

# Relationship Contracting: A Case Study of the Top Ryde Public Private Partnership (PPP)

Marcus Jefferies<sup>1</sup>, Denny McGeorge<sup>2</sup>, Kerry London<sup>3</sup>, and Steve Rowlinson<sup>4</sup>

## Abstract

The last two decades have seen the evolution of PPPs as an alternative procurement method to traditional methods of delivering public infrastructure. Competing demands for public sector investment for new infrastructure has prompted Australian governments to increasingly turn to the private sector to form partnerships in the construction, ownership and operation of infrastructure assets. This has become a major challenge for both public and private sector stakeholders but the emergence of PPPs provides an alternate means for developing infrastructure using private sector expertise. There is considerable growth potential for PPPs given that the New South Wales Government has developed policies to expand the application of PPPs to include social infrastructure, such as hospitals and schools. Subsequently Local government has been investigating the delivery of infrastructure and services PPPs. A key argument for Governments to procure projects using PPPs is that the process would deliver better overall value for all the stakeholders, including the broader community. The aim of this paper is to investigate current approaches to successful risk management of infrastructure using the Top Ryde PPP as a case study project. The method focuses on a case study approach involving an analysis of project documentation and a semi-structured interview process. The results of this research centres around an effective tri-partite contract agreement, innovative relationship management and a very successful risk management approach with a particular focus on legal, financial and community factors.

**Keywords:** Australia; Case Study; Local Government; PPP; Relationships; Risk.

## 1. Introduction

There is a strong body of opinion to support the concerns of the private sector that current social infrastructure projects in Australia are not true partnerships (Curnow, et al, 2005; Jefferies and McGeorge, 2009; Jefferies and Lau, 2010). The public sector needs to make PPPs more attractive to the private sector and clarify the risk identification in order to

---

<sup>1</sup> Lecturer; School of Architecture & Built Environment; University of Newcastle; marcus.jefferies@newcastle.edu.au

<sup>2</sup> Professor Emeritus; School of Architecture & Built Environment; University of Newcastle; denny.mcgeorge@newcastle.edu.au

<sup>3</sup> Professor; School of Property, Construction and Project Management; RMIT; kerry.london@rmit.edu.au

<sup>4</sup> Professor; Department of Real Estate & Construction; University of Hong Kong; hrecsmr@hku.hk

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 (Jefferies and McGeorge, 2009). Stakeholders from the private sector are frustrated with the high transaction costs of PPPs, which offer only a marginal increase in scope of business opportunity. This is in stark contrast to opportunities that are available in the much lower cost-to-bid ratio of more traditional procurement models (Jefferies et al, 2010). This has led to the decision by a number of major construction contractors to withdraw from the PPP process.

Additionally Shepherd (1999) and Jefferies and McGeorge (2008) argue that there are fundamental reasons for the need to review the PPP process, these reasons include:

- Lack of flexibility in the evolution of the project where the host authority must juggle competing bidders and keep them on the same baseline;
- Current PPP arrangements lack flexibility in operation;
- High transaction/tender costs in taking at least two fully developed and underwritten bids to the finishing line (e.g. Melbourne City Link incurred external tender costs of \$24Million at financial close); and
- PPPs need to allow the private sector to utilise its expertise and gain a broader scope of work and an increased transfer of risk and responsibility.

As illustrated by the above comments, measuring the success of PPPs and identifying the risk exposure by the various stakeholders has been, to date, largely problematic. The inability of the Private Sector to win enough projects to offset the significant tender costs for more complex PPPs appears to have had an adverse influence on the construction industry (e.g. reduction of company share-values, company mergers and take-overs). PPPs are normally linked to large-scale projects that, in many cases, have a high public profile. Therefore, the risks associated with PPPs are often perceived to be correspondingly higher than for more conventional forms of contractual relationships. However, irrespective of the form of contractual relationship there are two critical risk management issues that emerge during the bidding stage of any project. These have been identified from previous work by Tiong (1990); Walker & Smith (1995); and Jefferies & McGeorge (2008) as:

1. *Legal* - legislative framework, project agreement, tax, laws.
2. *Financial* - bid process, form of financing, evaluation, commercial investors, ownership, rates of return.

The genesis for this research project came from the both the main public and private sector partners involved in the Top Ryde PPP. Specifically, this paper will provide:

- *A review of relevant literature* including definitions of PPPs, the origins and emergence of Australian PPPs, and barriers and practical issues related to PPPs.
- *The latest thinking and insights* from select senior management personnel from both public and private sector stakeholders involved in the Top Ryde PPP.
- *Strategic recommendations* to resolve several of the key challenges currently faced by the Australian PPP industry.

## **2. Research Method**

There is general acceptance that PPPs are part of the procurement landscape in Australia. Therefore, further and continued research into PPPs is vital to ensure the development of sustainable procurements methods that offer greater rewards for both public and private sector stakeholders and in particular, the community at large. The specific aim of this research is to map the current approaches to successful risk management of Public-Private Partnerships (PPPs) via a current case study project. Therefore, a Critique of the Top Ryde PPP project is performed and the findings are presented as a case study example of best practice.

A comprehensive review of related literature and critical industry reports was used to generate list of major challenges facing Australian construction PPP industry. Further analysis identified key issues and themes, in particularly focusing on successful risk management of PPP projects. An industry reference group, in the form of a PPP project Task Force, was then established. The Task Force consisted of the project's main industry partners, i.e. City of Ryde, Defined Developments and the RTA. Specifically, the Task Force consisted of committee members of the Top Ryde PPP Project Control Group. Each member self-volunteered and nominated other relevant experts from within their respective organisation who were experienced in the Top Ryde project and/or had broader PPP experience. Task Force members also provided access to relevant project documentation.

Semi-structured interviews were conducted with nominated experts and support staff. Interviews were conducted over series of stages to establish dialogue between researcher and participants and gain qualitative data. The interview process focused on key themes identified from literature review and participant's views were documented. Research findings were then compiled into a draft report and validated as an on-going process via Task Force meetings.

## **3. Public Private Partnerships (PPPs)**

### **3.1 Defining PPPs**

One of the problems with a PPP is with its very definition. Definitions tend to depend on a commentator's own particular perspective and, range from the very general to the quite particular. A general definition is provided by Akintoye et al (2003), where Public Private Partnerships (PPPs) are defined 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. PPPs are considered to be a form of Relationship Contracting, which according to Chueng et al (2005), is based on a recognition of and striving for mutual benefits and win-win scenarios through more cooperative relationships between the parties. Relationship contracting embraces and underpins various approaches, such as partnering, alliancing, joint venturing, PPPs, and other collaborative working arrangements and better risk sharing mechanisms. Relationship contracts are usually long-term, develop and change over time, and involve substantial relations between the parties.

Within the context of Local Government in New South Wales (NSW), the working definition of PPPs for this research project is:

*“An arrangement between a council and a private person for the purposes of providing public infrastructure or facilities and/or delivering services in accordance with the arrangement”* (NSW Department of Local Government, 2005).

### 3.2 Characteristics of PPP Projects

In discussion about the nature of social PPP projects, Jefferies and McGeorge (2009) state that comparisons were typically made against economic infrastructure projects. Key features and differentials are identified in Table 1.

**Table 1: Key Features and Differentials Between Social Infrastructure Projects and Economic Infrastructure Projects**

Key Features	Social infrastructure projects, e.g. schools and hospitals	Economic infrastructure projects, e.g. motorways, tunnels and bridges
Scale of project	Smaller	Larger
Examples	Schools and hospitals	Motorways, tunnels and bridges
Complexity	More complex – especially ongoing involvement with community	Less complex
Risks	Associated with performance of the facility, e.g., major failure in air-conditioning systems	High construction risk engineering projects (e.g. collapse of Lane Cove Tunnel during tunnelling phase). Financial risks can also be high.
Revenue generation	Rental streams via the Government. Value-adds are sought, e.g. rental space, service	Direct payments for example from tolls

	contracts and other additional means	
--	--------------------------------------	--

The public sector must make PPPs more attractive to the private sector and clarify the identification of risk in order to transfer more responsibility to the private sector. In relation to commercially viable value-adding, Government typically restrict the outsourcing of services to 'non-core' services such as administration, catering and cleaning. There appears to be some conflict in the division of 'core' and 'non-core', the example being given – the employment of nurses, many of whom are employed in hospitals via private enterprise agencies. A branch of a consortium could undertake such a function (Jefferies and McGeorge, 2009).

### 3.3 Barriers to Social Infrastructure PPPs

There are many barriers when considering the use of a PPP strategy. The following list has been developed using issues identified by the Australian Council for Infrastructure Development Limited (2003); Curnow et al (2005) and Jefferies and McGeorge (2009):

- *Tax reform* - Section 51AD of the Australian Tax Act is a serious barrier to many PPP projects. Rectification of this could pave the way for further use and implementation of PPP arrangements e.g. shadow tolling as a form of payment for infrastructure services is currently restricted, if not prohibited, under 51AD as it currently stands.
- *Whole of Government approach* - Strong central Government control has led to a lack of consistency in PPPs. To ensure PPPs succeed the consistency must be driven at the highest levels of Government.
- *Lack of suitable skills in Government agencies* - Agencies may not have the skills or experience to ensure a successful project. Greater training and experience will overcome these.
- *High participation costs* - High bidding costs viewed as the most prominent barrier to entry. It has been indicated that tender costs are up to six times higher than that of traditional procurement arrangements. Therefore it is unlikely smaller contractors will be able to participate due to high tender costs.
- *High project values* - The majority of PPP projects are larger than those for which many small contractors can realistically aspire to bid for.
- *High risk* - One of the fundamental requirements of a PPP is that the private sector must genuinely assume risk. Due to this high volume of risk many smaller companies would not be equipped to handle such large risk, which would prevent them from entering the PPP market.
- *Lack of credibility and contacts* - The PPP process invariably involves a contractor working in a consortium with partners from outside of the construction industry. This is an effective

barrier to smaller contractors as they are less likely to have external contacts to form a PPP consortium.

## **4. The Top Ryde PPP**

The results of this research were developed from a qualitative data collection process. This involved semi-structured interviews with Senior Management participants representing various stakeholders involved in the project and an analysis of project documentation. Interviews were conducted over the period July to October 2010 and a documents analysis was carried out simultaneously. Over the course of the research the following themes emerged:

1. Project Background; 2. The Tripartite Agreement; 3. Contractual links; 4. Legal costs; 5. Relationship Management; and 6. Risk Management.

### **4.1 Project Background**

The original Top Ryde Shopping Centre was built in 1957, being New South Wales' first regional shopping centre and one of Australia's earliest. The role of Top Ryde as an important retail and social centre declined over the 1980's and 1990's as its infrastructure became outdated with insufficient parking and a limited choice of food and retail outlets. The City of Ryde recognised that the redevelopment was required in order to reduce escape expenditure outside the suburb, increase employment and restore the Town Centre as a social and civic hub.

The Beville Group (i.e. the private sector contractual partner with CoR) purchased the Centre in 2000. The proposed expansion of the Town Centre was of such a significant size that an Integrated Traffic Solution (ITS) was required. Defined Developments (DD), a subsidiary of the Beville Group, was established as developer to deliver Top Ryde shopping centre and they signed a 49 by 50 year lease for a 'peppercorn' rent of \$1. Under the terms of the lease, DD wouldn't pay any significant rent for the land providing they successfully linked CoR Civic Precinct land to the ITS in the form of bridges and underpasses. Under the *Local Government Amendment (Public Private Partnerships) Act 2004*, the NSW State Government subsequently deemed the project as a 'PPP' as the developer was providing free infrastructure to the City of Ryde in the form of rights of way through the underpasses and over the bridges linking CoR land from West to East and enhancing the access solution for CoR ultimately allowing for future redevelopment to be undertaken by CoR.

In March 2005, Bevillesta entered into a management services agreement with Bovis Lend Lease, requiring them to provide design master planning services that combined their in-house architectural expertise together with their cost planning programming and resources. In 2006, the LEP Number 143 was gazetted, which allowed for future growth of Top Ryde City and the surrounding suburbs. Bovis Lend Lease was appointed on a guaranteed maximum price contract to undertake the design and construction of the project. Construction on the Centre commenced in September 2007 with Stage 1 of the Centre officially opened towards the end of 2009.

Planning approval was based on the best traffic solution to minimise impact to the community but at the same time maximising customer efficiency. By working with the State and Local Authorities, DD were able to develop the best outcomes for all parties and execute long term agreements with the government departments that benefited the centre owner supplying the community with facilities and infrastructure for the future growth of CoR's land. In addition the RTA insisted on the removal of on-grade crossings across Devlin street to improve travel time on the network through improved signalised junctions and enhance public safety. It is also important to note that redevelopment of Top Ryde must be viewed in a broader context of establishing a momentum for revitalising the whole of the Town Centre over time.

## **4.2 Tripartite Agreement**

Under the Tripartite Agreement, the City of Ryde is the roads authority and the owner of Devlin Street and Blaxland Roads. As owner, the City of Ryde agreed to lease a portion of these roads, comprising the site for Top Ryde, to the Developer under the Agreement. The Developer undertook the works on the site and agreed to own and operate the works (finance, design, construct and operate). Under section 138 of the Act, the consent of Council, as roads authority, with concurrence of the RTA, was required. A condition of the DA consent was that the three parties enter in a Tripartite Deed of Agreement. The Tripartite Deed served to clarify the roles and responsibilities of the three key players, i.e. City of Ryde, RTA and Bevillesta, at the beginning of the project. The tone of the Tripartite Deed was not adversarial. The roles and responsibilities of each party were discussed, agreed and formalised at the start of the project.

A three-layer communication model was established and embraced enthusiastically by all the parties to manage the PPP work. The three levels consisted of:

1. *PPP Communication Meeting* - Hosted weekly by the Main Contractor (Bovis Lend Lease) and attended by CoR, and often RTA, with stakeholders such as State Transit Authority and the Project Verifier as necessary. This meeting served to advise and discuss detailed works progress, certification issues, focus points for co-operation, feedback from the local community and communications required with local residents about future work.

*Weekly communication meetings were structured to review the works programme and the community's interest together to manage expectations and minimise inconvenience.*

2. *PCG (Project Control Group) Meeting* - Initiated and hosted by CoR weekly as appropriate, this brings together the project managers operating on behalf of the CoR, the Developer, Main Contractor and RTA to overview general progress, identify and mitigate risks and issues, ensure information flow is timely, agree points of collaboration, resolve contentious issues, defuse potential problems and agree action points for all participants to ensure the project proceeds as smoothly as possible.

*Weekly PCG meetings have enhanced communication and collaboration between the three PPP stakeholders' representatives, the effectiveness of which has been reinforced by the*

*inclusion of the Main Contractor in this forum.*

3. *High Level PCG Meeting* - This was held every two three months according to need and, as specified in the Tripartite Deed is chaired by an independent person. Given RTA's concurrence role in the PPP, the principal attendees have been the CoR and the Developer. These meetings have provided a platform of supervision, negotiation and control of the direction of the PPP works and design intent of the overall project. This forum is principally concerned with policy, direction and the progress of the project at a strategic level.

*Collaboration at quarterly High Level meetings between the Heads of the CoR and Bevillesta organisations provided a strategic control upon the relationship between PPP and DA. The nominated project managers for the CoR, RTA, Bevillesta and BLL operated as consistent principal contacts for their organisations facilitating resources as required and ensuring that communication is not weakened through dilution. The Tripartite parties and Bovis Lend Lease each have large organisations with many 'interested' members.*

### **4.3 Contractual links**

The Tripartite Agreement brought together the owner (CoR) and regulatory body (RTA) together with the private sector developer (in the form of Defined Developments). In removing key risks such as design and maintenance, CoR were able to supply infrastructure to the community at merely an 'administration cost'. The PPP model used for Top Ryde supplied a very low risk solution for local government (CoR) and also provided benefits to the RTA in the form of upgraded infrastructure, enhanced signal arrangements and reduced maintenance costs on a major section of the State road network.

### **4.4 Legal Costs**

The legal aspects of a PPP include the contracts, the legal entity and the law and regulations that the PPP will be working under (Bult-Spierinh and Dewulf, 2006). Whilst all interview participants acknowledged that legal costs were an inevitable consequence of the construction industry's highly litigious environment, the dominant view was that PPP legal and administration costs were 'excessively high'. These costs can act as a deterrent to the private sector at tender stage and the public sector at development stage.

There were a number of legal and administration costs identified as part of the Top Ryde project, and indeed unique to PPPs. These include:

- Legal advice regarding the establishment of the PPP;
- The legalities of setting up the PPP and also arrangements with the contractor(s);
- Liaising with project stakeholders to work through the contract and assessing the risk in the contract;



- Costs incurred as part of the Independent Verifier process stipulated by the Department of Local Government (NSW State Government requirement of PPP projects);
- The lack of standardised contract documentation from projects of this nature; and
- Efficiency and effectiveness on the focus on the 'finer points', given the economics of long-term legal obligations contained in many PPPs, particularly in contracts of over 20 years, and in this case the 49 by 50 year lease arrangement.

## 4.5 Relationship management

The success of Top Ryde was driven by the need of delivering development to the City of Ryde and its broader community. All senior project stakeholders within CoR were involved in the negotiation and planning process and developed successful relationships with other senior project stakeholders from both the private and public sectors. *Relationships* within the project were driven by a 'win-win' mentality and the successful management of diverse stakeholder expectations. The cultural issue of relationship management (teamwork, trust, mutual goals etc) helped to drive the project away from typical adversarial contracting. This 'can do' attitude of senior project stakeholders, particularly at the negotiation stage, helped to foster a positive commitment throughout the project. Open levels of *communication* and the establishment of Project Control Group meetings further enhanced successful project collaboration. Further stakeholder management, in the form of the broader *community*, was managed with expert liaison techniques to ensure continued support from the Ryde community.

## 4.6 Risk Management

### 4.6.1 Compliance, Due Diligence and the Tripartite Agreement

The basis of the model used for the delivery of Top Ryde involved the establishment of: the risk profile; internal and consultant reports; deeds; marketing plans; statutory compliance; and Project Control Groups as the foundations for successful project structure. This process was authorised, with subsequent project approval to proceed by the State Department of Local Government. In order to manage this process, and particularly the process of engaging consultants, commissioning external reports and studies, especially where in-house expertise was lacking, the GM put together a cash surplus of \$9m to support and fund these issues for the duration of the project.

At the pre-delivery stage \$800,000 was spent with BLL under a consultancy agreement to mitigate risk in the ground (sub-soil). A detailed geotechnical and structural analysis was carried out by BLL under contract with DD. WT Partnership provided reviews of all BLL costs. These tests enabled a 'no latent conditions' clause under the contract and BLL did all necessary research to price and deliver the contract. This level of Geotechnical research enabled BLL to price work more accurately.

The Tripartite Agreement succeeded in bringing the owner (CoR) and regulatory body, RTA, together with the developer (DD). CoR and RTA mitigated some of their risk by having input into the design by ensuring compliance with design standards. CoR were allowed to enforce their rights under the design standards and DD, as developer, had to deliver this under the contract. CoR also mitigated some of their risk by putting bonds into place under Tripartite Agreement that were relevant to significant stages of project delivery. Further risk was mitigated by not issuing occupancy until the Integrated Traffic Solution (ITS) was complete and approved in accordance with the DA, i.e. in accordance with Local Government planning law and State Law (LEP) which meant that the centre could not expand until the ITS was developed. Maintenance risk was managed by using an ongoing clause in the centre's lease agreement that DD maintain and certify annually.

Major Design and Construction risk, which was enhanced by the complicated underpass system to allow traffic from RTA network into top Ryde site, was mitigated with the engagement of BLL as D&C contractor. The management framework was developed by Defined Developments and implemented via various levels of the PCG meetings. CoR via RTA had a requirement to engage the Verifier before the RTA would grant approval. Risk was mitigated by the Verifier approving the design. Defined Developments contributed towards the cost of the Verifier and therefore had risk mitigation as they had input into design.

#### **4.6.2 Financial Risk**

The Developer mitigated financial risk by establishing funding arrangements with a syndicate of 6 lending institutions. Finance could be effected if one or more of the banks pulled out of the deal but this in turn was mitigated by a 'no reason' clause, e.g. there had to be an significant event such as a dispute or extensions of time etc for them to do so and therefore allow financiers to enforce step-in rights.

The risk of ensuring centre occupancy (tenants) was managed by DD as the financiers would only fund the project if budgets were correct. This involved a significant projection and feasibility study of project finance costs, leasing plans and agreed revenue from centre. The financiers also undertook their own finance checks, assessed by an independent cost consultant, WT Partnership, who checked costs, values variations etc. The banks also engaged independent retail experts every month who sat on a agreed leasing panel to assess that DD were meeting budgets and adhering to the project's program. Checks were also carried out on demographic studies to ensure demand was there for a centre of this size and nature and DD had to sign up major tenants before finance was approved.

#### **4.6.3 Community Risk**

Community support for the development of Top Ryde was significantly high. This risk was initially managed at approval stage by going out to a full public review and debate. One frequent topic was the issue of pedestrian access to the Centre. Access was proposed to change via pedestrian bridges and the community raised the question as to why do we have to cross the bridge, why cant we cross the road like we used to? These issues change

overtime, as do community members, so referring them back to a public consultancy process years earlier doesn't always lead to a positive outcome for the public. These risks must be managed by and upfront agreement and continuously responding to public questions. A continued community interface, such as newsletters, meetings, consultation etc in order to provide a successful method for problem solving and keep the community in a positive frame of mind about the project. BLL have had very good people on the job but when they demonstrate how good they are they are often taken off the job and put on other projects sometimes without informing other partners such as CoR and DD. This was not a good example of open communication. BLL Engineers are good technical people but, in the main, not good at dealing with community.

The maintenance of the lifts that connected to the pedestrian bridges was a significant community and technical risk. There was community backlash to the first bridge when the lifts were not operational due to system failure. In hindsight, both bridges should have been operational at the same time in order to manage ongoing pedestrian access to the centre. Greater security measures were also introduced to prevent ongoing vandalism. This helped to enforce that the biggest risk was managing the change for people (community). Change can be perceived as simple to some, yet significant to other members of the community. The simple fact that they can no longer walk across the road and must now use a bridge, or that a bus stop is moving 50m down the road etc can lead to ferocious community backlash. Constant assessment on the impact on community is important to ongoing project success. The issue of the pedestrian bridges was a significant contractual issue as the RTA made it a condition that pedestrian crossing on Devlin Street, a main arterial route with over 90,000 daily traffic movements, be removed to improve traffic flow.

## 5. Conclusion

A PPP consortium is a temporary organisation with a complex network of players with competing goals and objectives, many of whom never get to see the complete picture. Inevitably the group operates under pressure, particularly the members of the SPV (Special Project Vehicle) who are the drivers of the process. Social, as opposed to economic, infrastructure PPPs are more complex. Much of the negativity and adversarial environment, which surrounds PPPs, is due to a lack of transparency not just in terms of the bidding process, but also with regards to the identification of risk and opportunity. PPPs act as an essential but relatively minor part of Governments' asset acquisition program. However, as they tend to be large, complex projects that can affect people's lives for a very long time, PPPs arouse a great deal of interest and passion.

The results of this research were developed from project documentation and semi-structured interviews with Senior Management participants representing the various project stakeholders from both the public and private sectors. Over the course of the interviews the following six themes emerged from the Top Ryde PPP: Project Background; The Tripartite Agreement/Legal structure; Contractual links; Legal costs; Relationship Management; and Risk Management. Three features appear crucial issues in the success of this project: *the delivery model; risk management; and communication*. Over-arching these three themes appears to be the adoption and integration of successful relationship management. All in all,

Top Ryde is an excellent example of how PPPs can be successful, rewarding and provide value for money to all stakeholders including the broader community.

## 6. References

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

Australian Council for Infrastructure Development (2003) *Public Private Partnerships: A Brief Summary*. <http://www.infrastructure.org.au> [Viewed on 19th June 2012].

Cheung F Y K, Rowlinson S, Jefferies, M.C., and Lau. E, (2005) Relationship Contracting in Australia, *Journal of Construction Procurement*, 11, pp123-135.

Curnow, W., M. C. Jefferies and S. E. Chen (2005) Unsustainable Bidding Costs - A Critical Issue for Public Private Partnerships. *Public Private Partnerships - Opportunities & Challenges*. Hong Kong.

Jefferies, M.C. and Lau, J. (2010) Inconsistencies in Project Delivery Systems for Prisons: A Comparison between Public and Private Methods. In Barrett, P., Amaratunga, D., Haigh, R., Keraminiyage, K., and Pathirage, C. (Eds) *Building a Better World*, Proceedings of the 2010 CIB World Congress, Salford, UK, paper no.895, ISBN 978-1-905732-91-3.

Jefferies, M. and McGeorge, D. (2008) Public-Private Partnerships: A Critical Review of Risk Management in Australian Social Infrastructure Projects. *Journal of Construction Procurement, Special Edition: Building Across Borders*, 14, (1), pp66-80, ISSN 1358-9180.

Jefferies, M. and McGeorge, W.D. (2009) Using Public-Private Partnerships (PPPs) to procure Social Infrastructure in Australia. *Engineering, Construction and Architectural Management*. 16, (5), pp 415-37, ISSN 0969-9988.

Jefferies, M.C., McGeorge, D., and Chen, S.E. (2010) Implications for Design and Construct Contractors Operating in a Public Private Partnership Environment: An Australian Perspective In Barrett, P., Amaratunga, D., Haigh, R., Keraminiyage, K., and Pathirage, C. (Eds) *Building a Better World*, proceedings of the 2010 CIB World Congress, Salford, UK, paper no. 925, ISBN 978-1-905732-91-3.

New South Wales Public Accounts Committee (2006) *Inquiry into PPPs* <http://www.parliament.nsw.gov.au/prod/parlment/committee.nsf/0/6FB3D448CE8BF349CA2570700015952F> NSW Legislative Assembly. Viewed 19th June 2012.

Shepherd, A.F. (1999) Project Alliancing on a Public/Private Partnership Project. *Building Australia*, June.

Tiong R.L.K. (1990) BOT Projects: Risks and Securities. *Construction Management and Economics*, Vol 8, pp 315-328.

Walker C. & Smith A.J. (1995) *Privatized Infrastructure: the BOT approach*. Thomas Telford, London