BIDDING FOR PUBLIC-PRIVATE PARTNERSHIPS AND THE IMPLICATIONS FOR DESIGN AND CONSTRUCT CONTRACTORS

Marcus Jefferies, University of Newcastle
email: Marcus.Jefferies@newcastle.edu.au

Denny McGeorge, University of Newcastle
email: Denny.McGeorge@newcastle.edu.au

Steve Rowlinson, University of Hong Kong
email: steverowlinson@hku.hk

Abstract

The term Design and Construct (D&C) is a well-established description of a procurement method in which the roles and responsibilities of the various stakeholders are clearly defined. The advent of Public Private Partnerships (PPPs) bring a new opportunity for D&C contractors with the concomitant challenge associated with bidding as a member of a private sector consortium with numerous stakeholders. The work described in this paper is based on an ongoing research project that is investigating the costs and the allocation of risks during the bidding process for PPPs. The implications for D&C contractors bidding for social infrastructure PPP projects are explored. The conventional wisdom has been to assume that there is little difference between bidding for a conventional D&C contract as compared with submitting a D&C bid as part of a wider PPP bid. However, the results of our research indicate that there are both subtle and significant differences.

Keywords: Australia; Bidding and Tender Costs; Design and Construct; Public Private Partnerships; Social Infrastructure.

Introduction

The working definition of Public Private Partnerships (PPPs) for this research is based on Akintoye et al. (2003) who define them as “a long-term contractual arrangement between a public sector agency and a private sector concern, whereby resources and risk are shared for the purpose of developing a public facility”. The genesis for this research project came from the private sector where there appears to be a widely held view that Public Private Partnerships (PPPs), particularly with respect to hard social infrastructure projects, are partnerships in name only.

This line of argument is advanced by Curnow et al (2005) who argue that there is a strong body of opinion to support the contention that current social infrastructure projects in Australia are not true partnerships and there is a clear need to reduce the ‘tokenism’ of Australian PPPs. They argue that the Public Sector needs to make PPPs more attractive to the Private Sector and

clarify the identification of risk in order to transfer more responsibility to the Private Sector. This issue is supported by recent industry criticism of PPPs concerning the 'narrowness' of the scope of work that is offered to the private sector.

Argy *et al* (1999, cited in Grimsey and Lewis, 2004: pp. 20-21) make the following useful distinctions between types of PPPs:

- hard economic infrastructure e.g. roads
- soft economic infrastructure e.g. financial institutions
- hard social infrastructure e.g. hospitals
- soft social infrastructure e.g. social security

According to Curnow et al (2005), PPP project costs relating to finance, building design, construction, maintenance, and waste management amount to less than 15% of the total life cycle cost of the enterprise. As a result, the private sector may be deterred by the high transaction costs of social PPPs, which offer only a marginal increase in scope of business opportunity. This is in direct contrast to opportunities that are available in the much lower cost-to-bid ratio of more standard procurement models or in hard economic PPP projects where the revenue stream from, say, a freeway tollway has a substantial and clearly defined internal rate of return. There is evidence from our own research to support the view that a number of private sector players are either withdrawing from social PPP projects completely or are being highly selective due to the unattractiveness of the projects on offer.

In summary, there is a body of opinion amongst private sector consortium bidders for hard social infrastructure PPP projects that they are being hit by what might be described as a *'double whammy effect',* where the financial rewards are less and the operational demands are more complex than for hard economic PPP projects. Not withstanding this situation, the number of proposed hard social PPP projects in Australia is on the increase and there are a number of private sector players who are willing to bid in this environment.

The Origins of Australian PPPs

Jefferies et al (2002); Walker (2003); Jordan & Stilwell (2004); Duffield (2005); Jefferies (2006); and McGeorge et al (2006) trace Australian PPPs back to the 1980s and 1990s with projects such as the Gateway Motorway and Bridge, Brisbane (completed 1986), the Sydney Harbour Tunnel (completed 1992) and the Sydney Olympic Infrastructure (completed 1999). Australian PPPs have been classified into 'first' and 'second' generation by Duffield (2005), with the first generation primarily motivated by the public sector gaining access to private capital and the transfer of near full project risks, and the second generation where state governments sought to retain direct control of 'core services' and to involve the private sector in amongst other things, value for money outcomes.

Jones (2003) makes a fine distinction between PFPs (publicly financed partnerships) and PFIs (partnerships involving private financing). Jones groups operating franchises such as Build-Own-Operate-Transfer (BOOT) projects under PFIs, and Project Alliances with long-term service agreements and DCM (design, construct and maintain) projects under PFPs. Jones lists, in chronological order, a schedule of some 48 major Australian PPP projects from 1986 onwards. In this schedule all projects from 1986 to 1999 are PFIs with PFPs emerging, for the first time, in 2000. Overall, using Jones's terminology, PFIs still dominate the PPP sector.

Practical Issues with Social Infrastructure PPPs

The trigger for this research was the view expressed in Curnow et al (2005) by PPP private sector stakeholders that the current high cost of transaction fees incurred in bidding for hard social PPPs was acting as a deterrent. They also argue that in many cases the concept of the partnership was one of a token rather than genuine partnership and that there should be a broadening of the scope of work available to the private sector to make PPPs more attractive. Subsequently, Blood (2005) argues one step further in that there should be a greater transfer of responsibility to the private sector rather than the scope of work.

Blood's (2005) proposition is that *"The Government perception of PPPs is that this is private funding for public infrastructure. But this misses the point: PPPs are a shift of responsibility, not of funding. They motivate all parties to take responsibility for their actions and delivery, making projects more accountable and measurable."* In support of his argument, Blood makes the case that PPPs should not be used as a scapegoat for Government-led finance or staff cuts and changes, but rather should be seen as an opportunity not to reduce staffing but to make staffing more efficient through a better infrastructure for delivery. There are certainly a number of critics, including the trade unions, who would not subscribe to this point of view.

These issues whilst not necessarily unique to social PPPs, are perhaps more acute than for economic PPPs. If a comparison is made between a large hospital as an example of a social PPP and a tollway as an example of an economic PPP, then the contrast in terms of complexity of operation and interaction between the private sector operator and the users is quite marked. In the hospital situation staff costs will represent at least 90% of the total annual operating costs whereas in a toll way staff costs are minimal with the largest item of expenditure being maintenance. Whilst both types of PPP do carry a number of risks to both the public and private sector the risk potential over the operating period would appear to be greater in social PPPs than for economic PPPs.

Research methods

Research question or research hypothesis:

- The specific aim of this research is to improve on current approaches to risk identification and allocation during the bidding process for Public-Private Partnerships (PPPs) for infrastructure projects.

The basic premise underpinning this component of our research was the underlying differences for D&C contractors bidding in a PPP environment as opposed to a standard D&C contractual relationship. The most appropriate method of determining these differences was through interaction with senior industry experts whose views were taken as representing a distillation of the opinions of major stakeholders in the field. This expert opinion approach is, in our view, justified both in terms research methodological grounds and also pragmatic grounds given the sensitive and confidential nature of the data.

Research Objectives:

- Minimize the transaction costs incurred during the bidding process.

The full research methodology is illustrated in Figure 1.

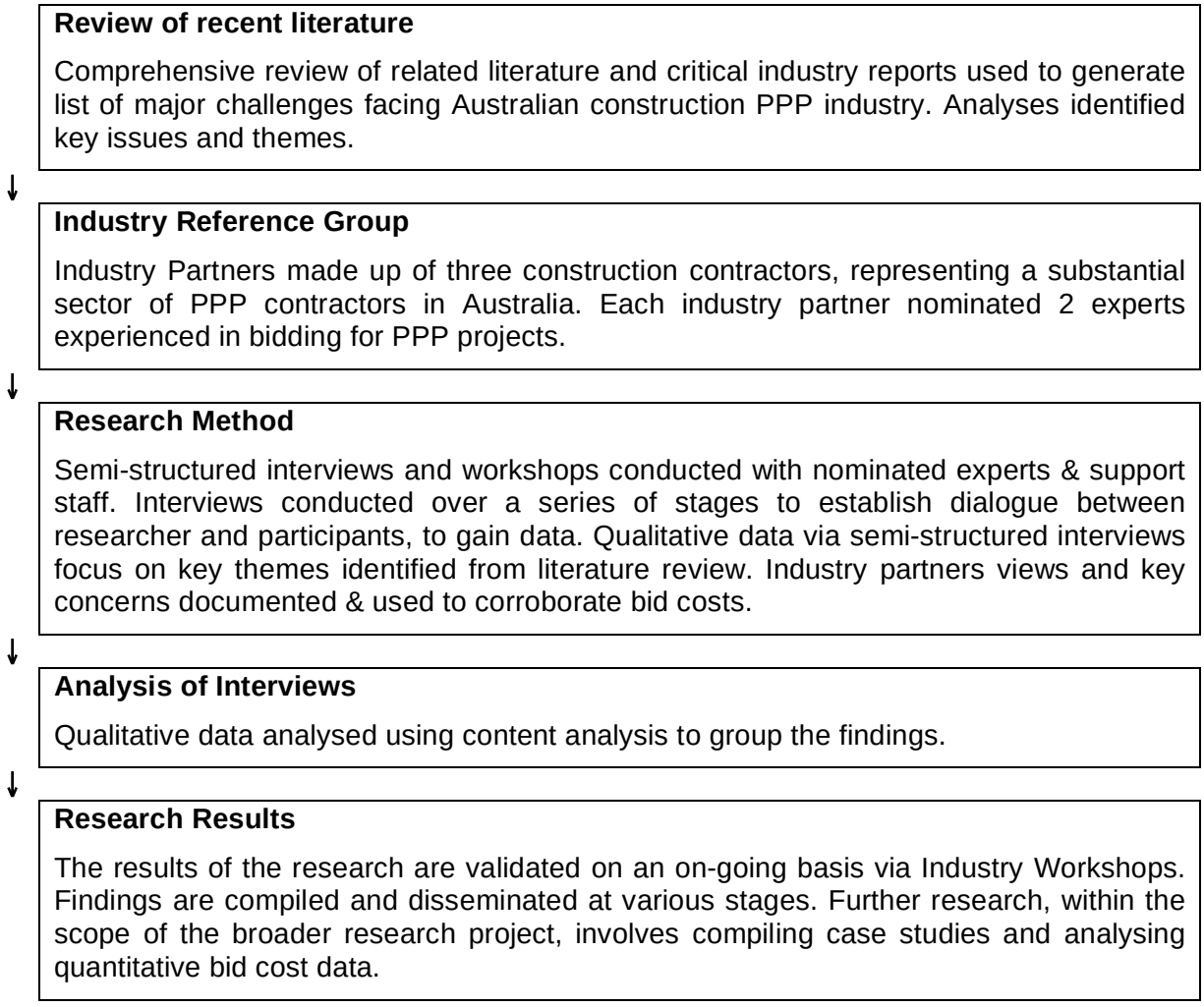


Fig. 1. Research Method

Research results

As previously stated, the initiative for the research project came from the private sector. Our industry collaborators are D&C companies who, in turn, are part of larger holding companies. It has at times been difficult to differentiate between responses that relate specifically to D&C issues and evidence that relates to issues affecting the consortium as a whole. The network of relationships between the various consortium members during the bidding process is highly complex.

Although the bid is submitted by the Special Purpose Vehicle (SPV) on behalf of the consortium, the relationship of the SPV to the other consortium members and funding of the SPV can vary quite markedly. Care has to be taken in discussions with industry players in establishing the role of a particular organisation in a PPP consortium since not only does this role vary from project to project, but also individuals within one organisation can have more than one role in preparing the project bid. In this instance, our research is primarily concerned with PPPs as seen from a D&C contractor's perspective. However, key personnel can have responsibilities in both D&C and facilities management (FM) and in some cases also be a member of the SPV team. A typical consortium structure is illustrated in Figure 2.

Additionally, care has to be taken in distinguishing between the cost of bidding and the bid price, as problems can and do arise when the cost of preparing the bid is confused with the bid price. During the interviewing process it was found that respondents often discussed both the consequences of winning a bid and undertaking the D&C contract under consortium conditions together with the consequences of loosing a bid and having to absorb the bid costs into the next round of bidding. The paper attempts to make a clear distinction between these two quite different sets of circumstances.

Discussion and conclusions

As previously mentioned, it has been difficult and in some cases not even possible to separate issues that relate specifically to D&C as an entity of a PPP consortium and issues which relate to the consortium as a whole. For the purpose of this research, the paper has focused specifically on D&C issues. Our respondents have identified a number of themes, many of which are inter-related. Four dominant themes have been identified and these are discussed in detailed below. They do not encompass all of the issues that we have identified however they do provide a framework to describe a major part of our research findings. The themes are as follows:

- Tendering/bidding costs
- Legal costs and standardisation of documentation
- Public Sector Comparator (PSC)

D&C bidding costs

One of our basic research questions was "are tendering costs likely to be higher for a D&C bid in a PPP as opposed to a standard D&C?" Hughes et al., (2006) describing a study on the cost of procurement in the construction industry makes the statement that there is a desperate need for robust data in respect to tendering costs. Whilst it may appear to be a relatively straightforward matter to identify the costs of bidding for a specific project, in reality this is not the case.

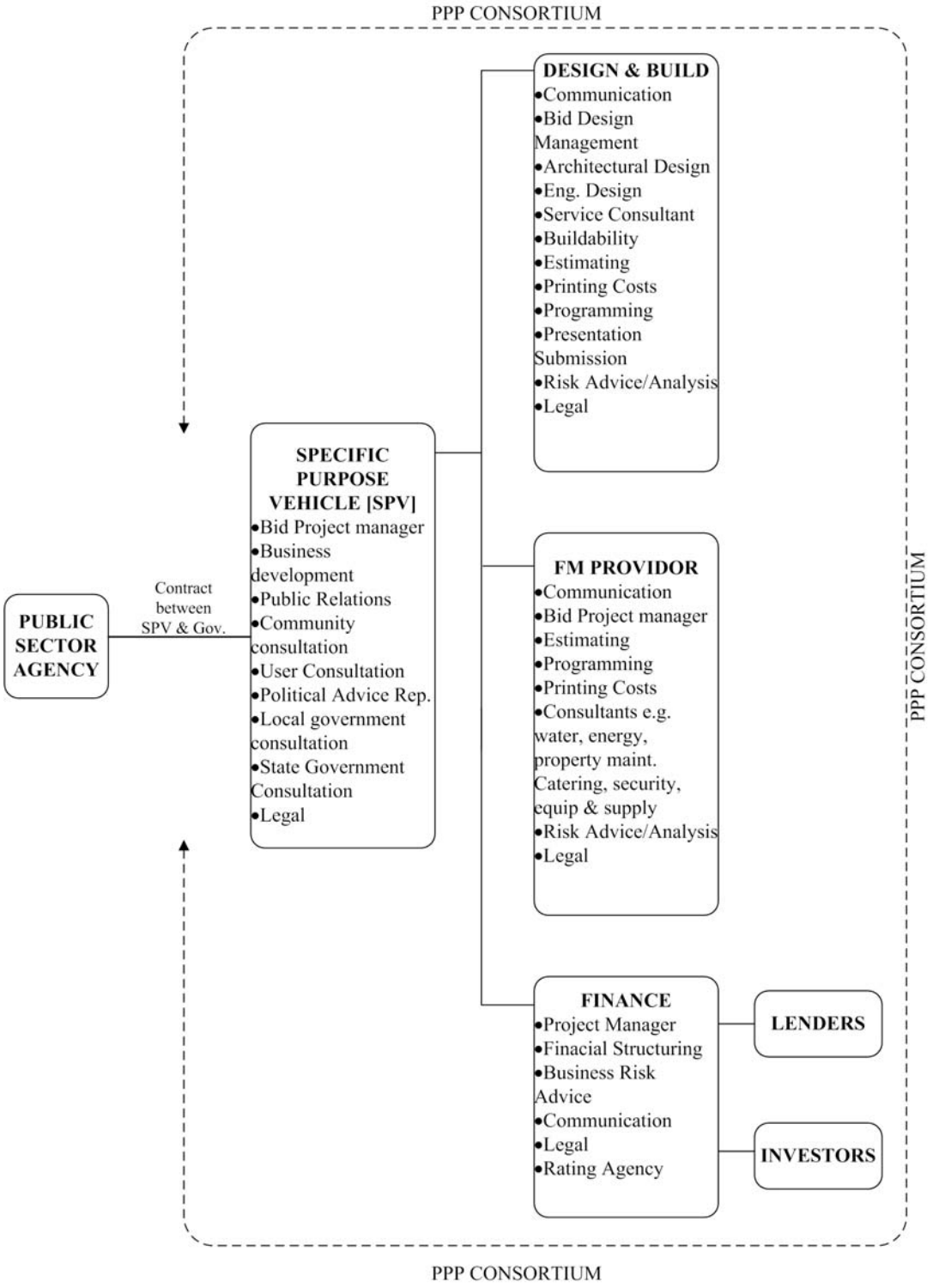


Fig. 2. Typical PPP Consortium Structure

Hughes et al (2006) explain further: *"complexity of the data collection places significant hurdles in the way of those who wish to undertake research in this area. This is probably why so few attempts have been made at assessing these costs. The quantification of the costs of tendering that have already been reported in the literature tend to focus on the cost of estimating and bidding, and take no account of the relationship between the distinct stages of a project. Moreover, they are based on impressionistic estimates, rather than analysis of data. However, the*

fact that they range from 1% to 15% indicates a strong feeling that there is a lot of expenditure in this area, and it is difficult to quantify. Also there is the further conclusion that the value added by this expenditure is not clear."

The comment on *'impressionistic estimates'* is particularly interesting in the context of PPP bidding. Similar problems have been encountered in terms of the data collection for this project and although primary data has been collected, much of the corroboration of the findings are based on a qualitative rather than a quantitative approach. In addition to the difficulties associated in accurately allocating costs to a specific tender bid, there is the added dimension of the commercially sensitive nature of the data surrounding PPP bidding and also the complex set of the commercial relationship that exists within a PPP consortium.

As can be seen from Figure 3, which illustrates likely, not actual bid costs for an A$250 million social PPP project, the cost of preparing a D&C bid as part of an overall consortium bid cost is likely to exceed one third of the total cost of bidding. Thus the D&C component is highly significant. It was also found that direct comparisons between a 'standard' D&C and a D&C as part of a PPP are not as straight forward as might be assumed. There are a number of explanations as to why this might be the case. Firstly D&C companies may take the view that the utilisation of resources in collecting data on the cost of bidding outweighs the benefits. Secondly, whereas external costs (e.g. consultants), are invoiced leaving an accurate paper trail of cost details, internal costs often become absorbed in overheads of the company. D&C companies do not normally operate with very clearly defined cost centres as for example, major accountancy or legal practices, thus the bidding costs of a D&C/PPP (contraction for D&C as part of a PPP) project may be partly absorbed into company overheads and distributed over other non-PPP projects.

Further complexities arise in terms of internal relationships within the PPP. For example, D&C contractors may be owned by a larger holding company that may, in turn, be financing the SPV. In this set of circumstances it is likely that that D&C company will automatically be part of the PPP consortium, and will not have to compete to be chosen to be a consortium member. Whilst this would not necessarily affect actual bidding costs it may create cost allocation 'adjustments' that would not exist in a standard D&C. On other occasions the SPV may 'cherry pick' the D&C contractor from a number of competitors based on criteria determined by the SPV.

An emerging trend in Australia is for construction companies to move away from the provision of equity to the consortium and operation solely as a D&C contractor within the SPV, usually in an attempt to minimise their costs and risks. However some financial institutions may insist that contractors provide some upfront equity as a sign of good will and a commitment for the duration of the project. Not withstanding this shift away from providing equity in the consortium, bidding costs for a D&C/PPP are seen as being high and a deterrent to bidding for projects. As a counterpoint, there is also the view that bidding in the highly competitive PPP environment could potentially lead to a refinement and sharpening of the bidding process, and thus lead to a reduction in the costs of bidding. However, this is likely to be a costly way to gain experience particularly when bids are not successful. In Australia the PPP process has already reduced the pool of bidders leading to a reduction in competition.

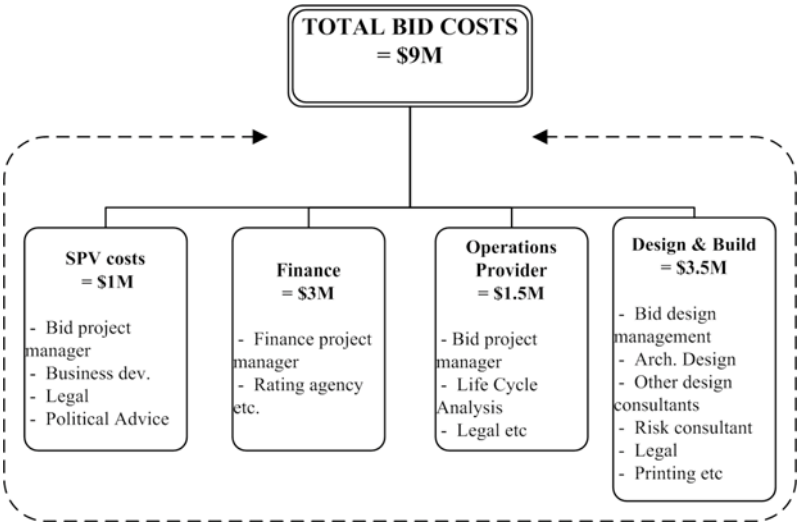


Fig. 3. Typical Bid Costs for $250M PPP Social Infrastructure Project

In summary, the general view is that the bidding costs for D&C/PPP are higher than for a standard D&C. The basic rationale being that most contractors know what to expect with the standard D&C procurement process and legal costs are kept to a minimum through the use of standardised contract documents. Generally the standard D&C contract process is more predictable having greater clarity regarding roles and time frame (e.g. the bid period is usually shorter than for a PPP) thus minimising bid preparation costs. In essence, standard D&C has widespread acceptance with the fact that it is an established system allowing for bid preparation costs to be kept to a minimum. By implication, the perceived higher costs of PPP bids are, in part, due to this being a less well established system with non-standard contracts.

Legal Costs and Standardised Documents

The research is primarily concerned with the implications for D&C/PPP contractors when bidding as part of a PPP consortium. Industry expert opinion on legal costs is therefore focused on legal costs as they relate to D&C. However, it is worth noting that legal costs across all of the consortium entities emerged as a dominant theme during our interviews and workshops with industry experts. The general view was that legal costs are excessively high mainly due to the lack of standardised contract documentation. It was acknowledged that legal costs involved in the procurement of infrastructure, whether it is a D&C/PPP or a standard D&C contract, were an inevitable corollary of the highly litigious environment in which construction operates. However, the general impression was that legal costs for PPPs were substantially higher than traditional government procurement which is a significant deterrent both to potential and to some existing bidders.

As legal costs are often regarded as non-value added there is perhaps the argument that the issue is exaggerated by the construction industry. Indeed, this is also exacerbated as social PPP projects tend to be for smaller contract sums that attract proportionally higher legal costs. Figure 3 illustrates that legal costs are incurred in all four major entities (SPV; Finance; FM provider and D&C) of a PPP bid. Data still being analysed will give us a more precise picture of the legal cost distribution and its ratio to overall bid preparation costs. The Bid costs in figure 3 are based on the assumption that the bid is successful i.e. to financial closure. If bid is unsuccessful then the financial component, depending on specific circumstances, may be zero.

The obvious concern of the respondents with legal costs also reflects concerns expressed by Evans & Bowman (2005) who point out that the legal framework in which the PPP project

operates will be a crucial factor to the success of a PPP model... "*the legal framework within which a PPP project operates will also be a determinant of the optimal PPP model. PPPs will be subjected to legal issues that may encompass many facets of law including (amongst others) commercial, taxation, insurance, environmental, property, industrial relations and constitutional law.*" (2005: 63)

The consensus view was that there was a lack of consistent principles and practices in terms of guidelines, and standardised legal and bid documents. Generally it was felt that this lack of consistency increases costs. Fitzgerald (2004) recommended that the PPP processes should be streamlined in order to reduce the costs of tenders and encourage wider bidder participation to increase competition. It is worth noting that in the Public Accounts & Estimates Committee Report on Private Investment in Public Infrastructure comments that the *"PPP concept is evolving in different ways in each country."* (2006: 81). There were divergent views on how best to standardise the processes and which model to follow. There was a general concern that international precedents may not reflect the smaller scale of the Australian PPP market. However, the UK PPP model, in which legal/contractual documents have been standardised, is viewed as a reference point for those who recommend standardising documentation for Australian PPP models. There was general consensus that a reduction in transaction costs could result from standardised templates such as those in the UK. However, despite the introduction of templates in the UK, the transaction costs are *"high and appear likely to remain relatively so despite the development of templates"* (Public Accounts & Estimates Committee Report on Private Investment in Public Infrastructure 2006: 84).

There was a certain amount of dubiety as to whether or not standardisation would result in a reduction of legal costs. There was also concern that the process of implementing standardisation carried its own costs, requiring a large enough PPP market to justify the initial expenditure.

Public Sector Comparator (PSC)

The Public Sector Comparator (PSC) affects all the consortium entities within the PPP. The PSC purports to provide a benchmark for the complete project life cycle and, although the cost to D&C is only one part of the project life cycle, it is plays an important part in determining whether the bid is won or lost. It is worth remembering that whilst the PSC refers to the bid price it may have some influence on the cost of bidding. For example, there may be commercial pressure to develop designs fully in order to improve the chances of winning a bid and also improve accuracy of costing.

A wide ranging set of views were received in relation to the value and effectiveness of the PSC. On the one hand the PSC was seen as a beneficial tool to guide decisions and ensure government accountability. Whilst on the other hand, the PSC is often seen as arbitrary and subjective, and consequently of limited value. A commonly held view was that PSC criteria could be manipulated to produce a result that cast the public sector client in a favourable light. These comments are indicative of the current debate both nationally and internationally by commentators and industry representatives regarding the usefulness and accuracy of the PSC (Broadbent et al., 2003; Corner, 2005; Fitzgerald, 2004, Grimsey and Lewis, 2005; and Report on Private Investment in Public Infrastructure, 2006). Critical literature regarding the PSC has incorporated discussion over a variety of issues that have included the appropriate use of the discount rate (English and Guthrie, 2003), the failure to take into account risk of failure in the PSC (English, 2005: 297), and issues surrounding the public release of the PSC. (Grimsey and Lewis, 2005: 359).

There was agreement that there should be more consistency in how the PSC is formulated, used, and disclosed. PSC polices across Australian jurisdictions differ in its use and release, ranging

from total secrecy to an open general policy of release. Some jurisdictions, such as the Commonwealth and South Australia, do not have a general rule on releasing the PSC. In contrast Victoria, Tasmania, and the Australian Capital Territory do have a general rule against full disclosure of the PSC and in Western Australia until the contract is executed, the PSC remains confidential. (Report on Private Investment in Public Infrastructure, 2006: 84). The failure of some jurisdictions to fully disclose the PSC was particularly criticised by respondents, stating that it was unnecessary for it to remain confidential. Many believed that the process of withholding the PSC was counterproductive, that it increased bidding costs, and it would be more beneficial for a project outcome if the PSC was open for general comment. Many were cynical that without disclosing the PSC, government would not have to justify how the final PSC costing was derived.

However a shift towards partial disclosure of the PSC in State jurisdictions that currently withhold the information is evident with recent recommendations made in February 2006 by the Victorian Department of Treasury and Finance to present the PSC early in the bid phase, in an effort to reduce bidding costs. Nevertheless, the Department of Treasury and Finance has since further qualified the status of this recommendation stating… *"the aim of the presentation is not to disclose the detailed costing of the PSC, rather to further clarify the governments expectations."* (Report on Private Investment in Public Infrastructure, 2006: 76). There was some frustration regarding the practice of government authorities withholding of the PSC during the negotiation stage. Bidders are measured against this comparator, but have no insight into the PSC and hence are effectively bidding *"blind".* There were also some concerns expressed that the PSC unduly influenced the size and scope of projects, and whether or not a project proceeded. Criticism in current literature, such as Bult-Spiering and Dewulf (2006), supports this notion that the PSC can be used incorrectly as a pass/fail test despite the many uncertainties involved in the calculation and the fact that the numbers could have been manipulated to obtain the desired results.

Discussion and Conclusions

The main thrust of the research described in this paper is a reasoned distillation of opinions by major industry D&C/PPP contractors on some of the implications of bidding for D&C/PPP contracts in the current Australian market. There would seem to be little doubt that a D&C/PPP, as opposed to a standard D&C, creates additional pressures and these pressures are magnified on social as opposed to economic PPPs where the projects on offer are potentially less lucrative with a higher bid cost ratio.

The Australian social infrastructure PPP market in Australia is gathering momentum but is less mature than the likes of the UK. The rate of maturation appears to be inhibited by the scale of the available market and the compartmentalisation of the market on a State-by-State basis. However, there are moves towards the standardisation of documentation, particularly by the Victorian Government, and the existence of a National PPP Forum, which is encouraging (2005).

Fundamentally, the challenges to D&C/PPP contractors result from having to interact with a large number of players in a dynamic environment where the SPV and not the D&C contractor are in the dominant position. The term 'complex' has been frequently used to describe the inter-relationship of players in a PPP consortium. Certainly the consortium environment seems to mimic some of the characteristics described in complex systems theory such as 'non-linearity' where systems do unpredictable things and 'emergent properties' where a logical result is achieved, although not necessarily a predictable one. There are reservations about the effectiveness of the current PPP approach and some stakeholders appear to operate in the much more controlled relationship which exists under a standard D&C procurement method. However, not withstanding any existing reservations on PPPs, there is general acceptance that social PPPs are part of the procurement landscape in Australia and likely to remain so for the foreseeable future.

Key Lessons Learned:

- Accessing relevant PPP bid costs from commercially sensitive data.
- High legal costs for PPPs.
- Lack of standardised documentation for the PPP bidding process.
- Outdated Public Sector Comparator (PSC) model.

References

Akintoye, A, Beck, M & Hardcastle, C (2003) *Public-Private Partnerships: Managing Risks and Opportunities.*Oxford: Blackwell Science Ltd.

Argy, F, Lindfield, M, Stimson, B & Hollingsworth, P (1999) Infrastructure and Economic Development. *CEDA Information Paper No. 60.* Melbourne, Committee for Economic Development of Australia.

Blood, G (2005) Australian PPPs, The Third Way. *Infranews Wire.*

Broadbent, J, Gill, J & Laughlin, R (2003) The Private Finance Initiative in the UK: Contracting in the Context of Infrastructure Investment and Control. *International Public Management Journal,* 6**,** 173-197.

Bult-Spiering, M & Dewulf, G (2006) *Strategic issues in public-private partnerships: an international perspective.* Oxford: Blackwell Publishing Ltd.

Corner, D (2005) The United Kingdom Private Finance Initiative: the challenge of allocating risk. *In:* Hodge, G & Greve, C (Eds.) *The Challenge of Public-Private Partnerships, Learning from International Experience.* Cheltenham: Edward Elgar Publishing Limited.

Curnow, W., Jefferies, M.C. and Chen, S.E. (2005) Unsustainable Biddings Costs: A Critical Issue for Public Private Partnerships. In (Ed) Ng, Thomas S. *Public Private Partnerships: Opportunities and Challenges*, pp 35-43, Centre for Infrastructure and Construction Industry Development, University of Hong Kong, ISBN 962-8014-110.

Duffield, C F (2005) PPPs in Australia. In (Ed) Ng, Thomas S. *Public Private Partnerships: Opportunities and Challenges*, Centre for Infrastructure and Construction Industry Development, University of Hong Kong, ISBN 962-8014-110.

English, L (2005) Using public-private partnerships to deliver social infrastructure: the Australian experience. *In:* Hodge, G & Greve, C (Eds.) *The Challenge of Public-Private Partnerships: Learning from International Experience.* Cheltenham, UK: Edward Elgar Publishing Limited.

English, L M & Guthrie, J (2003) Driving privately financed projects in Australia: What makes them tick? *Accounting, Auditing & Accountability Journal,* 16**,** 493-502.

Evans, J & Bowman, D (2005) Getting the contract right. *In:* Hodge, G & Greve, C (Eds.) *The Challenge of Public-Private Partnerships, Learning from International Experience.* Cheltenham: Edward Elgar Publishing Limited.

Fitzgerald, P (2004) Review of Partnerships Victoria, Final Report to the Treasurer, Department of Treasury and Finance, State Government of Victoria. Melbourne: Growth Solutions Group.

Grimsey, D & Lewis, M K (2004) *Public Private Partnerships, The Worldwide Revolution in Infrastructure Provision and Project Finance.* Cheltenham: Edward Elgar Publishing Limited.

Grimsey, D & Lewis, M K (2005) Are Public Private Partnerships value for money? Evaluating alternative approaches and comparing academic and practitioner views. *Accounting Forum,* 29**,** 345-378.

Hughes, W P, Hillebrandt, P, Greenwood, D G & Kwawu, W E K (2006) *Procurement in the construction industry: the impact and cost of alternative market and supply processes.* London.

Jefferies, M.C. (2006) Critical Success Factors of Public Private Sector Partnerships: A Case Study of the Sydney SuperDome. *Engineering, Construction and Architectural Management*. 13, (5), pp 451-462.

Jefferies, M.C., Gameson, R, and Rowlinson, S. (2002) Critical Success Factors of the BOOT Procurement System: Reflections from the Stadium Australia Case Study. *Engineering, Construction and Architectural Management.* 9, (4), pp 352-361.

Jones, D (2003) Evaluating what is new in the PPP pipeline. *Building and Construction Law,* 19**,** 250-270.

Jordan, K. & Stilwell, F., (2004) In the public interest? A critical look at public-private partnerships in Australia shows that we are travelling down a hazardous road and should be seeking alternatives. *Arena magazine***,** p. 9.

McGeorge, D., Cadman, K., Jefferies, M., and Chen S.E. (2006) Public Private Partnerships: Private Sector Developers Partnering with Government for the Provision of Social Infrastructure. *Governments and Communities in Partnership*, Centre for Public Policy, University of Melbourne, 25-27 September.

National PPP Forum (2006) viewed 15/2/08 http://www.pppforum.gov.au/home.

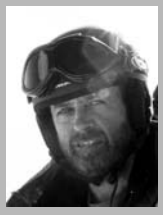
Public Accounts Committee, (2006) Report on Private Investment in Public Infrastructure, Parliament of Victoria, State Government of Victoria. No. 240, Session 2003-06.

Walker, R. G., (2003) Public-private partnerships: Form over substance? *The Australian* p. 126.

Author's Biography

Marcus Jefferies is a Lecturer in Construction Management in the School of Architecture and Built Environment at the University of Newcastle, Australia. He has completed a Research Masters Degree at Newcastle that focused on risk and success factors in the Build-Own-Operate-Transfer (BOOT) procurement approach and is currently a Chief Investigator on an ARC Linkage Project that is investigating the high bidding costs of social infrastructure Public Private Partnerships (PPPs). He is also a regular contributor to CIB Working Commission W92 'Procurement Systems' and is a journal manuscript reviewer for several journals. Prior to entering Academia at the City University of Hong Kong he worked in the construction industry as a Project Engineer in both Hong Kong and the UK.

Denny McGeorge was Foundation Professor of Building from 1991 until 1999 at the University of Newcastle (Australia). From 1999 onwards he was Professor of the Built Environment at the University of New South Wales where he served as Head of School and also Foundation Director of the Centre for Health Assets Australasia (CHAA). He is currently a Professor at the UNSW, Visiting Professor at the University of Salford in the UK and Emeritus Professor at the University of Newcastle. He has had a long-term interest in professional ethics. He was an industry consultant to the Royal Commission into Productivity in the Building Industry (Gyles Royal Commission) in New South Wales for the duration of the Commission.



Steve Rowlinson is a civil engineer and has worked for the past 23 years at the University of Hong Kong, where he is now Professor in the Department of Real Estate and Construction. He has been engaged as a consultant and expert witness for a number of companies, including the Hong Kong Housing Authority and Hong Kong Government Works Bureau. Steve has researched into the Hong Kong construction industry and has written and co-authored 11 books on various aspects of the construction industry. His areas of specialisation are construction site safety, culture, relationship and stakeholder management, and procurement systems. In the latter area he has been the co-coordinator of the international working commission W092 of the CIB for 14 years. He is currently an Adjunct Professor at QUT in Brisbane, Australia. He has been an assessor for the professional assessments of both HKIE and the ICE, UK for a number of years and is a keen golfer.