, where they can manage their own communication and interactions, and where they can manage their own connections and contributions to achieve their own and the team's potential.

The power of positivity

The complex interplay among human connections (positive and negative), emotions and actions within teams has already been discussed in this chapter. The research work of Losada and Heaphy (2004) suggests:

> *"Qualitative observations of teams showed that high performance teams were characterised by an atmosphere of buoyancy that lasted. By showing appreciation and encouragement to other members of the team, they created emotional spaces that were expansive and opened possibilities for action and creativity. In stark contrast, low performance teams operated in very restrictive emotional spaces created by lack of mutual support and enthusiasm, often in an atmosphere charged with distrust and cynicism. The medium performance teams generated emotional spaces that were not as restrictive as the low performance teams, but definitively not as expansive as the high performance teams. They did not show the distrust and cynicism of low performance teams, but they also did not manifest the mutual support and enthusiasm characteristic of high performance teams."*

> *"We need to have teams that are able to tap into the liberating and creative power of positivity. Not the excess positivity of Pollyannaish optimism, but the grounded positivity where measured negative feedback has a necessary place in keeping things going within agreed objectives. We need to have organisations with teams that are highly connected with the kind of durable resources that strong and lasting nexi (a connected series or group) generate. We need to have organisations where the polarity of other and self, of you and I, is integrated into a sense of* ***we****; where the polarity of inquiry and advocacy, of questions and answers, can drive a* ***productive and ongoing dialogue****; where the abundance of positivity, grounded in constructive negative feedback, can generate the state of* ***realistic enthusiasm*** *that can propel organisations and teams to reach and uphold the heights of excellence."*
>
> Losada and Heaphy (2004)

The team connectors – treasure them!

Some people seem to bring this positivity and energy to a team – they are constantly connecting with people and sharing their realistic enthusiasm for communication and connection. These people are a gift to the world and invaluable in a team – inspirational players who elevate the team's energy and communication to a level where connectivity, contribution and productivity rises, happiness increases and motivation becomes infectious. These people cascade their energy across the whole team environment, and help to create an energy and spirit that supersedes the norm. The team environment becomes an enjoyable, rewarding place, and people actually love coming to work. The team's culture is tangible. Every alliance needs some of these people.

Contact, or connectivity as a tool in building strong relationships in an alliance environment, is really what it is all about. People need to understand each other to be able to effectively work with each other, and you can not achieve that without connectivity. It enables each of us to see and then appreciate the differences that exist between us. It is the quality of the contact that constitutes the quality of the outcomes – across all project constructs. How often do people say they can not deliver this, or produce that because they have to wait until they receive something else? That 'something else' is really just the necessary contact not happening, in the guises of a phone call, information, a report, an equation, a formula, a visit – whatever. And that is why such a lot of emphasis is placed on facilitating opportunities for people to connect with each other on alliances – from the team building activities, through the physical layout of the co-located office, to the workshops and meetings that are convened to bring and keep the team connected.

As Charles Garfield (Peak Performance: Mental Training Techniques of the World's Greatest Athletes, *and* Second to None: Business One 1992:33) wrote:

> *"Many of the peak performers of my research were managers whose team-building skills enabled them to reach levels of performance that they would not have reached on their own. Far from being radical individualists, they were collaborators, who valued relationships and understood the importance of connection."*

Syer and Connolly continue this theme: "Recognising the initial need for members to laugh off opportunities for increased awareness, these leaders will gradually establish a sense of safety that allows everyone to make contact with each other. This includes giving ample opportunity for individuals to check out what they imagine about other members, for without such checking there is no way of knowing who is there. Eventually, as contact increases, new ideas, new paths of action and new patterns of interaction emerge and the team's identity becomes clearer to all."

Alliancing encourages this high level of connectivity and communication to serve as vehicles to generate stronger relationships, more information sharing and ideas generation - all with a view to enhancing project delivery.

Leveraging diversity

Our behaviour as individuals typically depends on the group we happen to associate with.

In the world of alliancing, the cultural diversity of the team is one of the most challenging, yet opportunity rich, aspects of this project delivery methodology.

The fact that the team's behaviours depend in part on the particular cultural context they find themselves operating in presents a real opportunity in alliancing. The alliance can create the kind of culture they believe will deliver the best possible project outcomes – breakthrough or game breaking are words often used in alliancing to describe these elevated project outcomes.

Creating a culture that embraces the richness of the team's diversity, and maximising the opportunity to have different disciplines working together side by side is a fundamental principle of alliancing. Creating an environment that recognises and works in an holistic way, within a total project context will enhance project outcomes.

Emotional intelligence and alliancing

Back in the 1990s Daniel Goleman, a psychologist and journalist, created debate when he published a book called *Emotional Intelligence*. In the book he suggested that emotional intelligence (EQ) can matter more than IQ, that it was the 'missing priority' in an organisational sense, and that there was indeed 'a different way of being smart.'

His book, which was an international bestseller and led to thousands of other books being written on the subject (not to mention the dinner party conversations it generated), was based on the premise that an individual who is able to develop his or her personal competencies, such as self-awareness, self-regulation and motivation, as well as social competencies such as empathy and adeptness in social skills (such as communication, influence, conflict management and collaboration), is far more likely to be a star performer in a 'future business' sense.

To cut a long story (study) short, Goleman studied competence models for 181 different positions drawn from 121 different companies and organisations worldwide, with their combined workforce numbering in the millions. The models showed what management in each organisation agreed captured the particular profile of excellence for a given job.

The results of his study showed that 67% – or two out of three – of the abilities deemed essential for effective performance were emotional competencies. Compared to IQ and expertise, emotional competence mattered twice as much. This held true across all categories of jobs, and in all kinds of organisations.

To verify his results, Goleman then commissioned an independent study (by Hay/McBer). This study reanalysed raw data from 40 different corporations to determine how much more of a given competence star performers demonstrated compared to average – a slightly different way to answer Goleman's original question.

The Hay/McBer analysis again found that emotional competencies were found to be twice as important in contributing to excellence as pure intellect and expertise.

"In the new workplace," wrote Goleman, "with its emphasis on flexibility, teams, and a strong customer focus, this crucial set of emotional competencies is becoming increasingly essential for excellence in every job and in every part of the world."

So what does all this mean within the context of alliancing?

The possibilities you create when you combine high IQs (the logical, rational, cognitive competencies) with high levels of EQ (the personal and social competencies), are amazing. The outcome from this combination is only limited by the opportunity and ability of individuals and the team to realise their full potential.

This is great news for alliances, because it means that all the time and effort that goes into the development of individual and team competencies builds significantly, and greatly contributes to the project's success.

This focus on emotional intelligence is not meant in any way to demean the importance of IQ. The engineering and construction industry is based upon people's ability to think logically, quantifiably and in absolute terms. And we do this extremely well. What it does mean, however, is that when you *add* a good dollop of emotional intelligence (manifest in personal and social competencies) to the mix, then you have really got great human potential.

Why we raise the subject of emotional intelligence is to highlight that we each have the potential to build on to the enormous value we already bring to the world of the built environment through a slightly altered (hopefully enhanced) approach to our engineering projects.

Emotional intelligence provides us with a window of opportunity to take our work to another level. The good news is that in the world of alliancing, where an individual's capacity to work relationally within and across teams is highly valued, there is plenty of opportunity for further development for those who are open to the notion of self-development in the area of personal and social competence.

I'll have what they're having!

The role of culture and relationships in teams should not be underestimated, and this aspect of project delivery is becoming more valued as people in our industry understand more about how and why it all works.

Alliances are putting considerable time and energy into culture and team development, with many reaping the rewards of outstanding project outcomes through productive, happy people.

It is not surprising, therefore, that the industry is looking at these alliances and saying, "I'll have what they're having."

Part D Chapter 3

Target Cost Estimate phase

The Target Cost Estimate (TCE) phase is the first real test of a new alliance! It typically follows a selection process where the owner has had to make their choice of Non-Owner Participants (NOPs) over a relatively short timeframe.

This chapter will consider the typical TCE phase process and challenges the participant organisations and alliance face. Risks and opportunities will be examined, along with the importance of managing expectations. Finally, the chapter will consider the required outputs of the TCE phase.

Target Cost Estimate phase process

The Target Cost Estimate (TCE) phase of the alliance is the initial period after award by the owner. The Owner Participant (OP) and Non-Owner Participants (NOPs) come together to develop the scope of the works to a level such that a rigorous estimate for implementation can be developed. This phase of the alliance may also be referred to as the project development phase or the interim Project Alliance Agreement (iPAA) phase.

The TCE, sometimes called the Business As Usual (BAU) estimate, is intended to be a built estimate of what the integrated team (both OP and NOPs) believe it will cost (or would normally cost) to deliver the scope of work that is being undertaken by the alliance, within the agreed time schedule, and using the normal standards of performance expected of that team. (Remember that expectation is likely to be high given that the team is typically selected as the best available through a competitive process).

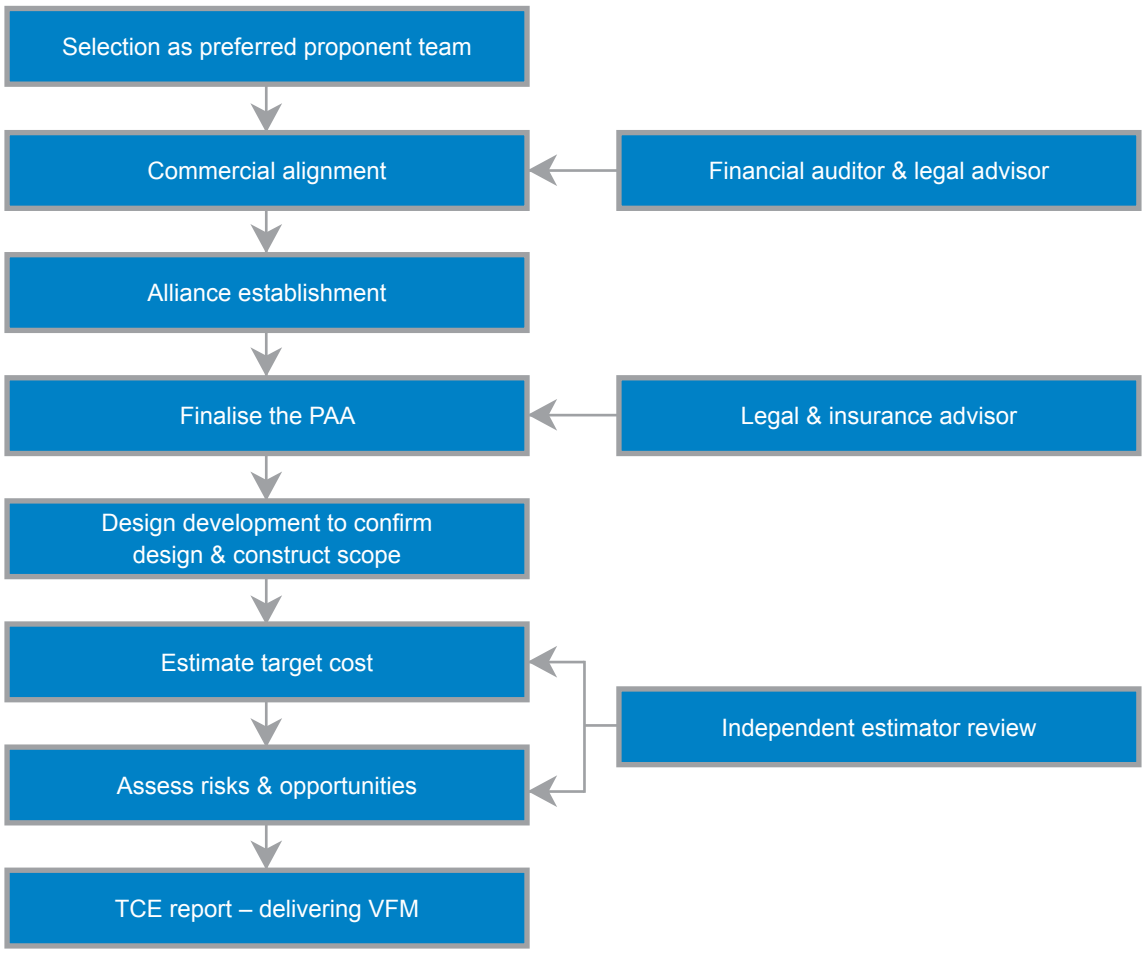
The TCE phase usually lasts from three to nine months depending on the project. There are many challenges during this phase of the alliance as the pressure is on all members of the team to do as much as they can within a relatively short period of time. Given these time pressures, it is critical to ensure that the process is consistent with the agreed alliance principles. Although difficult, the process usually strengthens relationships between the participants.

The key output from this phase is the TCE and its associated scoping documents. The TCE must be formally accepted by all alliance participants before the full alliance delivery can start.

All the elements of the TCE sum to the Target Outturn Cost (TOC) for the alliance. The TOC is the benchmark that is used to assess performance and to determine gain share or pain share for the NOPs.

The typical stages in a TCE phase are shown in Figure 25, although the process must be tailored to the special characteristics of the project and owner. Each stage of the TCE phase is discussed in detail in this chapter.

Figure 25 Typical TCE phase process



Reaching commercial alignment

The conversation between the Owner Participant (OP) and the Non-Owner Participants (NOPs) on the commercial framework begins during the selection process and is completed in the first few weeks following award.

The owner normally starts the conversation by defining their Key Result Areas (KRAs) and minimum performance expectations in the Request For Proposals (RFP) documentation. The owner will also define their expectation of the structure of the commercial framework, including an overview of the gain share and pain share regime. The selection process will further explore this framework and will assist in differentiating between the proponents in terms of their preparedness to be flexible, to listen and understand the views of each other, and to work effectively as an integrated team.

The final details of the commercial framework are achieved through workshops and discussions aimed at achieving alignment between all participants.

Part D, Chapter 4 describes in much greater detail the components of the commercial framework, whereas this chapter discusses the process typically used.

Case note 26

Target cost estimate phase

Project: Middleborough Road Rail Separation Project
Owner Participant: VicRoads, Department of Infrastructure
Non-Owner Participants: John Holland, Connex
Value: $72m
Duration: October 2006 - January 2007

The Middleborough Road Rail Separation Project involved eliminating a railway level crossing on this busy arterial road in Melbourne's eastern suburbs.

The works included lowering the railway line by up to six metres, construction of 1.5 km of dual electrified tracks, demolition and reconstruction of the Laburnum railway station and bridge, and building a new four-lane bridge to carry Middleborough Road across the rail line.

What would normally be an 18 month construction program was condensed into just five weeks to minimise disruption to adjacent residents, businesses, train patrons and motorists.

Works proceeded over an intensive 24x7 construction period with the rail line and road shut down over the January 2007 holiday period. During this time replacement bus services operated which were capable of transferring up to 7,000 rail passengers per hour between Box Hill and Blackburn.

Key lesson

The Middleborough Road Alliance (MRA) faced many challenges in delivering this project in such a short timeframe. Key to the success of the project were:

- allowing sufficient time for implementation planning and for the alliance to develop the Target Cost Estimate (TCE)
- completing and 'owning' the concept design before TCE signoff
- including the designer and the rail operator in the alliance
- minimising construction activities during the TCE phase as this can be a distraction for the team
- implementing a structure to speed decisions during the rail shutdown period
- including senior people in the ALT who were empowered to make decisions on behalf of organisations without the need for referral.

Owners have historically taken an approach in the selection process that discussions on the NOPs' direct costs, corporate overhead and profit substantially take place after the preferred proponent has been selected. In these cases, the second placed proponent is kept in the 'race' until commercial alignment has been achieved with the preferred proponent. However, increasingly owners are bringing these discussions into the selection process to try and achieve greater price competition between the short listed proponents. Proponents' expectations on corporate overhead and profit are sometimes requested in sealed envelopes that are only opened once the preferred proponent has been selected, while in other cases expectations have been requested as part of the tendering process.

The time set aside for the commercial alignment discussions will normally be 1½ to two days, with a third day in reserve in case it is needed. These commercial workshops involve the owner's and proponents' Alliance Leadership Team (ALT) representatives along with the owner's advisors (alliance facilitators, financial and legal) and possibly advisors to the proponents. Owners have a realistic expectation that the proponents' ALT representatives will be able to make binding decisions on behalf of their organisation.

Owners will often enter the commercial alignment workshop with a premise that the outcomes of the workshop will support their requirement to demonstrate that the alliance will deliver Value For Money (VFM). Value is ultimately delivered in many ways through an alliance but the commercial discussions represent the first opportunity for the owner to judge the preparedness of the proponent to deliver value in a commercial sense. This is complemented by the objective that the commercial framework must drive the right behaviours and support the alliance principles.

A typical agenda for a commercial alignment workshop will include the following presentations and conversations:

- Initial introductions, statement of expectations of the participants and the role of facilitators and advisors.
- Context of the commercial framework including validation of the alliance operating principles and alignment on the principles of the commercial framework.
- Outcomes of the financial audit (otherwise known as the 'establishment audit') including a presentation by the financial auditor on the process adopted, presentations by each of the NOPs on their audit results, alignment on the definition of direct costs (for inclusion in the Project Alliance Agreement (PAA)), and most importantly, a conversation to achieve alignment on the NOPs' overhead and profit for Business As Usual (BAU) performance.
- Alliance Key Result Areas (KRAs) including a conversation on the owner's expectations; confirmation of the KRAs to be included in the gain share/pain share regime; alignment on the elements, weightings and sharing between participants in the gain share/pain share regime; confirmation of any cap that may apply to gain or pain; timing of payments; and modelling of various scenarios to validate that the regime embraces the principles of the commercial framework. Importantly, this conversation must address the potential for perverse behaviours being driven by the gain share/pain share regime. It must also identify and align on those KRAs for which only pain share will apply (for example, safety).
- Changes and variations benchmarking including developing a shared understanding of what constitutes a change or variation and discussion of various change/variation scenarios.
- Alliance agreement, including alignment on any outstanding legal issues.
- Agreement on next actions for execution of the alliance agreement and the process for aligning on the Target Cost Estimate (TCE).

The agreed commercial framework sets the foundation for developing the TCE and ultimately the Target Outturn Cost (TOC) which will be the benchmark on which the alliance's financial performance will be assessed.

Alliance establishment

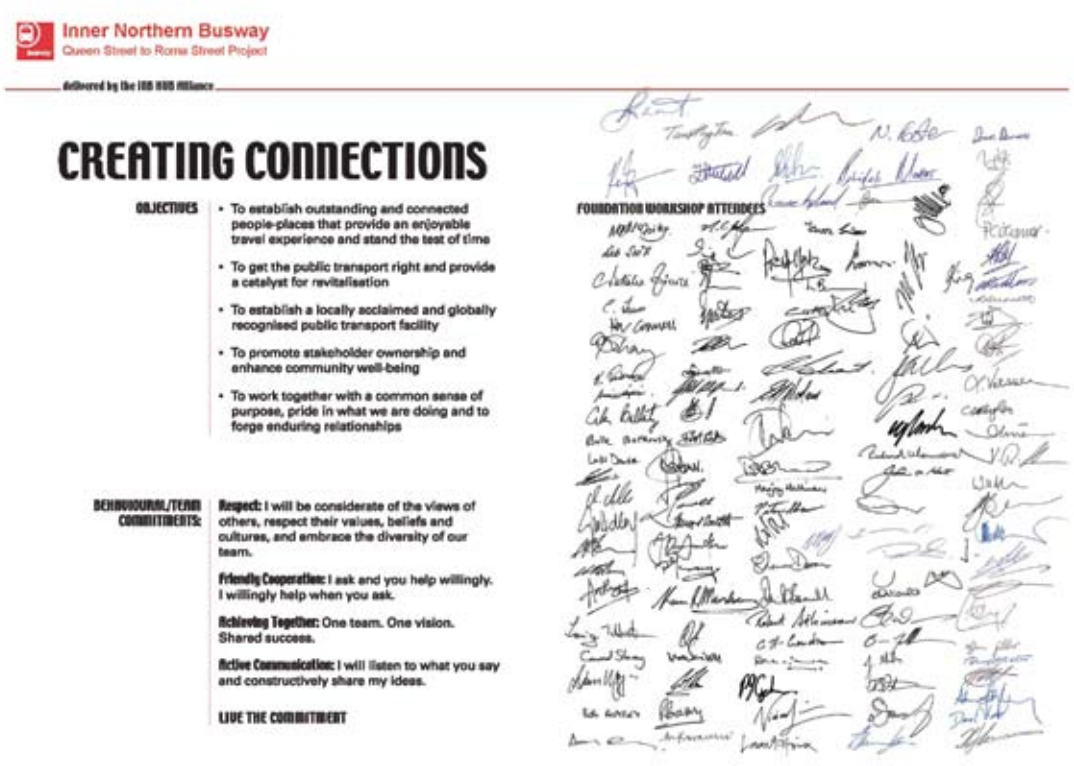
Human nature is such that first impressions have a big influence on perceptions of how successful a new venture will be. The early period of an alliance is no different and attention is required during its establishment to increase the potential for success.

Typical activities that are undertaken during establishment are:

- determine the organisation structure for the alliance and finalise membership of the Alliance Leadership Team (ALT), Alliance Management Team (AMT) including appointment of the Alliance Manager (AM), and Wider Project Team (WPT) for the Target Cost Estimate (TCE) phase
- establish clear goals and accountabilities at all levels, that is, ALT, AM, AMT and WPT
- prepare alliance policies, systems, procedures and management plans – a critical activity to avoid rework and wasted effort
- set up the integrated alliance team and office that includes staff from all participants (including the owner)
- develop and commit to an alliance charter or some other set of agreed principles for working in the alliance.

Figure 26 shows the alliance charter that was prepared for the Inner Northern Busway Alliance, and which team members 'signed' onto, as their contract to work towards the alliance goals and objectives within the jointly developed and agreed behavioural commitments.

Figure 26 Inner Northern Busway alliance charter



Structure, accountabilities and systems

At the start of the Target Cost Estimate (TCE) phase the Alliance Leadership Team (ALT) will appoint the Alliance Manager (AM) and request an organisation structure be prepared for this phase for approval. Given that the focus during this phase is on design development and cost estimation, the structure for the alliance will quite often be different to that used to deliver the project following approval of the TCE.

The ALT and AM must recognise these differences and ensure that the Alliance Management Team (AMT) is appropriately staffed to deliver the needs of this phase. A typical inclusion in the AMT for this phase is a TCE or Target Outturn Cost (TOC) manager who comes from an estimating background. They will have the responsibility to drive the inputs that are required to deliver the most robust cost estimate possible.

Many of the team nominated for the key leadership positions (ALT, AM and AMT) will have been involved in the selection process and will be generally aware of their accountabilities in the alliance. However, this will not be the case for those assuming leadership positions from the owner's organisation. It is essential therefore that the alliance, led by the AM, invests the time up front to establish clear accountabilities for all.

At this early stage of the alliance the team must not solely dive into delivery of the technical requirements of the works. Instead, they must spend the required time to develop the necessary systems, management plans and procedures that will ultimately form the blue print for how the alliance will do business. Defining client interface requirements for information transfer within an electronic document management system, and commissioning and training needs for the information technology (IT) system are also essential early activities. This investment supports the need to manage the inherent conflict in short term interests that can arise due to the broad range of activities that need to be delivered. Delaying the technical works can be unpalatable for many and hence the leadership team should seriously consider how quickly team members come into the alliance to begin the works.

Every alliance team is a new entity so it is important to resolve how IT and systems will be installed and managed as early as possible. This includes resolution of whether the alliance will own the IT (hardware and software) or whether member companies will purchase it and lease back, who will provide the main IT infrastructure and what will be the onsite IT requirements.

IT issues that will normally appear in establishment of an alliance (and therefore which need to be well managed early) include:

- difficulty with access to home office intranets for employees working in an alliance
- managing expectations of infrastructure provision and ongoing support of all participants, including the participants' IT departments
- availability of infrastructure
- demand for flexibility in the alliance versus the often inflexible corporate policies and procedures of the individual participants
- timely delivery that matches the arrival of alliance personnel.

One of the keys to managing all these expectations and issues is quality of the working relationships that are built between the participants' IT departments and onsite support personnel.

Early co-location of the team is extremely important to maximise the potential to achieve early integration. This can be challenging as project offices can take time to identify and fit out in preparation for the team. If the team is not able to co-locate at commencement of this phase, then extra effort is required to build relationships and trust once the project office is established.

Case note 27

The importance of a separate integrated project office

Project: Southern Link Upgrade Alliance
Owner: Transurban Ltd
Non-owners: Abigroup, AECOM
Value: $106m
Duration: 2006 to 2009

The Southern Link Upgrade forms part of the larger Monash-CityLink-West Gate Upgrade in Melbourne. The project is primarily intended to increase traffic capacity and improve safety on the freeway corridor. It generally involves adding a traffic lane to the inbound and outbound carriageway along 5 km of the CityLink tollway, from the tunnel portals to the CityLink boundary just east of Glenferrie Road. It also includes development and construction of a freeway management system involving lane management and ramp metering.

Key lesson:

The alliance team was co-located into space made available in the designer's office during the Target Cost Estimate (TCE) phase. Although together in one area, great difficulty was experienced in achieving true integration of the team because the team was unable to develop a true identity of its own. As a result, the team struggled to achieve its full potential during this period.

Ideally, a **separate** project office for the alliance team should be established as soon as possible. This allows the team to achieve its own identity without over-riding influences of any of the participant organisations.

Developing the alliance DNA

A Target Cost Estimate (TCE) foundation or launch workshop is typically run once the Alliance Leadership Team (ALT), Alliance Manager (AM) and Alliance Management Team (AMT) are in place. The workshop has the key objectives of developing a shared understanding of the scope of the alliance and progress made by the owner, and beginning the process of integrating a team of individuals from a diverse range of organisations and backgrounds. The foundation workshop usually includes:

- update on the current status of the project
- alignment on the roles, responsibilities and expectations of the ALT, AM and AMT
- discussion on how the TCE phase fits into the overall project
- review of the commercial framework, including the gain share/pain share regime – it is very important to again consider whether there are any elements of the framework that will drive perverse behaviours
- discussion on how to incorporate the Key Result Areas (KRAs) into the TCE – what are the owner's Minimum Conditions Of Satisfaction (MCOS) or their minimum expectations and how should these be costed
- alignment on the overall TCE phase plan and timeline
- agreement on what deliverables would constitute a successful TCE phase
- conversations to strengthen relationships and commitments to deliver the outcomes expected of a highly successful TCE phase
- discussion on what constitutes high performance
- alignment on the operating principles to support collaboration across the ALT and AMT.

The activities undertaken in the foundation workshop are designed to help internalise total project ownership amongst the team. It is very much about investing the time to have the right conversations at the start of the process and to avoid background conversations inhibiting early success.

This early phase is traditionally a golden opportunity for those in leadership positions to establish their presence in the alliance. Creating a 'culture' for an alliance is a significant challenge as was highlighted in Part D, Chapter 2. The early behaviours exhibited by the leadership team will clearly support the foundation discussions required to bring all of the individuals and organisations together into a powerful integrated team.

Finalising the Project Alliance Agreement

A really good alliance agreement is simple and straight forward, and ideally team members should be able to carry the essential alliance principles around in their heads. This is far more powerful than having an over-complicated document that tries to cover every circumstance. The underlying philosophy at Alliance Leadership Team (ALT) level should be one of, "I am trustworthy, and I, in turn, trust".

Alliance agreements do not just deal with contract administration. If the alliance leadership has collective responsibility and unanimous decision making, then there is no need for lots of administrative provisions in the contract. The administration should reside in the alliance management plan, not in the contract. And there really is no reason why bigger projects should have bigger contracts; there is no reason to clutter the agreement and every reason not to.

Setting up the commercial drivers correctly will drive the behaviours much more so than the contract. However, if the compensation regime is too aggressive, then that will inhibit the development of a powerful culture.

Needless to say, the PAA must embrace the alliance principles, commercial framework, and responsibilities and accountabilities of all of the leadership team members.

Although an important step, it is not enough for the Project Alliance Agreement (PAA) to be sent off to the internal legal counsels of the participant organisations for review and final agreement. Although this fulfils the obligation to execute an agreement that binds the participants to deliver the works under the

alliance, it lacks the ownership of the alliance leaders to drive their behaviour in support of the agreement. The ALT must commit the time to have the required conversations to align on and own the PAA. These conversations will influence their behavioural response to the written word and is fundamental to developing the early (positive) dynamics of the alliance.

The PAA must encourage the desired behaviours while accommodating specific challenges that the owner faces in their business. It should provide guidance to conversations required to develop the Target Cost Estimate (TCE) and deliver the works, including the need to resolve what will represent variations to the works.

The PAA needs to be prescriptive in certain areas, particularly where the owner reserves powers to make decisions, where it deals with the protection of intellectual property generated by the alliance, identifies the liabilities and indemnities of defaulting parties, and establishes the path by which the alliance will deal with insurance.

Ultimately, the PAA needs to be a document that is really workable as the team focuses on its commitments to deliver exceptional outcomes.

Further description of the components of the PAA is provided in Part D, Chapter 4.

Scoping the works

Traditional contracts normally have a clearly identified scope. However, this is often not the case with an alliance. In fact, it is one of the reasons owners choose an alliance delivery method – the scope is far too difficult for the owner's team to determine. Often all that exists is a concept for the project or, as a minimum, a defined goal to improve, repair or reconnect a piece of infrastructure. In the case of the Lawrence Hargrave Drive alliance the owner knew that their goal was to reopen the coastal road between Sydney and Wollongong, but no clear path as to how this was to be achieved.

Investing the time early in this phase is essential to confirm the scope of works along with the owner's minimum performance expectations for these works and for the key objectives or Key Result Areas (KRAs) for the alliance. Although this may seem a straight forward task, there have been alliances that have progressively modified the scope during this phase only to find out that approval of the Target Cost Estimate (TCE) is compromised by the scope difference between the owner's pre-alliance budget and the TCE.

Confirmation of the scope will require effort in both design and construction methodologies. Delivery of preliminary design during the TCE phase is normally undertaken to a level such that a rigorous estimate can be produced. There is always some question as to how much design is enough, but as a rule of thumb the design should be developed to at least 20% of the detailed design. Likewise, sufficient effort is needed to resolve the construction methodologies for the works to minimise uncertainty and therefore contingency in the estimate.

In one sub-alliance to the TrackStar Alliance, a two stage TCE was used. The first TCE was developed for budgeting purposes and with a commitment to cap costs at that level but then the complete TCE was developed at a lower figure once the risks were better defined.

Case note 28

Application of standards

Project: Roe Highway Stage 7 – Roe 7 Alliance
Owner Participant: Main Roads Western Australia
Non-Owner Participants: AECOM, Clough Limited
Value: $66m
Duration: 2003-2006

This alliance was the last stage of the construction of Roe Highway – a freight route that connects the State's rural highway system (Great Northern Highway, Great Eastern Highway, Toodyay Road, Brookton Highway, South Western Highway and Albany Highway) to key destinations (such as Kwinana Port, Canning Vale Industrial Area, Kewdale Industrial Area and Perth Airport). The highway has been delivered in stages over 20 years.

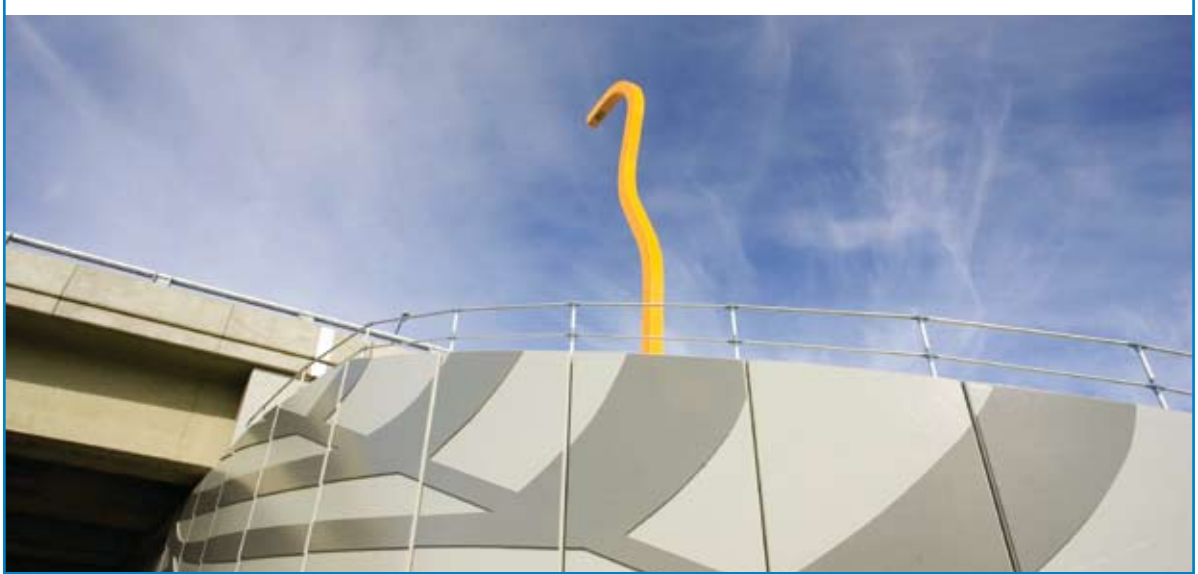
The physical infrastructure involves approximately 4.5km of dual carriageway with three interchanges, three bridges and a grade separated principal shared path. Roe 7 Alliance was responsible for design, construction, community and stakeholder engagement, and environmental approval through the habitat of the Grand Spider Orchid (a declared rare flora).

Key lesson:

Roe 7 Alliance Agreement included a document titled, Basis for Design and Construction, which documented the standards for design and construction to a very detailed level (similar to design and construct contracts). As a result, the Roe 7 Alliance direct cost target report included a section on intended departures from the Basis for Design and Construction.

The process for approving these departures from the Basis for Design and Construction was not well documented or understood by the alliance or the owner representative which at times caused frustration and delays to implement these changes in design and/or construction.

To overcome this situation the alliance took the initiative to prepare a procedure for approval of departures from the standards and had this signed off by the Alliance Leadership Team (ALT) and the owner. The alliance also recommended that for future projects the standards should be performance based and less prescriptive and should not be written in to the Project Alliance Agreement (PAA).



Estimation of the target cost

The process of preparing a Target Cost Estimate (TCE) can potentially generate conflicting priorities and incentives for the alliance participants. Quite often the question arises as to how much time should be spent on preparing the TCE to achieve the greatest level of certainty.

Firstly, it is important to get the scope right and to ensure the alliance is geared towards delivering what the client wants and needs. To maximise Value For Money (VFM) the alliance must test the content of the client's scope requirements. This is similar to the process in a design and construct tender where alternative designs and delivery methodologies are investigated to ensure that the best tender is put forward.

Without question, all involved in an alliance should seek to ensure there is an intensive commitment to focus on innovation to provide the owner with the best possible VFM proposition. This can potentially introduce conflicts as there can be a question whether the Non-Owner Participants (NOPs) will be committed to having all innovation come through the TCE phase. Of course, the degree to which all potential innovations can be defined during the TCE phase will be primarily dependent on scope, and on the time and effort allocated to this phase.

Owners wish to be confident that the preliminary design work undertaken as part of the TCE phase is sufficiently detailed such that it could form the basis of competitive tenders (if required to do so) for subcontract packages. Hence, this issue of the duration of the TCE phase is one of the most significant conversations required at the beginning of the alliance.

The discussion on the duration of the TCE phase is extremely important to the owner for a further reason. In most alliances owners will commit to paying the NOPs their full Limb 1 and Limb 2 costs, with Limb 2 at risk after the TOC is agreed for all the work they do to prepare the TCE. Owners will also reserve the right to terminate the alliance should the TCE make the project unviable. Hence, balancing the funds expended, the robustness of the TCE and the ability for the project to proceed adds a further dynamic to the decision process. Typically, the funds that owners commit to preparing a TCE vary significantly from alliance to alliance and are normally 3% to 7% of the capital cost of the works.

Occasionally a two-stage TCE is used, with the first stage being an early indication 'not to exceed' amount. The 'not to exceed' amount then goes to the ultimate client budget review process, and becomes the early TCE preliminary estimate. The driver here is to get an appropriate budget allocation to ensure the alliance does not have to go back for a further budget allocation.

Figure 27 shows the tasks undertaken once alignment has been achieved on the effort to be put in to preparing the TCE. They are described below.

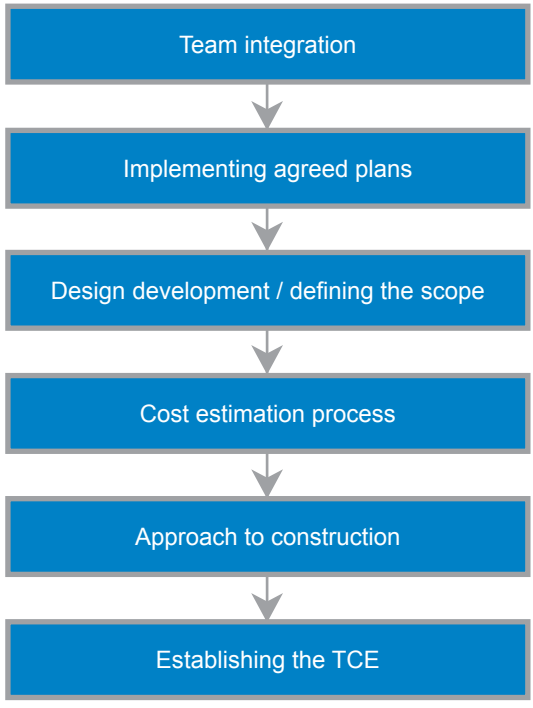


Figure 27 Estimating the target cost

Team integration

The early work undertaken establishing the alliance will need to be complemented by further activities to integrate all members of the team. The most practical way to achieve this is to conduct focused, integrated workshops and meetings that seek to further the works to be delivered by the alliance.

The theme for these workshops and meetings will include:

- Definition of a process for integrating design and construction to ensure the solutions identified are cost effective. This can be challenging during the TCE phase as many of the construction members of the alliance delivery team will not have started on the works and others will be required to represent their views.
- Definition of the Key Performance Indicators (KPIs) for all of the Key Result Areas (KRAs), including details of how each KPI is to be measured. These KPIs are determined for the full performance range of the gain share/pain share regime from poor, to the Minimum Conditions Of Satisfaction (MCOS), to outstanding. The KPIs at MCOS performance are then used as the basis for cost estimation.
- Proactive creation of the space for innovation by organising and conducting value management workshops.

Implementing agreed plans

Generally success comes from planning before doing. A very early focus of the alliance is on creating the plans that will support delivery of the works. Implementation of these plans will be the foundation for success and will include:

- Establishing and implementing the systems, management plans and procedures that become the blue print for how the alliance will do business. These plans must be owned by all in the alliance and hence it is critical that they are prepared by those who will use them and not by the alliance systems manager.
- Establishing the alliance project office and its associated IT and administration systems.
- Preparing and implementing a detailed program for the Target Cost Estimate (TCE) phase showing the work breakdown structure and the timing of design and constructability outputs for use in cost estimation. This program must also identify the process for Alliance Leadership Team (ALT) approval of the TCE along with the approvals required by the owner.
- Setting up the induction procedures and, as a minimum, inducting all new members of the alliance in the vision, principles, objectives and Key Result Areas (KRAs).

Design development and scope definition

The designers in the alliance will have access to the concept work and data collected previously by the owner. Their focus during this phase will include:

- Collecting data (including items such as feature surveys, geotechnical investigations and noise surveys) to gather information required for the design and constructability assessments
- Defining and agreeing on the scope of works for the alliance as mentioned earlier in this chapter
- Agreeing on the focus for the design effort, in particular identifying the components of the works that have greatest risk or cost uncertainty and that consequently, require greater analysis and assessment
- Detailed design to a stage sufficient for robust estimation (20% to 40% design)
- Identifying all outstanding approvals (planning and environmental) and land acquisitions that are required to allow the works to proceed and a process for obtaining these approvals and acquisitions.

Design is a creative and iterative process that requires time to achieve innovative outcomes. An over-riding focus on minimising time spent during the Target Cost Estimate (TCE) phase can lead to the potential for innovations to remain undiscovered. The alliance must find ways to provide the design group (including designers and constructors) with creative space without the pressure to continually push for outputs. Balance is also required as design needs to achieve outcomes that can be costed within the available timeframe.

One area which needs special attention during design development is ensuring that the design *meets* but does not *expand* the needs of the owner. During this phase, the alliance can easily become engrossed in achieving outstanding outcomes and inadvertently expand scope or define specifications which are higher than the owner desires. To reduce this possibility, some owners and alliances use a person independent to the alliance team to review the scope and specifications. This will provide added assurance to the owner that the design meets the objectives and provides the basis for a robust and Value For Money (VFM) estimate. The alliance task post TCE then becomes to better this design and achieve the outstanding outcomes that the alliance signed up for.

Cost estimation process

Agreement is required on the process that will be used to deliver the right outcome for the owner prior to actually estimating the cost for the works. Issues that will need to be addressed include:

- Definition of how the alliance should engage with the independent estimator to ensure that they are fully informed of all of the elements of the Target Cost Estimate (TCE) and its associated design and construction whilst being sufficiently separated to allow independence in the estimate they prepare.
- Identification of the process for internal reviews, first principles versus unit price estimation, subcontract pricing of elements of the works, benchmarking against other similar works, treatment of risks and opportunities, and the application of probabilistic assessment of the estimated cost.
- Agreement on what constitutes a change or variation to the alliance and what needs to be addressed as part of the risk and opportunities in the TCE. This would normally be complemented by a structured approach to a series of workshops aimed at reviewing risks and opportunities for the alliance.

Approach to construction

An extremely important component in an estimate is identification of the approach that will be taken to constructing the works. The designers in the alliance will support this effort but fundamentally it comes down to constructors reviewing the works in sufficient detail to apply the right method to achieve the right estimated cost.

Reviews of construction methodology and resources required will also feed back into the design process where better, faster or more cost effective construction results in:

- staging and avoidance of stakeholders' impacts
- better management of risk areas on the project
- minimising supervision staff required
- resource levelling for staff and equipment
- protection of program float
- reduction of high escalation potential materials or work practices
- improvement in environmental outcomes
- realisation of opportunities within the Key Result Areas (KRAs).

The basis for managing these issues will require the development of a number of plans that set out the basis for the costing in the Target Cost Estimate (TCE) and completion of the project. Examples are:

- project management plan – an overarching plan that brings together the management requirements for all of the other plans below
- community engagement plan
- construction management plan
- project safety management plan
- environmental management plan
- procurement plan
- finance and administration management plan
- human resources management plan
- quality management plan
- project program
- mobilisation plan
- completion management plan.

Determining the Target Cost Estimate

A sequence of meetings will typically be required to finalise the TCE and it support documentation. These will typically involve:

- AMT reviews and recommendation
- Independent Estimator review and recommendation
- (participant Company Corporate reviews)
- ALT reviews and finalisation

Depending on the scope and size of the project these reviews can each take several full days. Topics covered will typically include:

- Scope reconciliation to original project brief
- Final option approval submission
- Project Organisation Chart
- Sustainability Initiatives
- Environmental issues outline
- Community Consultation outline
- Design verification sign off
- Compliance to standards
- Risk and Opportunity
- Insurance framework reconciliation
- Benchmarking – elemental costs and contingency comparison with other projects
- Rise and Fall Calculation
- Cost Plan
- Value for Money Framework
- TCE Assessment and clarifications
- TCE Summary sheet (for final signature by ALT)

Establishing the Target Cost Estimate (TCE) will involve consideration of the risks and opportunities for:

- construction:
  - opportunities to reduce scope of work or construction method during project implementation
  - detailed review of high risk items including engineering out the risks, setting up a detailed separate risk management plan or amending the construction methodology to avoid altogether
  - unknown services and final pricing of utilities relocations.
- commercial:
  - fluctuation in commodity pricing (for example, copper in copper cabling or fuel)
  - consideration of third party agreements or penalty regimes (for example, external ultimate client access agreements or performance incentives)
  - extent of actual insurance coverage and interface with risk management plans.
- design:
  - delays to statutory approvals
  - changes to externally issued codes or standards (who is best placed to manage these risks?)
  - consideration of 'design investment' for potential construction savings
- other:
  - environmental hazards (for example, unidentified asbestos and other hazardous waste)
  - skills shortages such as loss of direct skilled labour or staff or inability to source skilled persons.

Managing expectations of the owner's budget

Management of expectations during the Target Cost Estimate (TCE) phase will be a critical determinant of its success. Owners will enter this phase with a realistic expectation that the TCE will be very close to their budget estimate for the works. Non-Owner Participants (NOPs) will have an expectation that the TCE is the right cost to deliver the works.

At times owner's original budgets are based on limited scope information and can create a significant issue for many projects. The temptation is then to prepare a first pass estimate of the TCE very early in this phase to inform the alliance on where it stands relative to the budget. This can be misleading as the great majority of the elements that make up this first pass estimate will have significant variability associated with them (simply because insufficient design and constructability input has been completed). Hence, the quantum of the adopted amount for contingencies will be far greater than in the final TCE. Without sufficient explanation this could be the cause of great uncertainty and stress in the alliance. Consequently, the timing of the release of the first pass estimate of cost needs to carefully balance the need for the estimate with the availability of reliable information to prepare the estimate.

The alliance must also develop a complete understanding of the basis for the owner's budget estimate so that any comparison between this budget and the TCE can be done on a relative basis. Commonly, clients and alliances will fill in scope to the works during the TCE phase as new issues are uncovered without a cross check back to the scope of the budget. To maintain credibility in the ultimate TCE, it is critical that these deviations to the budget scope are identified and either excluded from the TCE or included with an appropriate justification.

The NOPs must respect the owner's need for independent industry experts to validate the work delivered during this phase. Demonstrating that the TCE represents Value For Money (VFM) for the owner is paramount to the success of the alliance.

Dealing with risks and opportunities

The alliance team must take the time to fully understand the risks that the alliance faces and to create the opportunities that will deliver value to the owner. The pricing and treatment of these risks and opportunities is often the biggest issue in the Target Cost Estimate (TCE) phase so it is essential that the alliance gets on top of it early. It is also extremely important that all participants make the effort to understand all the risks and opportunities, not just those that would historically be considered their own.

A series of structured Risk and Opportunity (R&O) workshops are typically held with members of the alliance and specialist advisors during the TCE phase. The objective of these workshops is to define all the potential issues that may arise and to determine whether they represent a risk to the alliance (with the potential for the TCE to increase) or an opportunity to the alliance (with associated cost savings). Each issue is assigned an estimated value and a probability of occurrence with the net value included in the TCE as a contingency amount.

Items that are normally covered when reviewing the risks and opportunities for an alliance include:

- contractual issues
- cost control, such as uncertainty in subcontractors' overheads and profit, design growth, escalation in materials costs and escalation in subcontractor costs
- program issues, such as delays due to weather, approvals, service relocations and land acquisition
- impact of weather on the estimated productivity of direct labour
- industrial relations issues such as site allowances, penalty rates and strikes
- stakeholder approvals and interfaces primarily focused on the key areas where requirements are uncertain (such as the impact of construction on adjacent residents) or approvals processes that may result in amended requirements (particularly the case for services agencies)
- engineering design related issues including accuracy of estimated volumes or areas, assumptions on the integrity of existing facilities, pavements or structures, uncertainty associated with existing stormwater drainage, architectural and landscaping uncertainties, and communications, lighting or control systems
- procurement issues, where uncertainties remain in subcontractor prices at completion of the TCE
- construction related issues such as variations to estimated productivity rates, changes to construction work methods, repair to damaged works, and uncertainties in the estimated scope of the works
- uncertainties during the defects liability period
- staffing issues, particularly in resource constrained markets
- safety issues
- environmental obligations unspecified during the TCE phase.

In addition to the R&O workshops the discussions that take place about the insurances for the alliance will also generally reveal and clarify other risks and opportunities that will need to be addressed. Most alliances engage an insurance advisor to facilitate these discussions. The outcomes will inform the procurement of insurance for the alliance as well as the development of the TCE.

When reviewing the issues that are identified from the R&O workshops the Alliance Management Team (AMT) and Alliance Leadership Team (ALT) must be clear in their understanding of the risks borne by the alliance and included in the contingency provision in the TCE, and the risks remaining with the owner and therefore excluded from the TCE. Risks remaining with the owner have the potential to become variations if later transferred to the alliance. Variation benchmarking workshops that test a range of scenarios can assist in clarifying who carries what risks.

All of these conversations are very important in establishing a platform for success, as the degree to which the Non-Owner Participants (NOPs) are open and transparent with the information provided will influence the owner's perspective of the depth of the relationship. All participants must also recognise the significant time commitment required to gain greatest clarity around and align on the R&Os to be included in the TCE.

At the end of the day if the participants have unsatisfied concerns about risks and opportunities that the alliance faces then the alliance should seek to extend the TCE phase to further clarify these issues.

Case note 29

Innovation

Project: Future Port Expansion (FPE) Seawall
Owner Participant: Port of Brisbane
Non-Owner Participants: Leighton Contractors, Coffey Geosciences, Parsons Brinckerhoff, WBM Oceanics
Value: $90 million
Duration: August 2003 – December 2004

The Future Port Expansion (FPE) Seawall is one of the largest marine-based projects ever undertaken in Queensland that allows the Port of Brisbane Corporation to cater for rapid commercial growth in the area.

The FPE Seawall involved approximately four months of construction planning and a total of 444 days of construction, with a peak workforce of 60 on-site construction personnel and up to 52 alliance staff members. Ten excavators, three dredgers and one barge moved 1.39m tonnes of rock, 420,000 m3 of white 'bay' sand and 375,000 m^2 of high-strength and filtration geotextile fabric.

Key lessons:

The alliance achieved a number of exceptional outcomes during the project that can be directly related to innovative construction management and design. The alliance structure encouraged the team to think outside the usual construction toolbox to deliver outcomes that set new standards for the project, the client and future marine construction projects in Australia.

An example of this was the rock transport. The majority of rock required on the project was delivered using existing rail infrastructure between the Beaudesert Blue Metal Quarry and the port. An 850 m long train transported rock from the quarry to the port daily, in purpose-designed, open-topped containers. From the port's rail terminal, the BMT, each container was transported a short distance of one kilometre by skel-tipper trucks to the construction site. Trucks could then immediately proceed onto the seawall to deliver rock directly to the construction face, minimising the need for stockpiling and rehandling. During the construction phase, 400 train journeys (one way) delivered 45,000 containers of rock to the site via the BMT. Benefits included:

- saving around 8 million km of road haulage, reducing road infrastructure wear and tear, and minimising the impacts on the surrounding community and travelling public
- environmental benefits by avoiding burning 800,000 litres of diesel fuel if truck haulage was used
- reliability of delivery and ease of management, with only one train and four to six trucks making deliveries each day (to the construction face), rather than up to 35 trucks.

Another example of innovation was the rock choice. The use of clean rock in the construction process was a key economic and environmental outcome for the project. Rock sourced from the Beaudesert Blue Metal Quarry had low levels of fine material, such as sediment and silt. Any sediments present on this rock dropped out of suspension in the water quickly, minimising potential damage to adjacent seagrass beds. This minimised turbidity plumes and the associated visual impact, from the highly trafficked Brisbane Airport and Brisbane River. This rock also provided a cost-saving benefit as washing was not required.

Does the Target Cost Estimate deliver Value For Money?

Demonstrating Value For Money (VFM) remains one of the most critical success factors for an alliance. Development of a robust and transparent Target Cost Estimate (TCE) is a critical input to this VFM equation. This is facilitated through discussions that take place within the alliance team along with advice the owner receives from independent specialists.

Documenting the outcome

The key output of the Target Cost Estimate (TCE) phase is a comprehensive report that covers all aspects of the design, construction planning and estimation undertaken. A typical TCE report will include:

- introduction to the alliance and the participants
- scope of works for the alliance
- alliance objectives and agreed commercial framework including the gain share/pain share Key Result Areas (KRAs) and Key Performance Indicators (KPIs) and how the minimum expectations of the owner have been addressed in the TCE
- details of the preliminary design including the investigative works undertaken, schedules, drawings or other documentation of the works, assumptions made, standards or guidelines used
- work breakdown structure for construction activities and the proposed method of construction for each element
- organisation structure for the implementation phase of the alliance with a description of the differences to the TCE phase structure
- agreed risk profile for the alliance as determined through the risk and opportunity assessment
- register of innovations delivered during the initial phase of the alliance
- strategy for dealing with key stakeholders, land acquisition, outstanding approvals, and issues related to health, safety and the environment
- details of the systems, management plans and procedures prepared including internal audits and surveillance activities during implementation
- Target Outturn Cost (TOC) being the sum of all of the line items in the TCE
- outcomes of the reviews undertaken by the financial auditor and independent estimator
- preliminary program for the delivery of the works.

The TCE report will also commonly include a comparison of the TCE and the owner's budget estimate that had been prepared before the start of the alliance. In resource constrained markets, there can be differences between these estimates with the budget underestimating the value of the works. This situation can cause concern for the alliance participants as a TCE greater than the owner's budget can be perceived to be 'fat'.

Equally, owners must invest the required effort to ensure their budget estimates are as robust as possible to minimise this potential. This means that owners need to understand the scope of the works as best they can at the time of preparing the budget, must consider what it costs to deliver on their minimum expectations for the non-cost KRAs and must invest the required resources and expertise to estimate the value of the works. Some owners are now considering whether they should engage the services of the independent estimator prior to the alliance commencing to support the preparation of a more robust budget.

Robustness of the estimate

Commonly the Target Cost Estimate (TCE) will be prepared using a cost estimating process that establishes the detailed work breakdown structure for the alliance and then applies first principles pricing based on quantities from design and subcontractor quotes for confirmation. In some cases, such as utility relocations, the TCE is based almost entirely on subcontractor quotes. Generally, the greater the

proportion of the works that are priced by subcontractors, the greater the certainty that the owner has that the TCE is competitive. It is common for between 50% and 70% of the direct labour, materials, plant and subcontract costs to be quoted through subcontractor pricing well defined packages of work during the TCE.

The TCE will be thoroughly reviewed by the alliance, independent estimators within the alliance participant organisations, and the Alliance Leadership Team (ALT) through a series of structured workshops. The independent estimator will take an approach that involves a combination of collaborative interaction with the alliance team and independent assessment on their own behalf. They will normally progressively review components of the TCE as they become available from the alliance. The activities that they undertake include:

- collation of drawings and specifications of the works
- participation in alliance workshops to gain a full appreciation of design issues, risks and opportunities, the construction staging and methodology, and the proposed resourcing for labour and materials
- independent review of the quantities for the various elements of the works
- review of the commercial framework and confirmation that it has been embraced in the preparation of the TCE
- independently assess the areas of risk and opportunity and undertake a probabilistic analysis of the estimate
- where possible benchmark the cost of components of the TCE against other works
- documentation of their findings in a comprehensive report to the owner.

The agreed price

All alliance participants' must feel comfortable with the final Target Cost Estimate (TCE) and the process adopted to get to this point. This can be challenging for participants who have not experienced a construction estimation process.

Owner and designer Alliance Management Team (AMT) and Alliance Leadership Team (ALT) members will typically not have the experience of a long history of project cost and risk assessments leading to bid prices and ultimately project outcomes. At the end of the process there is still a judgement call on the achievability of ambitious cost targets and the balance of risk and opportunity. This judgement call is made based on senior experience and at times leads to interesting conversations where the owner or designer may wish to take a more risk averse position.

The benefit of these conversations (which can go on for many hours) is that when a consensus position is reached, a full understanding of the joint commitment is reached and all understand what is required to achieve it.

Part D Chapter 4

Commercial and risk framework

The various components of the commercial framework should reflect the alliance principles. This chapter will explore the process that is generally applied to achieve commercial alignment and finalisation of an alliance agreement. The chapter will also address the three 'limbs' of an alliance commercial framework, driving non-cost results with the Key Result Areas (KRAs) and Key Performance Indicators (KPIs), and allocating and managing risk.

Commercial framework

An alliance commercial framework is typically comprised of three parts:

1. direct costs and project specific overheads
2. normal profit and corporate overheads (non-project related)
3. a performance pool.

The three components are generally referred to as Limb 1, Limb 2 and Limb 3 respectively. Limb 1 and Limb 2 constitute the Target Cost Estimate (TCE).

The principles of pain share and gain share are applied to the normal profit and corporate overheads (Limb 2) along with the performance pool (Limb 3) as shown in Figure 28. The performance pool is made available by the owner for non-cost related Key Result Areas (KRAs), and is measured through Key Performance Indicators (KPIs). Funding for the performance pool typically sits outside the agreed TCE and is separately provided by the owner.

The commercial framework is agreed during the commercial alignment phase (see Part D, Chapter 3) and is clearly set out in the Project Alliance Agreement (PAA).

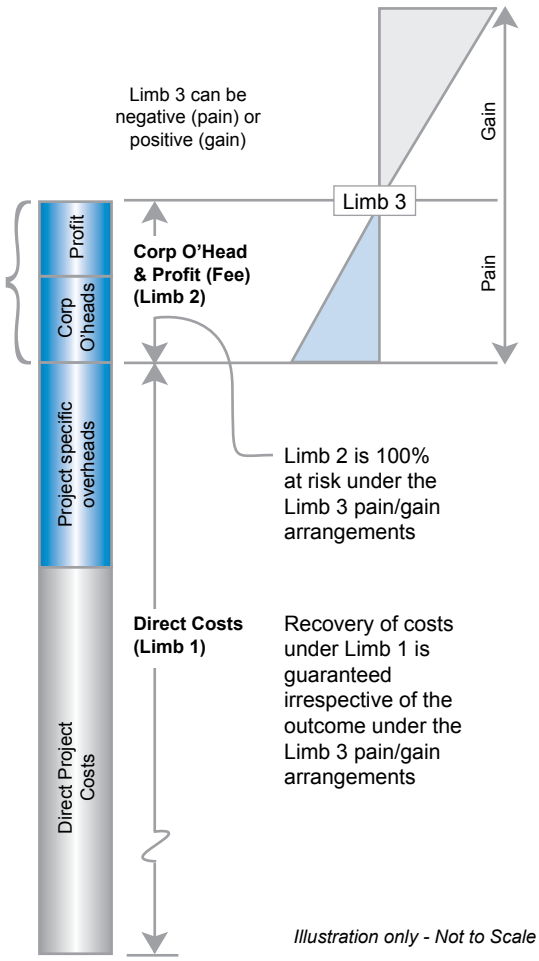


Figure 28 Gain share/pain share in an alliance

Limb 1 (direct costs and project-specific overheads)

A fundamental principle of all alliances is that owners commit to reimbursing the Non-Owner Participants (NOPs) for the entire Limb 1 costs (direct costs and project related overheads hereafter referred to as direct costs) that are incurred in delivering the works, irrespective of the performance of the alliance and the outcomes of the gain share/pain share regime. This reimbursement includes rework where aspects of the work change, fixing errors or mistakes, and any wasted effort. Reimbursement of direct costs should make no contribution to administrative or support functions that are not directly related to the performance of the works.

The definition of what constitutes direct costs must be very carefully assessed such that the appropriate behaviours result. NOPs should be motivated to do whatever it takes to deliver on the total requirements of the works knowing that they will be reimbursed for all their direct costs. Reimbursement of 100% of a NOP's direct costs should not be an incentive to do more work than is necessary because those direct costs should not include any element of recovery of non-project related overheads and profit.

Audit of direct costs

Given the significant commitment by the owner to reimburse all direct costs, the commercial alignment process must critically examine the financial records of each of the Non-Owner Participants (NOPs) to clearly determine their historical project related direct costs (Limb 1) and the costs that should be classified as part of their corporate overhead and normal profit (Limb 2).

Owners will normally engage an independent financial auditor to support them in this assessment of NOPs' direct costs as part of the commercial alignment process and to provide ongoing auditing of costs during delivery of the alliance works.

One of the issues an owner faces is determining the level of Value For Money (VFM) delivered through an alliance. The involvement of the financial auditor is an extremely important component in providing objectivity to this debate.

The conversations that are held between the NOPs and the financial auditor during the selection process and commercial alignment phase are critical to the success of the alliance. NOPs should be prepared to be open, honest and transparent in sharing their historical performance and understanding of the need to achieve a win/win outcome with the owner as this will augur well for the alliance.

The NOPs should appreciate that participating in the commercial discussions is a privilege and this should be reflected in their approach, including their view of what constitutes direct costs (Limb 1) versus corporate overhead and normal profit (Limb 2). An inappropriate split will not provide the owner with the comfort that the participant has enough 'skin in the game' to truly align with the owner's alliance objectives. Conversely negotiating too much 'skin in the game' can also create a perverse culture of risk avoidance. An inappropriate or non-equitable split may result in win/lose outcomes, rather than the desired win/win or lose/lose outcome.

Constructor direct costs

Project related direct costs, corporate overheads and normal profit are normally easily determined by constructor Non-Owner Participants (NOPs) from historical financial records. Projects delivered by these participants are set up with their own auditable financial accounts with clear differentiation between the actual costs incurred by the project and the corporate charges made to the project to cover non-project related overheads to the business.

The staff related direct costs for a constructor NOP are normally expressed as a multiple of the annual salary package converted to an hourly rate (for example, 1.5 times annual salary divided by the total hours in a year). This multiple normally picks up the statutory employee related charges and incentivised remuneration only as the other staff overhead costs (for example corporate training) get passed through

Limb 2. Non-staff related direct costs (for example, subcontractors, materials, vehicles and project offices) are recorded at their actual cost to the project.

Designer direct costs

The task for designer Non-Owner Participants (NOPs) to differentiate between project related direct costs, corporate overhead and normal profit is nowhere near as straight forward as for constructors, and can be the subject of some debate with the financial auditor.

The majority of designers do not keep auditable records of all direct costs for each project. Instead, projects are generally allocated costs on 'fully burdened labour rates'. Auditable financial accounts are normally held for each office within the business and/or for a market in that business (for example, the transport market).

To manage the effective delivery of projects, an internal cost structure is established so that staff time allocated to a project includes the recovery of the overheads of that business. These internal cost structures include an element of subjectivity that makes them difficult to audit effectively. The critical conversations that therefore take place with financial auditors are:

- how much of technical staff time that is not allocated directly to projects contributes to rework and unused effort in delivery of project outcomes
- what proportion of the office administrative support is directly related to the delivery of project outcomes.

The staff related direct costs for a designer NOP are normally expressed as a multiple of the annual salary package converted to an hourly rate (for example, 2.5 times annual salary divided by the total hours in a year). Non-staff related direct costs for a designer (for example, sub-consultant costs or project related travel, accommodation or other costs) are normally based on their actual cost with a BAU on cost margin applied.

Limb 2 (corporate overhead and profit)

The definition of the corporate overhead and profit component (Limb 2) of the commercial framework normally includes two phases. The first of these is the assessment by the financial auditor of the historical financial accounts of the Non-Owner Participant (NOP). The second phase is a conversation with the owner during commercial alignment about the historical accounts in the context of the current and future market place for the delivery of the alliance works.

In the current market place many owners are beginning these conversations from the premise that Limb 2 in an alliance should represent a discount on historical performance for a range of reasons, but primarily due to the collective sharing of risks and the limitations on liability. These are always interesting conversations because in an alliance the risk sharing basis is set out clearly up front and the outcome is clearly tracked. (In other forms of contract, initial clarity of purpose is often lost in the developing project as latent conditions (owner risk) and scope changes (owner and contractor initiated) create opportunities for commercial positioning and reversal of risk allocation). Any discount contemplated also needs to be balanced with the significant contribution of senior executive time on the Alliance Leadership Team (ALT) that is not reimbursed directly. For the designer NOPs, the bulk of their work occurs relatively early in the project and therefore another issue is the extended period their Limb 2 is at risk (and therefore provisioned for at a financial cost) while the project is completed.

Other issues to be considered in this discussion are the change in level of risk by all parties compared with more traditional contract forms. For example, the owner is taking on some of the construction risk, but also the NOPs are taking on some of the latent condition risks as well. These need to be considered on a project-by-project basis.

Limb 2 is normally expressed as a percentage of the Limb 1 direct costs (both staff and non-staff related costs) for all NOPs. Limb 2 percentages are normally much lower for constructors than they are for designers. This is normally driven by its application of the constructor margin to the very significant material and subcontract costs associated with delivery of the works that the constructor is responsible for. Occasionally alliances will adopt an overall Limb 2 percentage for all of the NOPs that reflects the weighted average of the constructor's and designer's input into the alliance. This then requires a sub-agreement between constructor and designer for distribution of Limb 2.

Fixed versus Variable Limb 2

To create the environment in which all parties either win or lose as a result of delivery of the works, the entire Limb 2 payment for an alliance is put at risk depending on the outcomes of the alliance. These outcomes are measured through the gain share/pain share regime that is described more fully in the next section. The commercial model should support behaviours that are 'best for project' rather than those that may be to the benefit of one participant over another.

Once the Limb 2 percentage has been determined through commercial alignment between the participants, it is applied during the Target Cost Estimate (TCE) phase to determine the Limb 2 amount payable to each Non-Owner Participant (NOP). The Limb 2 percentage can be applied in two different ways.

The first option is to *fix the Limb 2 payment as a lump sum* following approval of the Target Cost Estimate (TCE) irrespective of the outcome on actual direct costs for the alliance. This approach can influence behaviour in the NOPs to drive down the actual costs for the alliance so that the effective Limb 2 payment is higher than it would otherwise be (a greater percentage of the outcome direct costs). Progressive Limb 2 payments are made in the interim on the basis of the pro rata lump sum relative to actual direct costs incurred during a period.

The second option is to *retain the Limb 2 payment as a fixed percentage of the actual direct costs* irrespective of where the actual costs end up relative to the Target Cost Estimate (TCE), in other words, have a variable Limb 2 payment. This approach does not necessarily drive the behaviour to reduce cost as the primary objective, but does fairly compensate the NOPs for their inputs on the alliance. The Limb 2 payments are then made as a fixed percentage of the actual direct costs occurred in any period.

In most alliances the constructor NOP will take the position of fixing their Limb 2 payment as a lump sum once the TCE has been agreed. This approach is consistent with that taken in other delivery methods as it means the constructor has a real incentive to drive down construction cost (the majority of the cost) appropriately.

Both options have been used for the designer NOP in the past.

Alliances with integrated design and construction teams tend to continue development and design work for longer periods during the construction phase as the team continues to find innovation opportunities to enhance project outcomes. There is also a tendency for the designer to have much greater involvement during construction than others forms of delivery to alter the design as construction problems are confronted. Adopting the second option of determining the Limb 2 payment as a percentage of the actual direct costs (a variable payment) supports this behaviour.

If the designer adopts the first option and fixes their Limb 2 payment as a lump sum at approval of the TCE, their motivation is to keep overall design costs to a minimum – a goal that many believe to be positive. In this case, the designers will be reluctant to make changes to their design, particularly once it has been issued for construction.

Many believe that the former approach of the first option fixed Limb 2 amount means that the designer has more 'skin in the game', an outcome that supports the alliance objectives.

However, it is questionable whether this delivers best value for the owner. The first option of fixing of the Limb 2 payment does not necessarily support additional design development and increased construction

support as the designer can reach the point where any additional work performed on the alliance is reimbursed at direct cost only (as the total design costs go beyond the design budget in the TCE). This may restrict the potential for further design innovation, which may save the alliance significantly more money during construction than the additional design fees.

Both alternatives need to be carefully considered and should be the subject of a robust conversation during the commercial alignment process and may require consideration at later stages of the project dependent on the actual situation that evolves.

Both alternatives also require Alliance Manager (AM) approval and management of additional design work costs and Limb 2 allocations. This is a more onerous task for the AM in the first option fixed designer Limb 2 case than the second option of balancing of additional design (Limb 1 and Limb 2) costs with resultant construction cost savings. For this reason, most alliances now use the second option of a fixed percentage, variable fee approach for the designer.

Case note 30

Fixed vs variable designer Limb 2

Project: INB HUB Alliance
Owner Participant: Queensland Transport
Non-Owner Participants: Leighton Contractors, AECOM, Coffey, Bligh Voller Neild, EDAW
Value: $333m
Duration: 2005 to 2008

The Inner Northern Busway was a highly complex multi-disciplinary project constructed in the heart of Brisbane City. It formed the Central City Busway link to the Northern Busway including two major bus stations (one underground), a 600 m tunnel and major city infrastructure relocations.

Key lessons:

During the commercial alignment phase of the INB HUB Alliance, a robust conversation occurred around the drivers resulting from designer 'fixed' versus 'variable' Limb 2. The context was that INB was a very complex project in a central city urban environment with much uncertainty around the actual conditions to be encountered tunnelling under streets, through car parks and interfacing with railway alignments and Roma Street Station.

Two positions were discussed:

1. If a fixed designer Limb 2 was adopted then the risk of additional design work needed to be assessed and allowed for in the Target Cost Estimate (TCE) as a contingency fund (a 'design investment' allowance to be included partially offsetting an adopted 'unknown opportunities' allowance). Expenditure of that allowance or expenditure of additional design work to realise additional construction savings would attract additional designer Limb 2. Approval of or a request by the Alliance Manager (AM) would be required before additional design expense was incurred.
2. If a variable designer Limb 2 (fixed percentage) was adopted then the risk of additional design work still needed to be assessed and allowed for in the TCE. Approval of or a request by the AM would still be required before additional design expense was incurred.

The INB Alliance Board chose to adopt the first position (fixed designer Limb 2). This position required the AM to ensure that designer input beyond the TCE designer budget was properly accounted for and Limb 2 dealt with fairly.

Limb 3 (gain share and pain share)

The gain share and pain share component of the commercial framework (Limb 3) in an alliance is used to support the principle of collective sharing of risks. When tested against all possible outcomes, the result from the gain share/pain share regime for all alliance participants, including the owner, should be win/win or lose/lose. This is challenging to agree during the commercial alignment process as the measures that are used to determine performance can quite often conflict with each other, resulting in the potential for win/lose outcomes. The measures should be defined to discourage any tendency to sacrifice performance in one area to secure rewards in other areas. However, while the temptation is to try to develop the regime to cover all possibilities, it is essential for its effective implementation that it is kept as simple as possible.

The willingness of Non-Owner Participants (NOPs) to engage in robust conversation around the gain share/pain share regime is quite often used to differentiate between proponents in the selection process. Proponents must therefore understand the principles that it supports.

The elements of the gain share/pain share regime are linked to outcomes which add to, or detract from, the values of the owner. The regime normally consists of both cost and non-cost performance measures with a focus on the issues that are of real importance to the owner. The cost performance measures assess the actual outturn costs to deliver the works in the alliance against the agreed Target Cost Estimate (TCE). The non-cost performance measures are called the Key Result Areas (KRAs) and are described in more detail later in this chapter. Gain share in the KRAs is normally funded from a separate performance pool outside the agreed TCE that the owner establishes as part of the commercial alignment process. This performance pool is sometimes funded or supplemented by a proportion of any cost gain share earned. Pain share in the KRAs is taken from the Limb 2 component of the TCE.

The gain share/pain share measures will cover a range of performance so that as performance increasingly differs from the targeted outcomes (either positively or negatively) the gain or pain also increases. This is shown for the cost performance measure in Figure 29.

Figure 29 Gain share/pain share mechanism

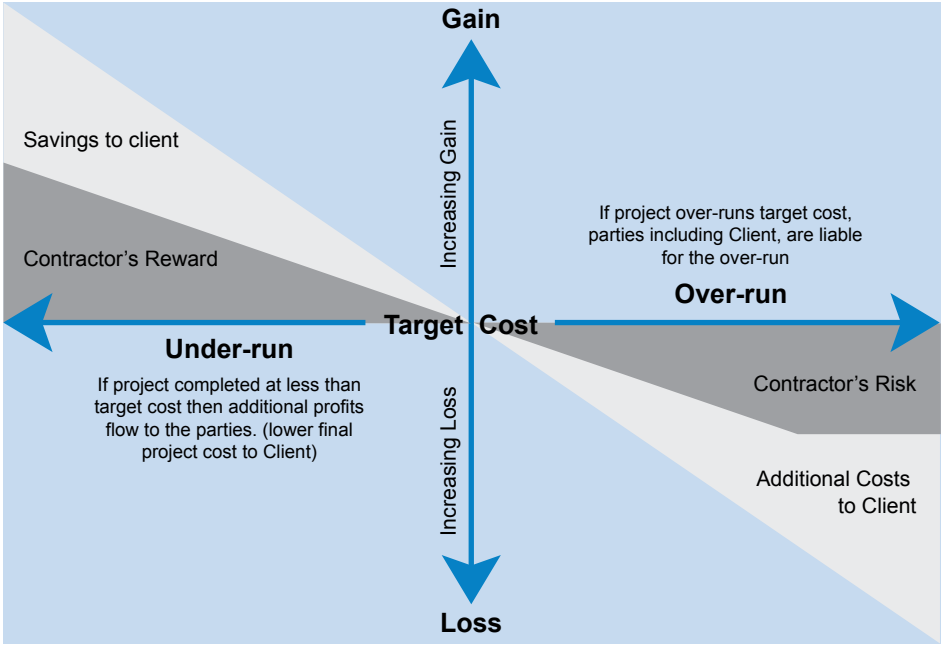


Diagram from Australian Contractors Association (1999), *Relationship Contracting: Optimising Project Outcomes*

The hinge point for this regime is commonly referred to as the Business As Usual (BAU) outcome or that which would be expected for normal performance for the team selected for the alliance (presumably the best available). As performance improves on BAU the returns to the alliance participants also improve. Likewise, as performance decreases in comparison to BAU the returns also decrease.

Quite often the upside in these regimes remains uncapped so that the greater the savings the greater the reward for the NOPs. Increasingly, a concern over the demonstration of Value For Money (VFM) has resulted in some owners placing a cap on cost gain share to remove any perceived incentive for the alliance to prepare a soft TCE – that is, one where there is a high likelihood that the actual costs will be less.

On the pain share side, however, a cap is included as part of the commercial framework so that the NOPs can lose no more than all of their Limb 2 payments. In this case, as an absolute minimum, the NOPs will only be reimbursed for their direct costs.

Quite often the alliance participants will agree to a sharing arrangement for the cost performance measure where the Owner Participant (OP) takes 50% of both the gain and pain, and the remaining 50% is available to be split between the NOPs. On the downside, however, as the NOPs' pain is capped at the amount of their Limb 2 payment, the owner takes 100% of the pain thereafter. The risk of this occurring is very small as the project would have had to overrun by twice the total fee pool on the job (say 24 to 30%).

There are many variations to these arrangements (although the fundamental 50/50 splits and pain share caps rarely vary). NOPs must respect the owner's intent when addressing variation to this framework through the commercial alignment process.

Non-Owner Participant share

Alliances that include both constructor and designer must also consider how the gain and pain should be shared between the Non-Owner Participants (NOPs). Quite often this conversation occurs independent of the owner. Various example sharing regimes are shown in Figures 30 to 33.

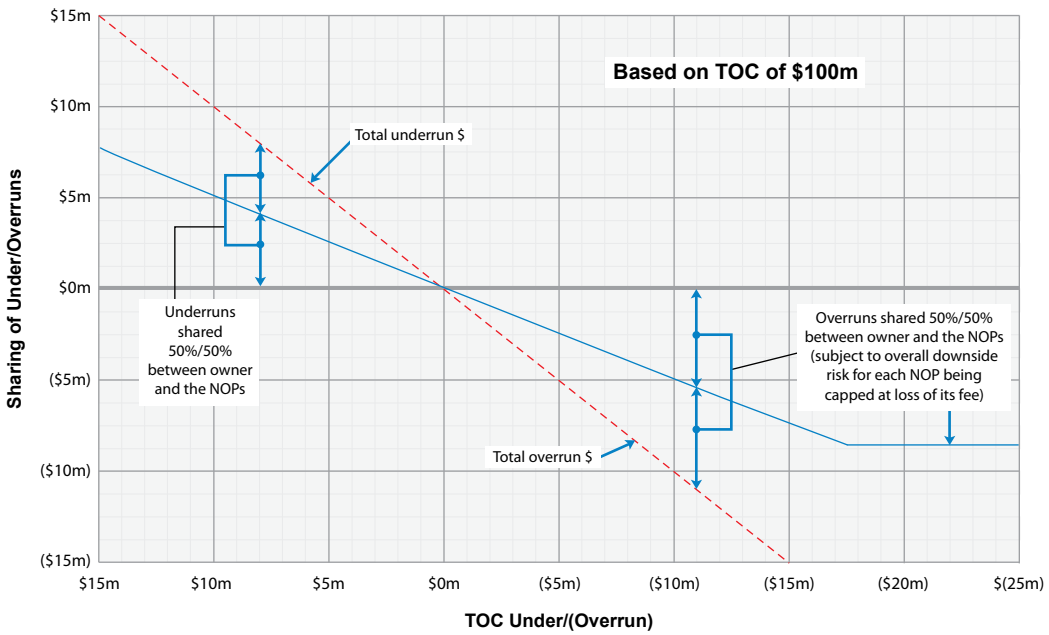


Diagram from Project Control International (PCI)

Figure 30 Lump sum fees, no contributions to top up pools

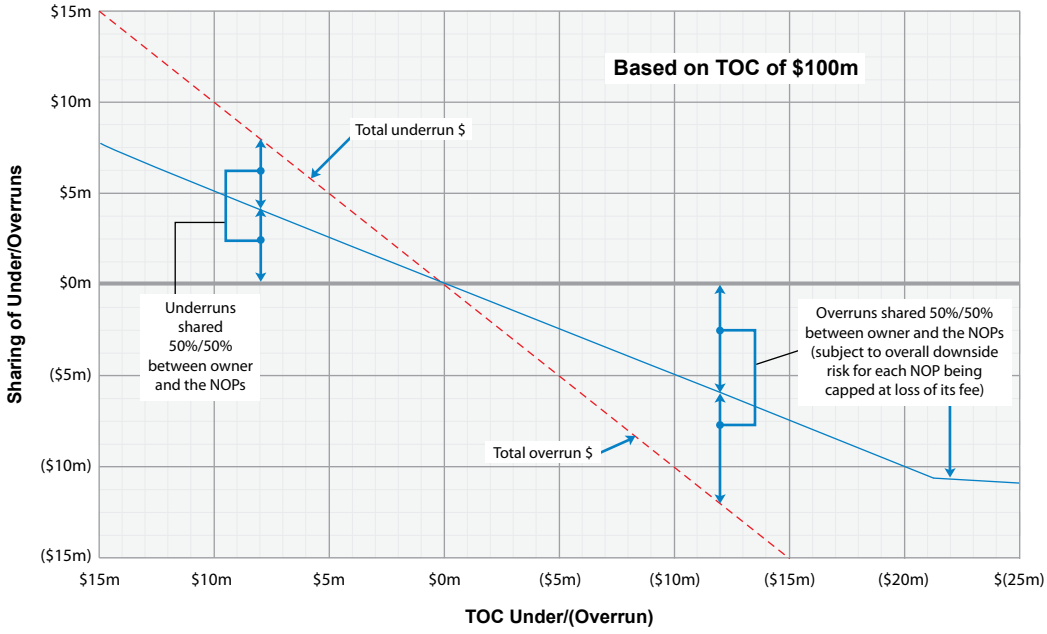


Diagram from Project Control International (PCI)

Figure 31 All fees based on actual costs, no contributions to top up pools

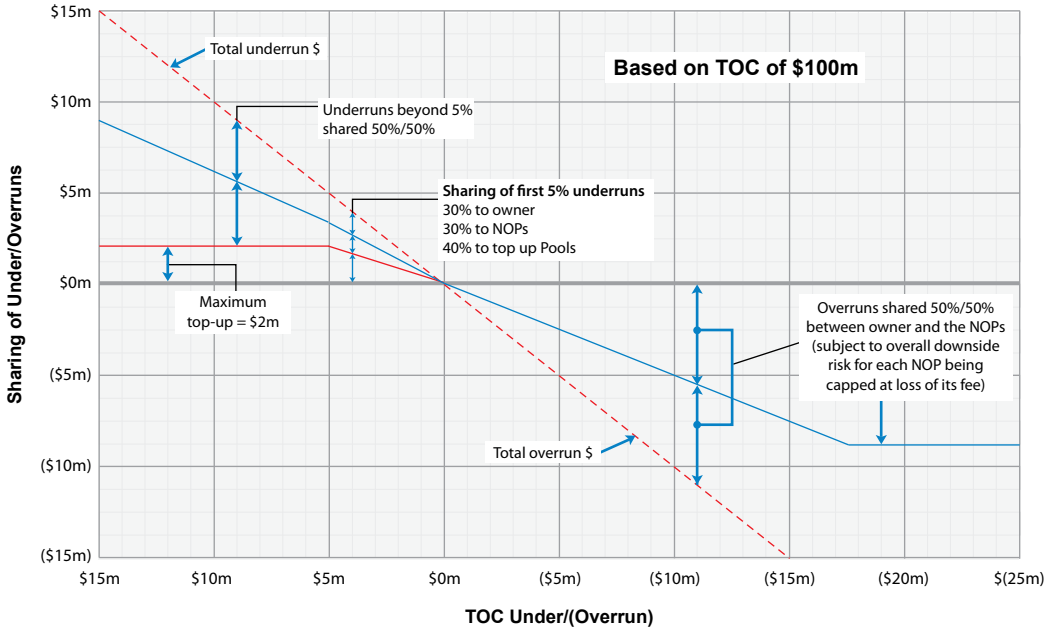


Diagram from Project Control International (PCI)

Figure 32 Lump sum fees, 40% of first 5% underrun to top up pools

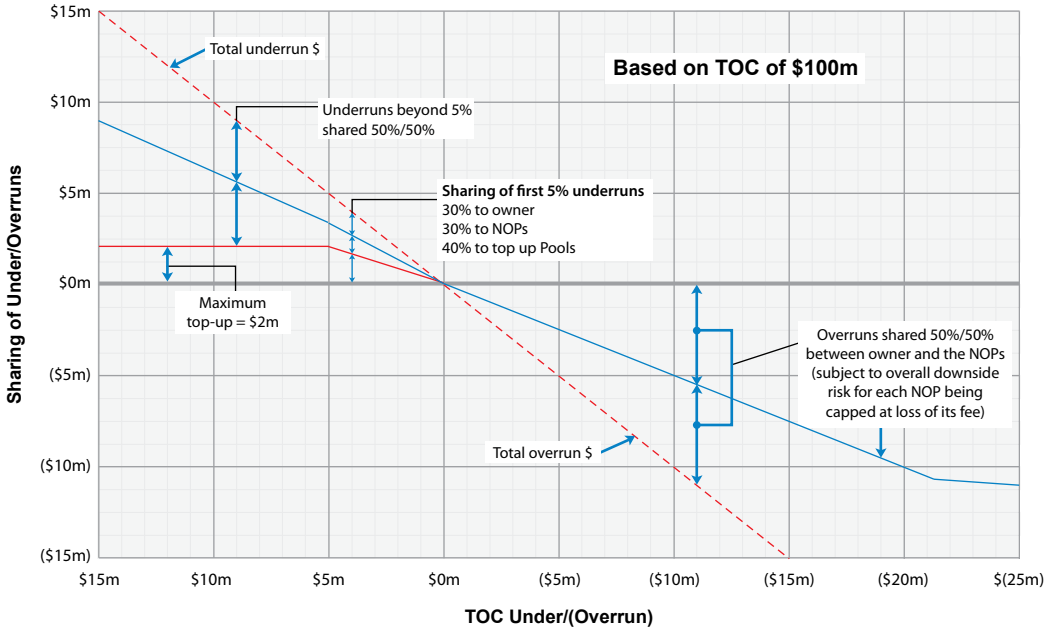


Diagram from Project Control International (PCI)

Figure 33 All fees based on actual costs, 40% of first 5% underrun to top up pools

Each of the NOPs should experience pain in proportion to their Limb 2 amounts so that each expire their Limb 2 payment at the same point. The proportions are often called the 'natural split'. Establishing the right balance is important to ensure that win/lose outcomes do not eventuate in delivery of the works.

For gain share, however, quite often the designer participant will have a greater share in the gain than the natural split proportion to provide an incentive for them to chase innovations in design and ultimately reduce the cost of construction.

Another consideration is the NOPs' share of gain share/pain share for the Key Result Area (KRA) performance pool. This will depend on the degree to which each participant can influence the outcome. For example:

- if the major KRA is 'safety' then the relative contribution of the constructor's safety systems versus the designer's 'safety in design' contributions needs to be considered
- if the major KRA is 'innovation' then the relative contribution of the designer's innovation versus the constructor's innovation in construction methodology needs to be considered.

The degree to which the share of the gain differs to pain varies between alliances and is the result of an aligned commercial discussion between those participants. Typically if the gain share is to be skewed towards the designer, this should be a constructor led conversation.

Key Result Areas

The Key Result Areas (KRAs) for an alliance represent the areas (other than cost) of value to the owner. The KRAs will normally align with the corporate goals of the owner or will reflect their business objectives. The KRAs are considered to add 'personality' to the alliance as each owner and each alliance will have a different focus on what is important with respect to performance. Some typical examples of these non-cost KRAs include:

- stakeholders and community
- environment and sustainability
- safety
- quality
- schedule.

Some or all of the KRAs are incentivised by the owner with gain share funded from a separate performance pool that the owner establishes for the alliance. The owner will normally define a set of KRAs along with their Minimum Conditions of Satisfaction (MCOS) or minimum expectations prior to going to the market to select Non-Owner Participants (NOPs). These will often be modified as further thought goes into developing them by all participants during the commercial alignment and Target Cost Estimate (TCE) phases.

MCOS will be used as the basis for defining Key Performance Indicators (KPIs) for each of the KRAs during the selection process and commercial alignment. In setting the KRAs, it is critical that the owner selects objectives that the NOPs can influence in the delivery of the works.

In most cases, each of the incentivised KRAs will have both gain share and pain share included in the commercial framework. However, some owners are adjusting this model to provide gain share and pain share for some KRAs, while only pain share for KRAs that have no upside value.

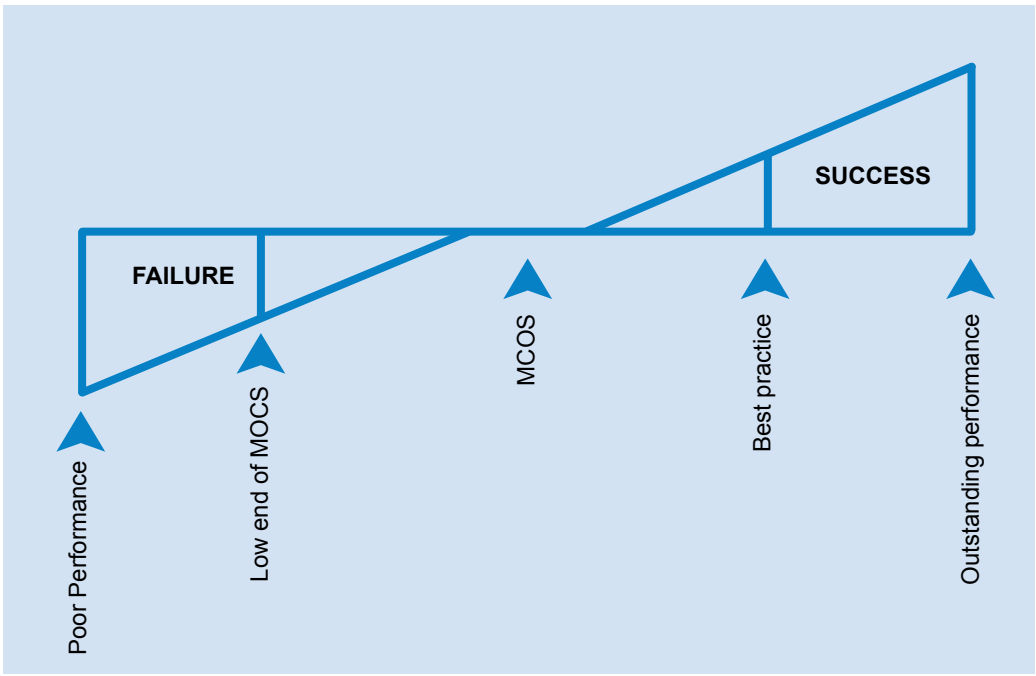
A typical example of a KRA with only pain share is safety where owners take the view that it is unacceptable to have anyone hurt as part of the works.

An example of a KRA where there may be both gain share and pain share is stakeholders and community. Performance above MCOS will result in gain for the NOPs and below MCOS, financial pain.

Measuring performance

The range that is commonly used to measure the performance of Non-Owner Participants (NOPs) against the Key Performance Indicators (KPIs) for the Key Result Areas (KRAs) is shown in Figure 34. This range may include a zone around the Minimum Conditions of Satisfaction (MCOS) that reflects neither gain nor pain. Alternatively, the spectrum may simply reflect a linear relationship from MCOS to either outstanding or poor performance.

Figure 34 Key Performance Indicator range



Setting targets

Teams involving representatives of both the Owner Participant (OP) and Non-Owner Participants (NOPs) will normally come together to define what is considered to be both outstanding and poor performance against each Key Performance Indicator (KPI) for each Key Result Area (KRA).

Targets are set so that the team needs to perform at an exceptional level to earn good rewards. By definition, the outstanding targets need to make the team feel 'uncomfortable' with uncertainty as to how they will be achieved. However, they should not be so far beyond what has been previously achieved that the team fails to commit to delivering or is de-motivated.

When establishing the KRAs and KPIs as part of the selection process and commercial alignment, significant effort must be made to ensure that the framework is simple to understand and implement.

Given that the whole alliance team needs to embrace the KRAs and KPIs, simplicity is essential for the owner's expectations to be clearly communicated. Simplicity in implementation provides balance between the associated measuring, reporting and implementation costs and returned value.

Unfortunately, there have been examples of alliances that have made the KPIs so complicated that the cost of measurement and administration clouded the value that came to the client from outstanding performance.

Case note 31

Owner's commercial framework

Project: Lawrence Hargrave Drive Alliance
Owner Participant: Roads and Traffic Authority, NSW
Non-Owner Participants: Laing O'Rourke (Barclay Mowlem), AECOM, Coffey Geosciences
Value: $45m
Duration: 2003 to 2006

Lawrence Hargrave Drive traversed geologically unstable country. The coastal road had been damaged by subsidence caused by wave action along the coastline and from rocks falling from adjacent cliffs and slopes. The Roads and Traffic Authority (RTA) selected the alliance partners to investigate a range of options to reconnect the road within a nominated budget. Ultimately the alliance delivered a viaduct including a 646 m cantilever and incrementally launched bridge, extensive cliff face and slope protection works and a 300 m cantilevered boardwalk structure.

Key lessons:

When RTA issued its Request for Proposals (RFP), the document listed eight Key Result Areas (KRAs) which were typical of most alliances at the time (this was the RTA's first alliance). The KRAs were:

- Project options
- Program
- Cost
- Environment
- Community
- Risk
- Safety
- Quality.

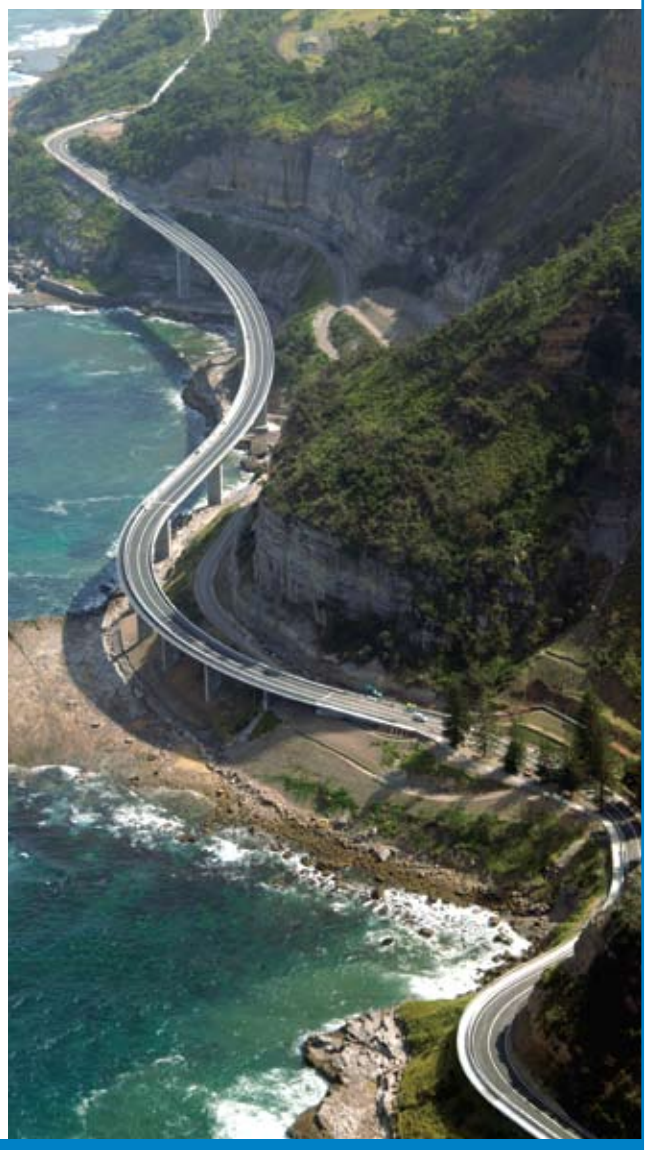
During the commercial alignment phase of this project, the treatment of the KRAs was split into three stages:

- Stage 1: Options development and analysis
- Stage 2: Selected option preliminary design and Target Cost Estimate (TCE)
- Stage 3: Detailed design and construction.

For Stage 3, the original KRAs were adopted. However for Stages 1 and 2, the majority of the incentivisation pool was allocated towards an 'Innovation KRA' with the designers heavily incentivised as follows:

- AECOM 40%
- Coffey Geosciences 40%
- Laing O'Rourke (Barclay Mowlem) 20%.

The KRA framework set the expectation for the truly innovative outcomes ultimately developed by the alliance.



Project Alliance Agreement

The commercial framework influences the behaviours of all participants to achieve outcomes that provide for mutual success. Once that has been agreed, the nature of the agreement between the participants must be documented in a single, multi-party Project Alliance Agreement (PAA) that can be executed by all parties. The contract must underpin the philosophy of alliancing and embrace the intent of the commercial relationships such that it does not constrain the participants in their approach to the alliance.

Traditional contract agreements have tended to be based on a master-servant relationship where an owner defines the scope of their works, assigns risk to the parties, sets performance expectations, establishes processes to resolve disputes, and includes the right to recover costs where damages result due to the actions of the servant in the relationship. These are sometimes referred to as 'adversarial' contract agreements and do not support the intent of alliances. Consequently, much work has gone into the preparation of a different form of contractual framework which avoids an 'adversarial' theme and reinforces the collective, cooperative environment required to enable the alliance to achieve its full potential.

An alliance contractual framework has a number of distinctive features as shown in Figure 35 and discussed below.

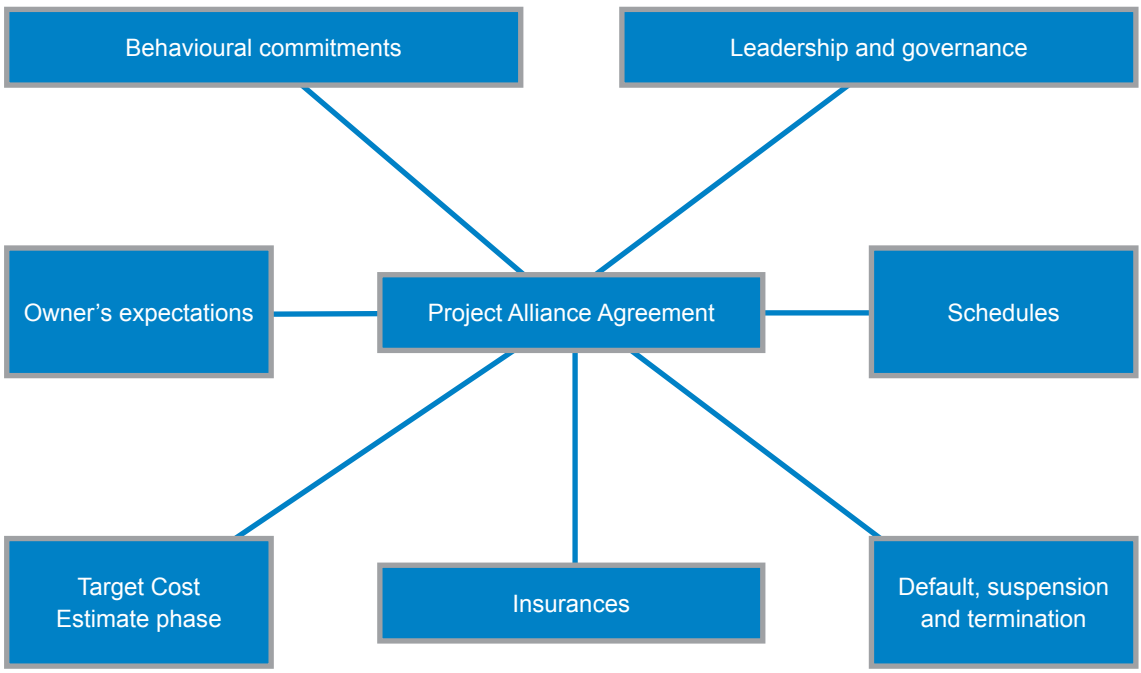


Figure 35 Contractual key features

In some alliances an interim Project Alliance Agreement (iPAA) will be prepared and executed to cover the delivery of services up to the approval of the Target Cost Estimate (TCE), at which point the final PAA will be executed. This approach is taken to facilitate early commencement of the works while full details of the commercial framework, particularly the gain share/pain share regime, are being resolved. Other alliances use one agreement (the PAA) to cover all phases, incorporating a 'go/no go' hold point for the owner when the TCE is finalised and submitted.

Collective responsibility

The Project Alliance Agreement (PAA) acknowledges that the participants will collectively deliver the project, and collectively share all project risks (other than where a specific risk is expressly given to one participant only).

The language of the PAA is inclusive. 'We', 'us' and 'our' are used to reinforce these collective undertakings.

The participants' collective responsibility for the project is underpinned by 'no dispute' and 'no blame' commitments which rule out the possibility that any participant can be held to be legally liable to the others for poor performance or negligence.

Behavioural commitments

Behavioural commitments of the alliance participants are the foundation to the alliance and are critical to its success. Typically the commitments outlined in the agreement include:

- definition of the alliance objectives and principles
- all parties will act in good faith
- best for project decisions will be made on a best for project basis
- participants will avoid disputes and adopt a no blame attitude
- risks and opportunities will be collectively shared as will performance of the alliance
- information will be shared openly and transparently
- results orientated focus
- conflicts of interest are openly declared.

Leadership and governance

The agreement will include a description of the Alliance Leadership Team (ALT) and its leadership and governance role. Typically the agreement will include:

- establishment and composition of the ALT
- the ALT's functions and responsibilities
- all decisions of the ALT must be unanimous
- ALT representatives must have the authority to bind the participants
- conflicts of interest are openly declared
- definition of any 'reserved powers' where the owner retains the right to make a unilateral decision if the ALT is deadlocked (for example scope changes or suspension of work).

The agreement will also contain a description of the Alliance Management Team (AMT) under the leadership of the Alliance Manager (AM) and their roles in the alliance. Typically this will include:

- establishment and composition of the AMT
- the functions and responsibilities of the AMT and AM
- reporting and operational requirements
- unlike the ALT, the AMT is not required to make decisions unanimously, but any dissention should be notified to the ALT.

Target Cost Estimate phase

The agreement will address the requirements of the project development or Target Cost Estimate (TCE) phase. This phase determines the cost target for the alliance. The owner will reserve the right at the end of this phase to terminate the alliance if the cost target exceeds their expectations and can not be reduced, or for any other reason.

What constitutes an owner direction or a scope variation will be defined. The agreement will normally include guidelines of events that the participants have agreed may lead to variations (which will adjust the cost target and/or completion date). The primary principle is that there are no variations once the TCE is agreed, unless there is a major scope change.

Owner's expectations

The agreement will define the owner's expectations of the alliance in performing the works, including any specific project and policy requirements. It will also define what constitutes practical completion and the defect correction period during which the alliance remains fully responsible.

At the end of the defect correction period, the owner generally assumes full responsibility for the project works, although some agreements will contain an extended 'latent defects' period.

Access and stakeholder management

Although access is usually the sole responsibility of the owner, the management of adjacent landowners, service providers, government agencies and other stakeholders is an alliance responsibility.

Insurances

Given the contractual obligations in an alliance the insurance requirements are quite different to a master-servant relationship. The agreement will identify how insurances are to be put in place to cover the activities of the alliance and its participants. An alliance insurance program would typically include:

- contract works
- public liability
- professional indemnity (suitably tailored for 'no blame')
- workers compensation
- motor vehicle and construction plant.

Insurance is dealt with in more detail later in this chapter.

It is highly desirable to have resolved the basics of the insurance program before the agreement is finalised so that potentially uninsured risks have been properly and openly dealt with.

Default, suspension and termination

The agreement will incorporate procedures for suspension and termination of the contract, including the owner's right to suspend or terminate for their convenience. It will also include a definition of default or wilful default. Wilful defaults set aside the 'no blame' principle, enabling a participant to take legal action against another participant who has wilfully defaulted.

Because alliance agreements usually have multiple parties, there will usually be the ability for non-defaulting participants to expel a defaulting participant without terminating the agreement.

Schedules

The agreement will include a range of schedules to provide greater detail on specific topics to cover:

- scope of the works
- further detail on the roles, responsibilities and accountabilities of the Alliance Leadership Team (ALT), Alliance Management Team (AMT) and Alliance Manager (AM)
- definition of the commercial framework and in particular what constitutes Limb 1 direct and project overhead costs, the agreed Limb 2 percentages and how they are applied, and the gain share/pain share regime
- miscellaneous schedules particular to the works.

Risk and opportunity framework

A key feature of the commercial and contractual framework that differentiates this delivery method from others is its approach to risk and opportunity management. The principle of collective sharing of risks is embraced in a number of ways throughout delivery of the works. Before describing these, it is important to appreciate what is meant by risks and opportunities in the context of the alliance.

What is risk?

Risk is the chance of something happening that will have an impact on objectives. While risk may have a positive (opportunity) or negative impact it is often specified in terms of an event or circumstance and its consequences. Risk is therefore measured in terms of a combination of the consequences of an event and the likelihood of it occurring.

The AS/NZS 4360-2004 definition for risk management is, *the culture, processes and structures that are directed towards realising the potential opportunities whilst managing adverse effects*. Clearly the approach to risks and opportunities for an alliance are well founded in risk management.

Historically, risk management has often been contracted to a particular contract participant leading to contractual disputes when the risk profile of the project changes. In contrast to this, an alliance brings all participants under one risk and opportunity framework to execute the project.

The need for a consistent approach

As industry has matured and the world become more complex, intuitive risk management processes have been formalised by creating a common understanding of risk. In other words, a risk and opportunity framework has been created based on standards.

National standards on risk management first appeared in Australia and New Zealand in 1995, then in Canada in 1997 and in the United Kingdom in 2000. Since then other standards have appeared around the globe.

Standards are not legally binding. Rather they remain as guides or benchmarks which define materials, methods, processes and practices for determining consistent and acceptable minimum levels of quality, performance, safety and reliability. AS/NZS 4360:2004 Risk Management Standard is recognised worldwide as a capable risk management process standard.

Application in an alliance

An alliance requires a practical approach to risk and opportunity management. Importantly, the approach will create an audit trail and place the alliance in a position of control.

Ultimately, the recommend approach is to develop a risk and opportunity framework as this will ensure information on risks is shared more efficiently and business decisions are quicker, based on a common and consistent platform. Each of the alliance participants will also be more informed on risk and aligned to the alliance objectives.

The key outputs from a best practice risk and opportunity framework are:

- **Risk management strategy** – documents the objectives, the phases of activity, critical timelines and key tasks for the alliance. The document is submitted for Alliance Leadership Team (ALT) approval and is often used by the ALT to monitor performance and the maturity of the internal risk culture.
- **Risk management framework** – articulates in detail the alliance's framework for managing risk.
- **Risk management program** – this will include an implementation plan and is a set of coordinated activities undertaken to ensure the risk management framework and risk management practices are adopted, measured and maintained.
- **Risk management systems** – the practical toolbox required to apply risk management practice as outlined in AS/NZS 4360:2004.

Some important questions for each alliance to consider when establishing its risk and opportunity framework include:

- Does the alliance want risk management as an integrated element of the overarching governance framework?
- Who is accountable (as opposed to responsible) for risk management in the alliance?
- Is the risk culture evenly distributed across the alliance?
- What is the return on investment in risk management that the alliance is looking to measure, such as awareness, culture, and reduction of risk, benefits or savings?

Some practical examples

One of the great attributes of risk management in alliances is the commitment to openness and transparency in all respects. During commercial alignment this is reflected in the Non-Owner Participants (NOPs) making available their historical financial records to demonstrate their past performance. In delivery of the alliance it is reflected in the open book nature of all direct costs incurred by the alliance.

During development of the Target Cost Estimate (TCE) this commitment is again evident in the open sharing of information on the risks and opportunities that may be faced by the alliance with the owner having full access to appreciate the level of contingency included in the estimate. This is in stark contrast to other delivery methods where the NOPs make their own judgements on the risks and opportunities and consequently, the level of contingency that will be included in their pricing, and the owner pays that contingency irrespective of the outcomes in management of those risks.

The alliance approach to risk management also enables effective delegation of authority throughout the delivery team with the commitment to no blame ensuring that issues are identified early and acted upon. Effort is expended in resolving problems when they arise, rather than trying to identify who caused them in the first place.

The risk and opportunity framework that is typically applied in an alliance has two components. There are those risks and opportunities that are associated with delivery of the works that relate to technical, contractual and commercial issues that the alliance may face. These were discussed in more detail in Part D, Chapter 3 along with the procedures generally adopted to identify and manage them during the alliance. In addition to this, there are risks and opportunities that relate to the insurance procured for the alliance. The approach to the management of these will influence the premiums payable by the alliance.

Insurance

The insurances that are core to a construction project are:

- **Contract works insurance** covers events where damage to the works occur requiring rectification. An example would be a partially completed bridge pylon that collapses during a flood event.
- **Public liability insurance** covers events where damage external to the works occurs and a claim for damages is brought by an external party. An example would be the neighbouring farmer whose crop is flooded and lost when a bridge pylon collapsed and blocked the stream diverting it into the farmer's field.
- **Professional indemnity insurance** covers negligence in design and other professional duties of the alliance participants. Typically, the policy is triggered by the discovery of incorrect design. An example would be a bridge pylon constructed without half the necessary structural reinforcing. If the pylon has not collapsed then no physical event has occurred but rectification work and costs are still required.

The first two policies are events based policies. In other words, a defined event occurs requiring rectification to which an assessor and policy can respond.

Professional indemnity policies traditionally require legal liability for loss to access the cover. In other words a party has to be able to sue the holder of the professional indemnity policy for negligence to gain access to the rectification funds. Professional indemnity policies may be held by all parties: the designer to cover their core activities; the constructor to cover such things as temporary works design; and the owner to cover client design and specification of specialist project areas.

Taking legal action to access professional indemnity insurance directly conflicts with the 'no blame' (no sue) clause in alliance agreements.

Historically, alliances have typically operated under three phases with the insurance industry.

1. Pre 2001 – before the collapse of HIH Insurance, alliances were able to obtain a range of insurances which effectively covered all requirements.
2. 2001 - 2005 – No professional indemnity cover was available that worked with the 'no blame' clause in a conventional alliance agreement. Alliances either elected to not have professional indemnity cover or created 'blame' mechanisms to allocate responsibility covered by traditional cover.
3. 2005 onwards – A professional indemnity policy was developed that enabled a claim to be lodged based on a breach of professional duty such as a design error (rather that a legal liability).

From 2005, a design event based professional indemnity policy has been available which covers all parties on the alliance. The popularity of alliance frameworks and integrated risk management processes has led other insurers to also offer similar cover.

A genuine commitment to collaboration and other alliance principles has also led to insurers offering some alliances 'LEG3' (London Engineering Group) extensions to contract works insurance as well. 'LEG3' cover does not contain the usual exclusion from cover for damage to the project works resulting from bad workmanship or design error.

These new and extended policies, all at competitive premiums, are a reflection of the regard that the insurance industry has of alliance risk management processes when done well.

Trackstar Alliance team

Part E
Future perspectives

Part E Chapter 1

Alliance and contract types

Conventional alliances (sometimes called pure alliances) will continue to be modified to suit the owner's circumstances to deliver great projects and Value For Money (VFM) outcomes. These models include:

- dual TOC alliances
- contracted alliances
- program alliances
- services alliances
- early contractor involvement (ECI) contracts
- small hybrid contracts.

These are all legitimate forms of project delivery for owners to consider when making that all-important decision of, "What do we want?" and, "How do we do this?"

So, what are these different kinds of delivery methods, how do they fit and where do they work well?

Dual TOC alliances - Are two TOCs better than one?

The question of whether a dual Target Outturn Cost (TOC) price competitive alliance selection delivers better Value For Money (VFM) than single TOC alliances is a much debated topic.

Points to consider in comparing single TOC and dual TOC contracts include:

- Does alliancing require a higher or lower level of accountability than other contract forms?
- Because of its transparent nature is alliancing actually the only way to really demonstrate value for money?
- If the owner is part of the process and the process is transparent, does that set up the conditions for a reasonable outcome?
- As the alliance model is often chosen for projects that are inherently high risk, how do you price all risk?
- If you set up a dual TOC alliance, will that drive unintended complex and / or competitive behaviours that do not serve the alliance well?
- Is the cost of funding two teams to each develop a TOC justified by the savings generated on the project?

Further commentary on dual TOC alliances are included in Part D of this book.

There will be occasions where selection of a dual TOC process is driven by other factors such as the need to assess differing "black box" technologies in a project or political or regulatory imperatives.

Contracted alliance

Contracted alliances create an open book incentivised contract framework, where the owner is not integrated into the team. They are typically employed by Local Authorities and Regional Water Boards where their regulatory framework requires arms length contractual arrangements, or where the authority doesn't have personnel to integrate into the alliance.

Contracted alliances do not include the no blame clause, but do typically include a cap on liability set at the level of Limb 2. This capping of risk does still allow for good collaborative arrangements better suited to projects where scope is well defined. Refer to further information at www.alliancenetwork.com.au

Program alliances

Program alliances are used to complete multiple projects with multiple TCEs under one umbrella program office. In this case the owner and non owner participants manage and perform projects of varying size and with varying skill sets. Examples are:

- Sydney Water – Sewerfix Alliance
- Melbourne Water – Sewage Treatment and Pump Stations Program Alliance, Water Supply Program Alliance, Waterways and Storm Water Quality Program Alliance, Pipelines (Sewage & Drainage) Program Alliance
- LinkWater – Southern Regional Pipeline Alliance
- WA MRD – Access Alliance
- QR TrackStar Alliance
- Gold Coast Water Beenleigh Merrimac Pimpama Alliance

In some program alliances gain share and pain share are linked between projects such that some of the gain share earned on one project is at risk on latter projects. This is purportedly to ensure that performance in maintained to the end of the last project. The downside is that there is an issue of deferral of revenue recognition for participants internal accounting systems long after individual projects are completed.

Some advantages of a program alliance approach can be:

- Bundling projects reduces selection processes time and cost demands
- Enables purchasing gains and cost efficiencies across a broader scope of work
- By offering a larger package of work, owners may get better skills and systems from larger design and construction entities
- Lessons learnt on each project can be applied to other projects
- Ability to benchmark one project against another
- Risk assessment on one project is informed by previous project outcomes and contingencies should reduce
- Larger bundled works packages will attract better insurance wording and premiums
- Gain share / pain share can be linked between projects

Disadvantages can be:

- Managing team culture on multiple work fronts requires additional support structure
- Differentiation between program KRAs and project KRAs can lead to complexity and confusion in drivers
- Demobilisation of the alliance while working on multiple projects requires additional management effort

Services alliances

Services Alliances are typically applied to ongoing operations or sustaining capital works where a program of work over a nominated duration is performed. Their application is often seen in the mining industry, water and rail sectors

The alliance will typically work inside the owner’s business, will share (the open book basis) cost, budget and business case information. It will also contribute to the owner’s annual budget cycle reviews. KRAs will typically be reviewed on an annual basis with new KRAs adopted on targets raised to encourage continuous improvement.

One of the biggest challenges in services alliances is maintaining the foundation culture and keen edge developed initially. Over the longer term, changes in key personnel at ALT, AM, AMT and WPT make it necessary to re-establish this culture.

Case note 32

Services alliance #1

Project: Brisbane Waste Innovations Alliance
Owner Participant: Brisbane City Council
Non-Owner Participant: Thiess Services
Duration: 2006 - 2013

The Brisbane Waste Innovations Alliance operates the waste recycling, transfer and disposal services for the City of Brisbane. This is focused on the operation of four recycling and transfer stations, a Brisbane City Council (BCC) owned landfill and some disposal at a Thiess Services owned landfill.

Comment:

The Brisbane Waste Innovations Alliance is a services alliance that has operated in pre-existing facilities for several years, and with several different alliance managers. The managers have typically moved on through career progression. The lesson learnt is that thorough succession planning and active induction and 'refresh' programs are required.

Regular reviews of the Key Result Areas (KRAs), escalation and contingency items are also required when setting budgets. For example, the cost of fuel was taken out of the alliance risk items and actual direct costs are now paid. However, a KRA to encourage reduction in fuel consumption was introduced. Annual operating and capital budgets are developed by BCC and Thiess Services under the terms of the alliance agreement.

Case note 33

Services alliance #2

Project: Southern Cross Fertiliser Alliance
Owner Participant: Incitec Pivot Limited (IPL)
Non-Owner Participants: AECOM, WorleyParsons
Value: Average $20m capital spend per year
Duration: Established in 2001 - ongoing

The Southern Cross Fertilisers Engineering Alliance contract was established in 2001 for the provision of Engineering, Procurement and Construction Management (EPCM) services to the Incitec Pivot Limited (IPL) Mt Isa Sulphuric Acid Plant, Phosphate Hill Fertiliser Plant and Townsville Port Receival and Handling facilities.

The contract was initially for a three year period being originally established to handle small brownfields projects involving a capital spend of $10m to $20m per year but has progressed to routinely handling significant projects for the site including gypsum storage and pumping facilities of up to $20m, assistance with major plant outages and major maintenance projects. The alliance relationship has successfully transitioned through two changes in plant ownership and is currently involved in a $100m capital program over the sites.

Key lesson:

The alliance has successfully transitioned through ownership changes, senior management and steering committee changes throughout the duration of the contract. A key factor in the ongoing success of the relationship is the commitment of senior management from the JV partners and IPL (Southern Cross Operation) to ensure that potential issues are identified and dealt with at the right levels. Key Performance Indicators (KPIs) focussed on achieving what is most important to IPL and a process to continually change the KPI emphasis and drive behaviours to improve performance has always been endorsed by all partners at all levels.

The strong relationship and stable core team has allowed the generation of extensive site knowledge so that real value can be demonstrated to being added for IPL from having the alliance team involved. The team culture from the initial establishment meetings has always been to question the business case and justification for projects so that only the right projects are undertaken and real savings are achieved in the capital program.

Early contractor involvement contracts

Early contractor involvement (ECI) contracts are an enhanced form of design and construct (D&C) contract sometimes described as being like an alliance front end to derive a 'risk adjusted maximum price' (RAMP) and a lump sum Design and Construct back end. Main Roads Department in Queensland has further modified this model by keeping the costs open book, validating the first project cost and sharing in any under-runs on the RAMP.

Some industry observations around the ECI contract are:

- It is an enhancement of D&C with construction input into the project development phase.
- Can be used where risk is contained.
- May be a trend to have competitive ECI (dual RAMP development teams) to demonstrate VFM
- Main Roads Qld ECI is open book at the end – validating actual cost at end – sharing under runs

International contracts – An NEC3 perspective

The dominant form of contract in Britain, the Middle East and some parts of Asia is the NEC3 suite of contracts published by Thomas Telford Publishing, a wholly owned subsidiary of the Institution of Civil Engineers (ICE) in London. The NEC3 contracts (New Engineering Contracts – edition 3) were published in June 2005.

ICE describes these contracts as "a clear and simple document – using language and a structure that are straightforward and easily understood."

The Core Clauses of these contracts describe a fairly conventional master-servant relationship contract form, although elements of an alliancing approach are contained in the Main Option clauses:

C – Target contract with activity schedule

D – Target contract with bill of quantities

E – Cost reimbursable contract

Also in the secondary option clauses including:

X 12 Partnering

X 20 Key Performance Indicators

Whilst these option clauses can replicate (to a fair extent) an alliance framework, ultimately the nature of the core contracts will support participant position based problem resolution rather than integrated decision making.

The NEC3 contracts development panel has met with alliancing practitioners from Australia and are contemplating producing what they've termed a single multiparty agreement that replicates an alliance for the NEC3 suite of contracts.

Small hybrid contracts

Most of the current alliances are large projects with project costs of at least $20m but in many instances in the range of $100m to $1000m or more. Because of the level of input required to facilitate, derive agreements and build the integrated teams, owners with small projects usually use traditional forms of contract. We are aware of one small $2.5m project successfully delivered using alliancing principles.

Case note 34

Small hybrid contract, sustainable result

Project: Weyba Point Lakehouses
Owner Participant: Cormorant Eco Retreat Pty Ltd
Non-Owner Participants: WW & Ch Tainsh (Builder)
Value: $2.5 million
Duration: 2007 – 2008

Weyba Point Lakehouses was a project to build eight houses on the shores of Lake Weyba on the Sunshine Coast north of Brisbane. The owner adopted an open book Masterbuilders Commercial Cost Plus contract with special conditions relating to alliancing principles. The special conditions included:

- An introductory Statement of Principle – "This is a special project being built in a special place that must remain special. We jointly commit to behaviours that are fair, reasonable, open, honest and are applied with respect and courtesy."
- Separate Target Cost Estimate (TCE) processes for the building works and the site civil works with an underrun bonus provision
- Agreed separate builder margins for the building works and site civil works
- Nominated Key Result Areas (KRAs) including environmental management, stakeholder management (authorities and neighbours) and quality of outcome with a bonus share arrangement
- A commitment from both parties to open and responsive communication.

The project was completed without disputation and with an excellent project outcome despite abnormally high rainfall during the work.

This style of contract is very unusual for this industry sector and required careful consideration by all parties. The architect designer, for instance, preferred to act as an advisor to the owner rather than be a party to the contract.

Alliancing in Public Private Partnerships

In many Public Private Partnership (PPP) infrastructure projects, alliancing is used as a way of managing risk in subcontract packages by the head constructor. An example would be a foundation piling contract where there is uncertainly about subsurface geotechnical conditions. However, the head construction contracts in PPP's are usually lump sum "hard dollar" contracts will full risk transfer pricing.

It is interesting to note that the insurance industry has embraced alliancing as an effective way of managing risk.

The next industry to contemplate the competitive advantages of delivering projects through integrated alliance teams may well be the project finance industry. Alliancing project and services delivery models have been raised at several Public Private Partnership (PPP) forums and at least two major legal firms have commenced considering the appropriate legal frameworks.

In an article in "Project Finance International" on 29 November 2006, legal firm Allens Arthur Robinson Partner Phillip Cornwall (view www.aar.com.au/pubs/bat) described alliances and their differences to EPC (Engineer, Procure, Construct) and turnkey contracts. He references a number of projects and the trend towards more alliance style of delivery. He also discusses issues from banks and their resolution by enhanced due diligence, financing structure, alliance contract mitigants, insurance. He concludes:

"Projects with inflexible completion deadlines, such as most PPPs or new or high-risk technologies, are unlikely to be suited to an alliance approach where a project financing is planned. But in the vast majority of cases, it could be said that alliance contracts are just facing reality. They are a natural response to non-conforming tenders which seek head-contractor style profit margins while pushing back on risk transfer. The traditional EPC/turnkey model, dogged by prolonged and costly disputes, is hardly perfect, and with the right financing structure, the right alliance partner and the right project, the alliance contract can be a viable basis for a project financing."

There is no doubt that constructors are already using alliances to better manage risks and provide cost certainty for complex elements of projects within current PPP models.

The change in the insurance industry resulted in a competitive advantage for one of the major underwriters for some time. Perhaps the adoption of Alliancing in PPP frameworks will be driven by a party in the financial industry seeking to give a similar competitive advantage in a PPP bidding process.

Part E Chapter 2

The importance of legacy

The alliance model has been a successful delivery vehicle for introducing legacy initiatives that benefit the people and communities in which projects are delivered. Although a relatively small part of the alliance commercial structure, the Key Result Area (KRA) framework allows for value adding beyond the traditional success factors of time, safety and cost. This more holistic approach broadens the agenda to include other Value For Money (VFM) drivers including, but not limited to:

- community and stakeholder benefits
- engineering industry skills development
- leadership and organisational development
- sustainable development.

Combined with a very robust and transparent Target Cost Estimate (TCE) phase and project delivery phase, the KRA framework offers the opportunity to deliver extended value to a range of stakeholders including public sector departments, the business community and the public.

Leaving positive legacies is an important part of the alliance delivery model, and often what is talked about by staff as a highlight at project completion. Whether large or small scale, these legacies matter to people, and they provide an opportunity for the industry gain more credibility in project delivery by working towards win-win outcomes.

Alliances also resonate with the public because they see the industry trying hard to make a positive difference to the way people work and live and to enhance, not detract from, the wider community and environmental picture.

Community and stakeholder benefits

The alliance model enables an integrated approach to take communities and stakeholders on the project journey. Design and construction challenges and methodologies can be explained to communities and stakeholders, while the project team in turn becomes more informed about the realities of community impact and consequence.

An integrated owner, constructor and designer team with aligned project objectives enables a proactive stance with fast reaction and resolution to be taken on community and stakeholder issues. The journey can be challenging, but often elevates the conversations around sustainable development and pays dividends in developing workable solutions.

Case note 35

Legacy - Key Result Areas

Project: Southern Link Upgrade Alliance
Owner: Transurban Ltd
Non-owners: Abigroup, AECOM
Value: $106m
Duration: 2006 to 2009

The Southern Link Upgrade forms part of the larger Monash-CityLink-West Gate Upgrade in Melbourne. The project is primarily intended to increase traffic capacity and improve safety on the freeway corridor. It generally involves adding a traffic lane to the inbound and outbound carriageway along 5 km of the CityLink tollway, from the tunnel portals to the CityLink boundary just east of Glenferrie Road. It also includes development and construction of a freeway management system involving lane management and ramp metering.

Key lessons:

The non-cost Key Result Areas (KRAs) reflected the areas of greatest importance to the owner. All KRAs, except safety, contributed to both gain share and pain share:

- **Safety** – safety of the workforce during construction, of the travelling public and of the operations and maintenance workforce post construction were of paramount importance. This KRA made no contribution to gain share.
- **Community & stakeholder** – Transurban takes pride in the quality of their relationships with their adjacent stakeholders and communities as these relationships play a very important role in the company's success.
- **Environment & sustainability** – the owner has made corporate commitments to embrace sustainability and the alliance was charged with the challenge to enhance this further.
- **Incidents & road operations** – Transurban's revenue stream is from tolls collected from road users. The alliance embraced the goal of minimising traffic impacts.
- **Legacy** – the owner wanted to ensure there were alliance outcomes that lived beyond the design and construction, and enhanced their reputation and capability.
- **Quality** – Transurban expected the alliance to produce an outcome that was of high quality and minimised their future operations and maintenance costs.

Industry skills development

Alliancing is helping to develop some industry sector skills.

The rail industry in New South Wales and in Queensland particularly is in a period of growth. Through the Transport Infrastructure Development Corporation (TIDC), such projects as the Kingsgrove to Revesby and Quaker's Hill to Vineyard Alliances, for example, have helped to reinvigorate the rail sector whilst developing and enhancing important rail infrastructure. Partly as a result of the rejuvenation breathed into it through the South East Queensland Infrastructure Plan Rail Program (SEQIPRail) Queensland Rail (QR) has spearheaded major improvements in the rail network including the TrackStar, Horizon and S2K Alliances. One of the key drivers for those alliances was the desire to rejuvenate the industry and build greater industry capability by helping to showcase rail as an exciting and sustainable career choice and to strengthen the skills within the sector through training and exchanges.

The TrackStar Alliance, for example, works hard towards positive interaction with key QR interfaces such as engineering, ISG etc. They encourage the rotation of QR staff through TrackStar to assist with an integrated culture and business exposure, and as a catalyst for cultural change. There are a lot of good processes developed and shared with QR, and vice versa, so that knowledge transfer is a tangible outcome and benefit to the industry as a whole. No doubt there are many other alliances doing similar great work in knowledge transfer.

Alliances have given an injection of greater professionalism into our industry, providing an opportunity for the engineering profession (in particular) to step up on to a broader platform. Not only do constructors and designers have the opportunity to work more closely with owners, and therefore experience the view from the owner's perspective, but owners get the opportunity to work in a contracting environment as well. Building a greater understanding of each other's drivers, operating environments and challenges has to be a good thing for owners, constructors and designers – the whole industry in fact.

Although obviously not restricted to alliancing, the principle of co-location of project teams under one roof has helped to bridge the discipline gap with all industry professionals all having a greater appreciation and respect for each other's specialties, having walked a kilometre or two in each other's shoes along the project delivery road.

Alliance principles are also helping to drive culture change throughout the industry. Alliance-like features and sub-alliances are being used to manage risk in PPP, D & C and ECI projects. The incorporation of alliancing features into hard dollar contracts and the use of sub-alliances has occurred on such major projects as the Gateway Upgrade and North South Bypass Tunnel in Brisbane, Eastlink in Melbourne, and the Great Northern Highway in Western Australia.

Case note 36

Industry development Key Result Area

Project: TrackStar Alliance
Owner Participant: Queensland Rail
Non-Owner Participants: Thiess, United Group, AECOM, Connell Wagner
Value: $800m (initial four projects)
Duration: 2006 onwards

TrackStar Alliance is delivering four rail projects, initially including rail and station works, along with state wide traction power upgrades.

Comment

One of the six program Key Results Areas (KRAs) adopted by TrackStar is to 'Build Industry Capability'. The KRA was developed in response to Queensland Rail's (QR's) concern that skills in the Australian rail industry are dwindling.

The KRA measures adopted were:

1. Attraction and retention of staff
   Best practice:
   - 25% - 40% of staff in critical roles are new to the Queensland rail industry
   - Voluntary turnover rate for critical roles of 7% to 9% per annum

   Outstanding performance:
   - Greater than 40% new staff in critical roles
   - Voluntary turnover is less than 7%

2. Build Industry Capability (BIC) strategy

   Best practice:
   - BIC strategy developed with approximately 75% of actions being implemented for critical roles resulting in positive relationships and influencing industry partners. (for example, project learning opportunities, railway civil engineering course, undergraduate placement, undergraduate programs with universities and TAFEs, workforce development program)

3. Learning and development programs and plans for staff

   Best practice:
   - Learning and development programs and plans in place with approximately 75% of team members actively developing their capability resulting in a positive contribution
   - Design and implement a capability framework which looks at total capability and total performance and not just technical components.
   - Identify competencies for specific job roles to assist to measure performance and guide development opportunities and needs
   - Separate compliance training from capability development, which is tailored to suit the individual and organisational needs
   - Create career opportunities based on capability not traditional career path approach (connecting passing with possibility).

Leadership and organisational development

Organisations are also changing in response to the alliancing industry. Some organisations now have internal alliance specialists who not only prepare project teams for bidding, winning and delivering alliances, but also extend those principles and behaviours into the organisation as a whole. Companies including Abigroup, AECOM, John Holland, Leighton and Thiess all have core teams of alliance specialists continuously building internal capability within their organisations.

Alliances have played an important part in developing the personal and professional competencies of industry personnel – building competencies in how to work in integrated teams. Through coaching and on-the-job experience, alliance teams have come a long way in honing the skills required to achieve shared goals in high performance teams that value communication, openness, trust, respect and innovation.

Part of that professionalism has included the emergence of the Alliancing Association of Australia (AAA), established as a vehicle for promoting and supporting alliancing in Australia. More and more organisations are gaining membership of the AAA. With links to the international Association of Strategic Alliance Professionals (ASAP), it is providing a much-needed professional reference point for alliances in Australia.

The AAA aims to:

- Act as a central forum for the collection and dissemination of experience and information to support the professional development of its members
- Advance the state of the art of alliance formation and management
- Provide networking opportunities for both individuals and organisations and professionals interested in alliancing
- Share and disseminate best practices in the development and management of alliances
- Raise awareness of the contribution that alliancing has made to companies and their employees
- Be a public voice representing and supporting the interests of its members.

The lessons from alliancing are also being taken back into parent organisations. Companies are introducing alliance principles into their Business As Usual (BAU) performances, and encouraging their staff to adopt the more integrated, collaborative approach to project delivery.

Sustainability

Many alliances have converted what would once have been an environmental compliance Key Result Area (KRA) into a more broadly defined sustainability KRA. This shift in focus enables culture change and initiatives that demonstrate intelligent integrated design across a range of disciplines. In some instances, the initiatives will cost more (for example purchasing green power) but in many instances the different focus on design will save construction and operating costs.

As an example, in the Robina to Varsity Lakes project a review by the sustainability team prompted a redesign of a conventional mechanically ventilated tunnel to a naturally ventilated and lit cut and cover tunnel. This saved hundreds of thousands of dollars in construction and operating costs.

Other elements that are often integrated into a sustainability KRA include safety systems, awareness and improvement and public interface safety and security and climate change mitigation and adaptation. It may take a generational change for deeply sustainable outcomes to become the norm, but incrementally progress is being made.

Case note 37

Sustainable infrastructure #1

Project: Tullamarine-Calder Interchange Alliance
Owner Participant: VicRoads
Non Owner Participants: Baulderstone Hornibrook, Parsons Brinckerhoff
Value: $150 million
Duration: 2005 to 2007

The Tullamarine-Calder Interchange (TCI) upgrade involved reconfiguring the Tullamarine and Calder Freeway junction, adjacent to Essendon Airport 10 km north of Melbourne, in close proximity to the Western Ring Road and on the way to Melbourne Airport.

Key project objectives were to eliminate dangerous weaving and merging to improve safety, and to reduce travel times and congestion.

The freeway upgrade was delivered by the alliance more than $12 million under budget with some new freeway lanes opening up to ten months ahead of schedule.

Key lesson

There was a significant commitment by both the Owner Participant (OP) and Non-Owner Participants (NOPs) in the TCI Alliance to deliver environmental and aesthetic legacies.

One of the five Corporate Aims of VicRoads is to "… minimise adverse impacts of roads and traffic on the community and to enhance the environment through the responsible planning and management of the transport system". All project managed by VicRoads must align with state and federal government environmental objectives.

The power of the alliance model and the shared commitment and innovation championed by the Alliance Leadership Team (ALT) resulted in significant sustainable outcomes. This achievement was recognised nationally with the TCI Alliance acknowledged as a finalist in the 2008 Banksia Environmental Awards.

Sustainable outcomes achieved by the alliance included:

- solar panels integrated within some noise walls and linked back into the local power grid to offset up to 10% of power demand for freeway lighting – an Australian first
- adoption of recycling technology well above industry standards with recycling of 99% of construction waste construction including asphalt, scrap metal, plastic, timber and glass
- extensive use of high density polyethylene pipe in drainage systems to effectively recycle 660,000 plastic milk bottles
- implementation of offsite noise attenuation (direct home improvements) in place of noise walls to minimise traffic noise impacts on adjacent homes in some areas.

The TCI Alliance provided an opportunity to go beyond standard environmental management practices, with the alliance taking a proactive approach and developing a sustainable roads assessment tool for civil infrastructure works. This tool provides a rating system now used to drive the road construction industry towards a triple bottom line approach.

Case note 38

Sustainable Infrastructure #2

Project: INB HUB Alliance
Owner Participant: Queensland Transport
Non-Owner Participants: Leighton Contractors, AECOM, Coffey Geosciences, Bligh Voller Neild Architects, EDAW
Value: $333m
Duration: 2005 – 2008

The Inner Northern Busway (INB) project was a highly complex multidisciplinary project constructed in the heart of Brisbane City. It forms the Central City Busway link to the Northern Busway including two major bus stations (one underground), a 600 m tunnel and major city infrastructure relocations.

Key lesson:

Sustainability was adopted as a Key Result Area (KRA) on the INB HUB Alliance project. The sustainability KRA led to the incorporation of carbon-saving and other measures into all facets of the project. A specialist multi-disciplinary team, including a Green Star Accredited Professional, drove the uptake of sustainability measures which included a commitment to environmentally-sensitive design principles and significant financial investments.

Major features included:

- The INB did not contribute to climate change through its construction. Greenhouse gases generated by construction vehicles, plant and equipment were fully offset by planting 51,555 trees via the Greenfleet program. The project was fully powered by energy generated from clean, renewable sources and 98% of construction, demolition and project office waste was recycled or reused.
- The INB will reduce fuel use by cutting congestion and offering direct bus routes. The INB will give buses a more direct, congestion-free run through the CBD. Buses on the INB will save up to nine minutes in normal traffic and up to 20 minutes in congestion.
- The INB will convert more car users to public transport by offering faster, more frequent and reliable services through the CBD, providing ‘single-seat’ journeys, expanding services, improving traffic choices and replacing street-side stops with attractive, weather-proof and comfortable stations featuring 24 hour security.
- Queensland Transport (QT) will continually upgrade the bus fleet using new bus styles and cleaner fuels.
- Much of the INB is in tunnel, freeing up land for urban renewal.
- Work undertaken and the knowledge developed on INB will help guide future projects.

Part E Chapter 3

Value For Money

What constitutes value?

This question is more complex and more important than most people think. The alliancing world seeks to define it in absolute terms, while owners and treasury departments around Australia continue to apply pressure on all to deliver it.

But what exactly is Value For Money (VFM)? Can it be formularised or even adequately defined? How does the industry know when alliances (or any other delivery method for that matter) have delivered it?

The question of what constitutes value has challenged great minds for hundreds of years.

Albert Einstein, the German-born American theoretical physicist, had a philosophical approach when he said, "Not everything that can be counted, counts. And not everything that counts can be counted".

Warren Buffett, American investor, businessman and philosopher cut right to the chase when he stated, "Price is what you pay. Value is what you get".

Peter Drucker, the American management guru, suggests that, "Quality in a product or service is not what the supplier puts in. It is what the customer gets out and is willing to pay for. A product is not quality because it is hard to make and costs a lot of money, as manufacturers typically believe. Customers pay only for what is of use to them and gives them value. Nothing else constitutes quality."

Vincent van Gogh, the Dutch painter, lamented, "I can't change the fact that my paintings don't sell. But the time will come when people will recognise that they are worth more than the value of the paints used in the picture."

And that Anglo-Irish dramatist and wit Oscar Wilde put it rather bluntly when he stated, "Nowadays people know the price of everything and the value of nothing."

Of course, these reflections relate to life in general and not specifically to the engineering and construction environment.

But the question remains … what constitutes value in the alliancing context and how do you define it?

Everyone's definition (and therefore the drivers) of what constitutes value is different, so it is somewhat akin to comparing apples with bananas. Owners will view value in terms of achievement in their critical success factors; Treasury may look at VFM in a totally financial light; Auditor-Generals want to see traceability and demonstratability; politicians will take both financial and community outcomes into account.

Dr David Finch, AECOM Director - Technology and Risk, in his paper 'Enterprise Risk Management in Project Procurement' states that it should be remembered that risk management, opportunity management and value management are intrinsically and closely linked.

He suggests that in principle, value can be expressed as:

$$\text{Value} = \frac{\text{Benefits (environmental, social, financial)}}{\text{Costs (environmental, social, financial)}}$$

Assessing a financial benefit versus a financial cost is something most would consider relatively simple, while needing to recognise the risk associated with the inherent uncertainty in each of these numbers at various stages of the project. What is more difficult is assessing an environmental or social benefit versus a financial cost, or indeed a social benefit versus an environmental cost, and vice versa.

The Queensland Department of Main Roads Project Delivery System defines VFM as “The achievement of maximum overall benefit to the users of the facility and the wider community (including the broader social aspects) at an appropriate agency cost”.

The risk for governments and companies is that both voters and shareholders will make their own assessments using their own sets of personal value priorities. The challenge is to align decision making processes with these contemporary value systems. These issues must be covered in sufficient detail in the feasibility stage.

Key risk:	Decisions are made based upon value judgements which are not aligned with stakeholder values.
Mitigation measure:	Determine key success factors in advance, prior to deciding upon a procurement method or likely providers of services. Test these key success factors by engaging with stakeholders.

Value in the alliancing context

Demonstrating Value For Money (VFM) is a necessity in an alliancing environment where the Non Owner Participants are typically selected without price competition.

To do this implies benchmarking against project specific value elements and potentially other projects. Broad whole project benchmarking can be particularly difficult as major projects delivered by alliances are typically unique in many ways. Each project is developed in a unique location with its own constraints, stakeholder requirements, owner requirements and whole of life operating requirements. As an analogy military procurement processes differentiate between COTS – “Commercial Off The Shelf” and MOTS – “Military Off The Shelf” where the latter are non standard products requiring a different procurement strategy. In some instances MOTS may be prototypes that require elemental cost build up by both purchaser and provider to define the scope and value proposition in the final product. This is not dissimilar to the joint transparent Target Cost Estimate development process completed by owner and Non Owner Participants in an alliance.

The Victorian Government’s *Project Alliancing Practitioner’s Guide* devotes a chapter to the Value For Money (VFM) strategy, providing a set of specific VFM initiatives or steps that include:

- alliance suitability assessment
- getting the owner’s budget estimate right
- commitment to an overall value for money strategy
- negotiated principles for establishing the Limb 2 fee
- establishment audits to provide transparency
- critique of owner’s budget estimate
- interim procurement plan
- principles underpinning the Target Cost Estimate (TCE)
- nominated benchmark outturn cost data
- alignment on principles for alliance variations
- conduct a TCE launch workshop in the early stages of the project development phase
- advanced risk/opportunity valuation
- independent estimator TCE check
- financial auditor verification audits
- TCE report including VFM assessment
- Key Result Area (KRA) validation report
- progressive development of final VFM report
- executive completion report (discretionary item).

These elements describe a process that ensures that the value proposition of a project is clearly understood by all participants. This clarity comes from the fundamentals of the process that often get taken for granted in the current industry contemplation of this issue:

- All TCE and project costs are transparent because of the 'open book' commercial framework
- Once clearly scoped packages of work are defined they are put out to bid or benchmarked in the market (often around 60% of costs)
- All risk and opportunity items are openly debated by Alliance Management Team (AMT) and Alliance Leadership Team (ALT) to ensure that a consensus position on risk management or contingency allowance (positive or negative) is reached
- There is complete flexibility to respond to changing owners requirements (eg, scope, budget) or accelerate or mothball a project without protracted commercial negotiation
- All participants are financially incentivised to create value by producing the defined scope at least cost and share in a joint financial benefit (or joint financial disbenefit). This gain share/pain share regime is usually based on a simple equitable sharing ratio of 50/50 between Owner Participant (OP) and Non-Owner Participants (NOPs) sending a clear and simple message about joint responsibilities
- The process of engaging the independent auditor, estimators and verifiers and benchmarking components of the TCE against other projects provides a reality check
- Because the commercial framework and margins are set at the start of the project there is no distraction during the project as a result of positioning to gain commercial advantage relative to other participants
- Provided KRAs represent the real non-cost aspirations of the owner for the project, all components of the value requirements of the owner should be covered.

In some instances owners and their facilitators have experimented with adding complexity to the above fundamentals to drive better outcomes. Sometimes this has worked, but it has also driven unintended consequences. Some in the industry have observed that, "The projects are complex, the commercial frameworks don't need to be. Keep it simple."

Benchmarking Value For Money

Value For Money elements can be split into three categories:

- Cost Elements
  - TCE
  - External Cost elements
  - Whole of life operating cost elements
- "Hard" Elements
  - Functionality
  - Quality
  - Durability
  - Early / on time completion
- "Soft" Elements
  - Catering for the community
  - Key stakeholder management and meeting their expectations
  - Minimisation if impact on the environment
  - Sustainability

Benchmarking of TCE elements (eg. culverts, bridge beams, concrete etc) can be achieved by comparing with similar elements from other projects.

The other cost, "hard" and "soft" elements are typically project specific and need to have individual benchmarks for performance (eg. poor, minimum conditions of satisfaction, outstanding) set by the owner and the alliance. This is often done by setting up alliance Key Result Areas around these value elements.

Value For Money as a Key Result Area

Some alliances adopt a Value For Money (VFM) Key Result Area (KRA) and measure and report on it at regular intervals. The reporting focuses on the processes for continuously creating value as the project cost and its attendant gain share/gain share are reported independently. Typical performance indicators for a value KRA include:

- **Innovation & value** – innovations program implemented and working very well with a culture of innovation across most of the team. Value recognised for innovations with savings of up to 10% of TCE realised.
- **Lessons learnt** – lessons learnt from one project recorded and passed onto all team to allow continuous improvement to result.
- **Value reporting** – economic, social, environmental – alliance is recognised for 'step change' above industry.
- **Performance evaluation** – TCE submissions, cost plan report and planning report – timelines, comprehensiveness and accuracy.

The TrackStar Alliance in Queensland provides one useful reference point in relation to VFM.

The rationale is that VFM is a process, and at the conclusion of such a rigorous process, VFM can reasonably be said to have been achieved.

Organisations such as the AAA are compiling credible statistical data in relation to the VFM proposition for alliancing compared to other delivery methods. In each case the outcome will be different, and it is up to owners and NOPs to work openly and rigorously to achieve outstanding results in those areas that the owner believes to be the critical success factors for that project.

Case note 39

Value For Money

Project: Tullamarine-Calder Interchange Alliance (TCI)
Owner Participant: VicRoads
Non-Owner Participants: Baulderstone Hornibrook, Parsons Brinckerhoff
Value: $150 million
Duration: July 2005 - July 2007

The Tullamarine-Calder interchange upgrade involved reconfiguring the Tullamarine and Calder Freeway junction, adjacent to Essendon Airport 10 km north of Melbourne, in close proximity to the Western Ring Road and on the way to Melbourne Airport.

Key project objectives were to eliminate dangerous weaving and merging to improve safety, and to reduce travel times and congestion.

The alliance delivered the freeway upgrade more than $12 million under budget, with some new freeway lanes opening up to ten months ahead of schedule.

Key lesson:

'Cost' was identified as a Key Result Area (KRA) for the project. Achieving a Target Outturn Cost (TOC) accepted by stakeholders as outstanding Value For Money (VFM) was classified as Minimum Conditions of Satisfaction (MCOS). A gamebreaking performance target for the cost KRA was to deliver the project at less than TOC. This was achieved with the Tullamarine-Calder upgrade delivered more than 10% under the original alliance TOC approved by the State Government.

An Alliance environment provided the flexibility to adapt and respond quickly to issues and opportunities for innovation and for procurement during the design and delivery phases, which was critical in getting the new lanes opened earlier and thereby delivering extra value.

This was seen in the weekend shutdown of the Calder Freeway with a round-the-clock operation to remove old freeway lanes and construct new access beneath the Tullamarine Freeway bridge. This opportunity would have been unlikely but for an Alliance approach. The TCI model provided flexibility to consider alternatives which otherwise would have likely seen sidetracks in place for two to three months with significant potential traffic and safety impacts.

Innovation and flexibility by the Alliance helped achieve opening of inbound lanes ten months early and outbound lanes five months early.

Value beyond pure project dollar terms was achieved for VicRoads and the State Government by bringing forward project benefits to the community with savings in travel time and transport costs for all.

Safer road access delivered earlier by the Alliance further added value with the community enjoying reduced accident and social costs. At this critical location, delays, congestion and traffic diversions when accidents occurred imposed significant costs on road users and the local community.

For the Owner Participant (OP) some of the value achieved under the alliance form of contracting may not be immediately obvious as it will be realised in years to come as learnings and innovation flow on in future projects.

Case note 40

"Best Value" (KRA 1)

Project: TrackStar Alliance
Owner Participant: Queensland Rail
Non-Owner Participants: Thiess, United Group JV, AECOM, Connell Wagner
Value: $800m
Duration: 2006 to 2010

TrackStar Alliance is delivering a range of rail projects initially including rail and station works, along with state-wide traction power upgrades:

- Caboolture to Beerburrum duplication
- Robina to Varsity Lakes extension
- Corinda to Darra upgrade
- Beerwah grade separation
- Beerburrum to Landsborough duplication
- Traction power upgrades

"Value For Money" Key Result Areas:

Six program level Key Result Areas (KRAs) were adopted by TrackStar Alliance. KRA 1 is "Best value" and contributes 20% to the program score. The KRA measures nominated as Key Performance Indicators (KPIs) are:

- KPI 1.1: Triple Bottom Line performance (Social, Environmental, Economic)
- KPI 1.2: Lessons learnt captured and transferred through program and between projects
- KPI 1.3: Measurement of innovation and value-ideas captured, recognised and implemented to provide benefits
- KPI 1.4: Effectiveness of verification processes – turnaround times reduced.

All KRA's are scored by the Alliance Leadership Team (ALT), Alliance Management Team (AMT) and senior management team each month with action items listed in the monthly report. Scoring is assessed against descriptors for each KPI:

- failure (score 0 to 20)
- poor performance (score 20 to 40)
- business as usual (score 40 to 60)
- best practice (score 60 to 80)
- outstanding performance (score 80 to 100).


Inner Northern Busway Alliance

Part E Chapter 4

A bright and interesting future

Alliance contracting is intended to be a legally binding cooperative model characterised by openness, trust and an alignment of interests. To many in the infrastructure project delivery industry this has been a breath of fresh air. Cleat Watson (at the time Chief Operating Officer for AECOM's ANZAME region (now retired)) commented:

"I had always believed that the majority of business people would rather do business in an environment of openness and trust, in fact signified by a handshake. With alliancing I've seen a way of ensuring alignment such that this can be achieved."

In some ways the rise of Alliancing in our markets has been in step with the change in organisational metrics (balanced scorecard, etc), competition for skilled technical staff and a rapid broadening of the skill set of client, construction and designer organisations. This in turn provides attractive career paths for men and women in traditionally male dominated sectors without diluting the requirements for performance and accountability.

The Inner Northern Busway Alliance provided the cover photographs and many of the case studies for this book. At the completion of the project, team members were asked to reflect on the experience. The following are part of what they wrote:

"When the project first started we (the team) identified three key areas where we wanted to excel and those areas were stakeholder relationships, community relationships and workmanship. I am pleased to say that my expectations in these areas have been significantly exceeded. The teams' commitment, dedication, drive and passion to go beyond and deliver an outstanding result - always looking for ways to do things better was an experience that I had not witnessed to this extent before on a project. The end result on this project is something that I am extremely proud of and everyone on the project also deserves to be very proud. It is hard to keep the smile off my face when someone asks me about the project – it was just that good.
"Shane Doran, Executive Director Major Projects, Queensland Transport (Client)

"To be faced with the impossible, and then to succeed, was so energising and rewarding, we felt like we could achieve anything. I was able to tap into the best of myself and those around me. I didn't have to come up with all the answers myself, because the whole team contributed to the solution. But it required trust and openness. It was a safe environment to be creative and to challenge the norm. Team members were not afraid to 'push the envelope' for fear of failure or humiliation. Open-minded thinking was encouraged, recognised and rewarded with structured performance programs. Team leaders were coached in leadership, teamwork and communication. There was no place for sarcasm or cynicism. We were positive and optimistic."
David Burchard, Structural Lead and Area 10 Design Manager (AECOM)

Inner Northern Busway Alliance also exemplified a clear demonstration of Value for Money by any measure. The project was completed under budget, under time and received "outstanding" KRA results in Quality, Relationships with Stakeholders and Community, Environment and sustainability and Culture and People.

That's not to say everything went perfectly, it was a very challenging project with many highs and lows. The key point is that Value for Money was demonstrated in a transparent open way based on the same alliancing fundamentals used in many other alliances around the country.

One certainty remains, and that is that alliancing will continue to evolve. Whether it's in the project, sustaining capital or services alliance space, alliancing is sure to remain a fundamental aspirational way of completing projects and services into the future.

AECOM

Alliancing is a project delivery method currently being used to deliver infrastructure projects and services contracts worth many billions of dollars in Australia and New Zealand.

Alliancing: a participant's guide is a practical handbook for the alliancing practitioner. The guide starts with an introduction to alliancing, and then explores the development, establishment and operation of an alliance through the eyes of both the Owner Participant and Non-Owner Participant. Practical case studies written from an industry perspective provide real examples of the many challenges, achievements and lessons learned in Australian alliances. The book concludes with an exploration of perspectives on the future of alliancing.

Alliancing: a participant's guide will benefit all who work in alliances or are looking to become part of this exciting project delivery environment.

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