



CRC Construction Innovation
B U I L D I N G O U R F U T U R E

Case Study Report

Capital Works Procurement Policies in Australia: Implications for Understanding and Meeting Client Needs

Research Project No: 2004-032-A

The research described in this report was carried out by:

Project Leader	Kerry Brown
Researchers	Craig Furneaux Norm Katter Glenda Maconachie John Burgess Kerry London Paula McDonald Ian Logan Sandra Janssen

Project Affiliates	Neil Abel Paul Champtaloup Greg Foliente Stephen McFallan Gerry Shutt Michael Swainston Don Allan Sheena McConville Michael Hertz Michael Ward
--------------------	---

Research Program: A
Business and Industry Development

Project: 2004-032-A
Construction Industry Business Environment (CIBE)

Date: March 2006

Leaders in Construction and Property Research

Distribution List

Cooperative Research Centre for Construction Innovation
Authors

Disclaimer

The Client makes use of this Report or any information provided by the Cooperative Research Centre for **Construction Innovation** in relation to the Consultancy Services at its own risk. Construction Innovation will not be responsible for the results of any actions taken by the Client or third parties on the basis of the information in this Report or other information provided by Construction Innovation nor for any errors or omissions that may be contained in this Report. Construction Innovation expressly disclaims any liability or responsibility to any person in respect of any thing done or omitted to be done by any person in reliance on this Report or any information provided.

© 2006 Icon.Net Pty Ltd

To the extent permitted by law, all rights are reserved and no part of this publication covered by copyright may be reproduced or copied in any form or by any means except with the written permission of Icon.Net Pty Ltd.

Please direct all enquiries to:

Chief Executive Officer
Cooperative Research Centre for Construction Innovation
9th Floor, L Block, QUT, 2 George St
Brisbane Qld 4000
AUSTRALIA
T: 61 7 3138 9291
F: 61 7 3138 9151
E: enquiries@construction-innovation.info
W: www.construction-innovation.info

ABSTRACT

This paper undertakes a case study of procurement through a comparative analysis of the capital works procurement policies of the Commonwealth, State, and Territory Governments in Australia. Capital works procurement policies provide the mechanism by which governments manage procurement processes, and frame how individual government agencies, as clients, participate in those processes. The paper proposes a typology of capital works procurement approaches, together with implications of how these different policies play out for clients.

A tentative proposition is advanced that policy approaches to capital works procurement either explicitly or implicitly, make assumptions about the organisational capability of clients to plan and deliver capital works projects, including their ability to understand and articulate their own building needs. Additionally, the paper concludes that innovation has occurred at a policy level in capital works procurement. Recommendations for further research are suggested.

KEYWORDS: public policy, construction, client, capital works, procurement.

1.0 INTRODUCTION

Construction 2020 (Hampson and Brandon 2004) outlines a series of visions for securing the long term success of the construction industry in Australia. In particular, Vision 2 proposes a future in which “the design, construction and operation of facilities truly reflect the present and future needs of the project initiator, future owners and tenants, and aspirations of stakeholders...it will develop better systems for capturing client requirements (Hampson and Brandon 2004: 14). Meeting client needs is thus considered critical to the success of construction projects and for the construction industry overall. While there may be many participants involved in a construction project, this paper defines a ‘client’ as the government organisation requiring and paying for the construction of a new building (Government of South Australia 1996: 62).

In Australia, government is a significant client as government-initiated construction projects approach 30-40% of total industry turnover in the commercial building and engineering sectors. It is thereby in a position to strongly influence the market due to its procurement policy for capital works and its role as regulator of the construction industry (Hampson and Brandon 2004). Until recent decades this role of designer, principal and project manager was undertaken in-house by public works departments, but in some jurisdictions, this function has been devolved to other government agencies some of which have little or no experience in construction (APCC 2002). Many jurisdictions, however, have developed databases of pre-qualified consultants who provide advice to government departments on capital works procurement.

Each jurisdiction in Australia has developed capital works procurement policies that regulate the way in which government agencies¹ procure built assets (see Table 1 below); including various approaches to the way these agencies engage with the construction industry as clients. Capital works procurement policies establish the role that individual government agencies can have in the construction process, and, depending on the policy stance adopted, may involve a number of additional government agencies in the planning, tendering and delivery of built assets.

This paper undertakes a case study of procurement in Australia and compares the capital works procurement policies of the Commonwealth, State and Territory Governments of Australia. A typology of approaches is advanced, following comparative analysis of the policies. The assumptions inherent in these policies, concerning the assessment of the capabilities of individual clients when planning and delivering capital works procurement, are outlined. A tentative proposition is made and possible avenues for future research are canvassed.

The capital works policies discussed in this paper are focussed on the procurement of building construction valued at more than \$100,000. Due to scope limitations, minor works, planned maintenance, whole-of-life asset sustainability, breakdown maintenance and redundancy management policies are not discussed, nor are procurement policies of infrastructure such as bridges, main roads, railways, harbours, and airports construction. While these are valid research topics they are beyond the scope of this paper. Also out of scope, but nonetheless an important factor in the initial decisions to procure, are the capacities, and ‘pre-conditions’, such as systems and processes, required by various jurisdiction to plan for and effectively manage broad asset portfolios.

2.0 METHODOLOGY

Case studies provide for in-depth analysis of a particular issue or technology as it impacts an organisation or industry, and can provide strong recommendations for improvements in theory, technology or policy. Case studies in the area of policy have been called for as a way of advancing

¹ The term agency shall be used in this paper to refer to any government department, budget dependent authority or entity.

public policy practice (Osborne & Brown 2005). A case study is “a method for learning about a complex instance, based on a comprehensive understanding of that instance obtained by extensive descriptions and analysis of that instance taken as a whole and in its context” (U.S. General Accounting Office 1990, cited in Mertens 2005:237). This research followed the process advocated by Stake (2003:155) in that when establishing case studies researchers need to:

1. Seek patterns of data to develop the issues;
2. Triangulate key observations and bases for interpretation;
3. Select alternative interpretations to pursue;
4. Develop assertions or generalisations about the case.

Semi-structured telephone interviews were conducted with senior public servants responsible for procurement policy. Semi-structured interviewing was selected as it ensures cross case comparability (Bryman and Bell, 2001: 346), and is important when conducting exploratory and explanatory studies – particularly in order to find out what is actually happening in practice (Saunders, Lewis and Thornhill 2000: 245). The sample was based on purposive sampling (Zikmund 2003: 383) as respondents with particular expertise concerning capital works procurement policy in their jurisdiction were considered the most critical informants for this research.

Interviewees were asked to outline the approach to capital works procurement undertaken by their jurisdiction, the main reasons for this approach, and how the approach could be improved. Additionally government policy documents were analysed as primary data sources. Triangulation was used between the various data sources in order to clarify meaning and verify the repeatability of the observation or interpretation (Stake 2003). Interviewees were provided with opportunities to review and correct telephone interview summaries, by which means members of the sample checked the data for accuracy, thereby strengthening the internal validity of the research (Mertens 2005).

Individual informants have been de-identified and any commercial in-confidence information has not been divulged. All interviews were conducted in confidentiality, and the names of interviewees have been withheld. When citing interviewees, the generic term ‘interview data’ is used as a means of preserving anonymity. The names of government departments, government reports, and most government policies have not been obscured as most of this information is already freely available, either on the Internet or in public libraries. The focus of the paper shall not be on specific jurisdictions, nor specific government departments or agencies, but rather the unit of analysis will be the various approaches to capital works procurement policy.

3.0 FINDINGS AND DISCUSSION

3.1 Approaches to Procurement for Capital Works by Australian Governments

Procurement policy seeks to organise systematically the array of stakeholders and processes to undertake construction projects. These systems are complex as they need to allow deliberations for construction projects that meet requirements for market-derived commercial transactions, but also maintain public probity through accountability and transparency mechanisms, together with methods for the determination of the need of a built asset, and how this asset will enable an agency to better deliver services to the public on behalf of government. These policies also determine the relationship between a government agency, who wants and pays for a new building and is therefore the client; and other government agencies who may have a role in setting government policy, review procurement processes, or, in some cases, assume control of the procurement process itself.

Due to space restrictions a detailed description of the various policy approaches is not possible. A summary of the approaches to capital works by Australian governments is provided below.

Table 1: Summary of Policy Approaches to Capital Works Procurement

Centralised	Decentralised according to organisational capabilities	Decentralised with centralised policy and central board / committee review of process	Significantly Decentralised (with centralised policy and high profile projects handled centrally)
<p>Australian Capital Territory Government Procurement Board and / or Procurement Unit review all procurement plans above threshold. If approved, all budget funded procurement of capital works is conducted centrally through Procurement Solutions, Department of Treasury, who acts on behalf of other agencies in procurement of capital works.</p>	<p>New South Wales Agencies accredited according to their expertise, and the risk of the project. Involvement of the client determined by their accreditation level and the level of project risk.</p>	<p>Commonwealth The Parliamentary Standing Committee for Public Works (PWC) must be notified of construction procurement over \$2M. Construction over \$6M must be referred to the PWC for recommendation to cabinet for approval.</p> <p>Departments manage their own procurement, although some departments utilise the expertise of the Department of Finance and Administration for planning and delivery.</p> <p>The PWC examines the need, justification and cost-effectiveness of the project proposal and is not involved in the tendering and delivery processes.</p>	<p>Queensland Construction procurement is devolved, but many agencies choose to use the expertise of the Department of Public Works. Strong policy framework in place.</p> <p>Public Works Committee – reviews and makes recommendation on public works <i>ex post</i>.</p> <p>Agencies considering high risk or significant projects must seek Public Works advice.</p>
<p>South Australia Capital Works Procurement is conducted centrally by the Department for Administrative and Information Services for all projects over \$150,000, which acts on behalf of other government departments in procuring capital works. A five step Infrastructure Planning and Delivery Framework must be followed. Works over \$4million are referred to Public Works committee, and must be endorsed by Cabinet.</p>			
<p>Northern Territory All tenders for capital works over \$10,000 is responsibility of Contract and Procurement Services, Department of Corporate and Information Services. The majority of capital works (planning and delivery) is provided by the Department of Planning and Infrastructure. All capital works procurement goes before a Procurement Review Board for endorsement.</p>		<p>Tasmania Procurements over \$100,000 are endorsed by a tender review committee in the department. A Public Works Board then reviews the process to ensure that due process has been followed. Planned expenditure over \$2M must be approved by a Parliamentary Standing Committee for Public Works prior to work commencing.</p> <p>Departments manage own procurement following manuals and guidelines set by central agency.</p>	<p>Victoria For capital works projects, procurement is devolved to individual agencies. Building Commission provides high level advice. Another agency provides pre-qualification scheme which is not mandatory, but strongly supported by all agencies.</p> <p>High risk projects are generally referred to Major Projects Victoria.</p>
<p>Western Australia While budget and accountability for expenditure is devolved to the individual agencies, responsibility of planning, tendering and delivery of all capital works projects rests with Department of Housing and Public Works.</p>			

(Sources: Interview data; QLD Department of Public Works, 2004; Northern Territory Treasury, 2003; *WA State Supply Commission Act 1991*; Department of Treasury and Finance, Tasmania, 1997; Government of South Australia 1998; Building Commission 2002; Commonwealth Department of Finance and Administration 2005; NSW Treasury 2004a).

The Australian Procurement and Construction Council (APCC) is the peak council for government procurement and construction policy in Australia. In addition to the specific policies outlined in this paper, the APCC has issued a number of documents that provide national guidelines to its member agencies on procurement policy. Examples of this are the *National Prequalification Criteria Framework* (APCC 1998), *National Procurement Reform Principles* (APCC 2003), *Asset Management* (APC 2001), and *Client Skills: Skills required by Government as the Construction Industry Client* (APCC 2002). The APCC (2002) made a number of recommendations in these publications in order to promote national consistency in policy approaches to the procurement of capital works.

The capital works procurement approaches of jurisdictions, summarised in the table above, have implications for identifying and meeting client needs.

3.2 Implications of Capital Works Procurement Policies for Clients

The APCC (2002) released a paper on the skills government agencies require as clients in the construction process. This document states that for successful outcomes in procuring capital works “requires the client to have the capability, skills and expertise to: identify needs, negotiate the procurement package; manage the contract relationships; and monitor the delivery and measure suppliers’ performance” (APCC 2002: 6). As a consequence the APCC (2002) recommended that the capabilities of clients in procuring built assets be assessed. Each of the jurisdictions reviewed had slightly different ways of implementing this recommendation, with different procedures for the identification of client needs, which are elaborated in detail below.

3.2.1 Significantly Decentralised (with policy advice and high profile projects handled centrally)

The strength of a decentralised approach is that government agencies have a large amount of say in the planning and building of their buildings to meet their needs (Interview data). In Queensland procurement for capital works has been devolved to each individual agency, with encouragement to devolve procurement into regional areas (Public Works 2005). However, many agencies choose to utilise the expertise and services of the Department of Public Works when procuring new buildings (Interview data). In Victoria likewise, agencies have the authority and responsibility for construction of buildings, with each Minister responsible for such work (Interview data).

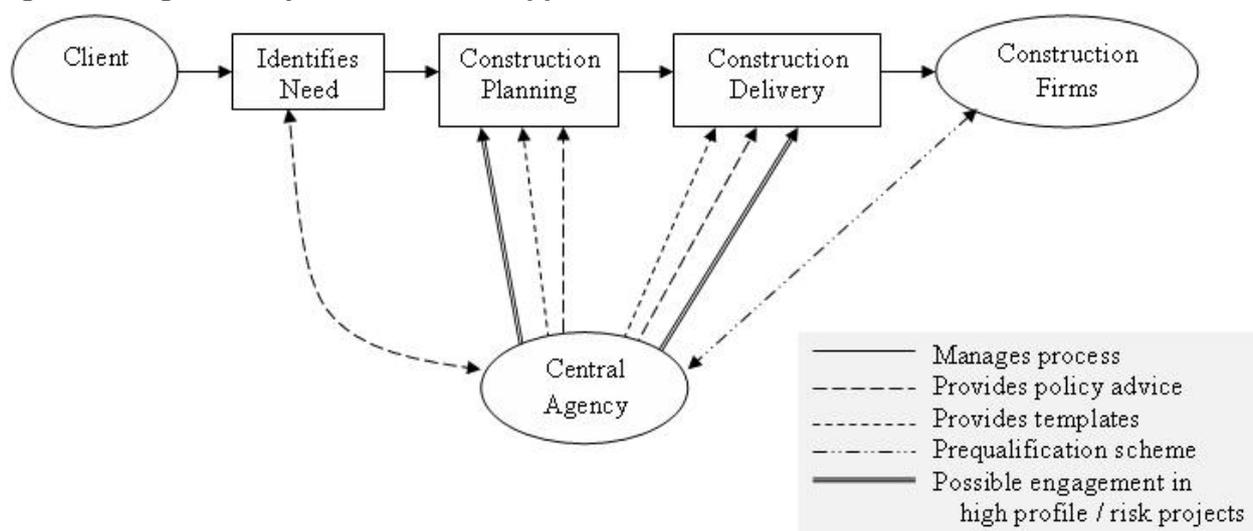
In Victoria, the proponent agency, on behalf of the responsible minister, presents the need for a built asset which is assessed and considered consistent with their Asset Management Framework (Interview data). Identifying the need for the built asset is specified in strategy and policy and is an early part of a multi-staged process for acquiring built assets. In Queensland, the clients’ need is drawn from the strategic planning process, which leads to an asset strategy and a business case proposal for the new building (Queensland Government 2006).

In Queensland, while capital works procurement is decentralised, a significant amount of policy advice is provided to agencies which must be adhered to (Interview data). In Victoria, only high level policy advice is given (Interview data). Where a project is high risk, high cost, or significant (eg. heritage listed or iconic) then in Victoria these projects may be selected to be handled by Major Projects Victoria (Interview data). In Queensland, there are certain mandatory requirements which agencies must adhere to in the procurement process, including the provision that agencies must consult with the Department of Public Works (Interview data). For construction firms, there is direct involvement with the government agency which is the client on most projects, as it is the client agency which prepares the asset strategy and specific business case for a building, which underlies the subsequent building specifications and tendering processes, which in turn helps to ensure the resulting building meets their own needs. In Queensland and Victoria, the client needs for a built asset are progressively developed from staged strategic asset management processes. While different in their elements, both

examine current and future service delivery needs and ties these directly to whole of life asset management. The need for any new building is tested in the context of the portfolio it is to contribute to and explicit links to service delivery, government objectives and statutory purpose of an agency is subject to business case scrutiny.

In Victoria, each client agency proponent prepares and presents their Asset Strategy for government consideration. All asset proposals are listed by agencies on their departmental Multi-Year Strategy that provides a 10-year “project pipeline” snapshot for government of all asset proposals being developed by agencies. Specific business cases for asset proposals are progressively developed by agencies consistent with their multi-year strategy. The full business case of asset proposals approved by government, set the boundaries for subsequent building specifications and tendering processes, all of which helps to ensure that the resulting building meets the clients’ needs. The major liability for this approach is that there is potential for a government agency to ignore or be unaware of policies set by central agencies (Interview data). It is also possible that some government clients lack the capacity required to comply with this policy framework, and may not choose the best approach to the procurement process, or inappropriately allocate risk to contractors (Interview data), despite the best policy advice.

Figure 1 - Significantly Decentralised Approach



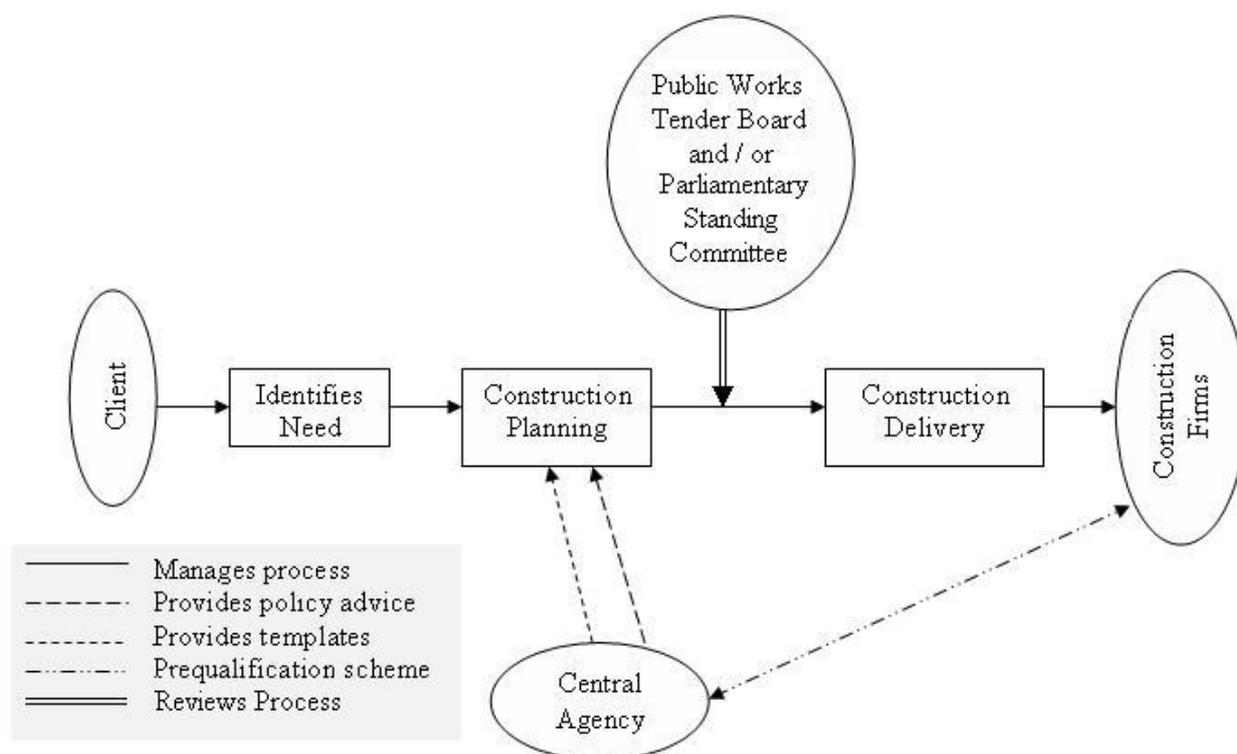
Under this arrangement, clients are responsible for identifying and articulating their portfolio needs, and if successful in gaining Government approval for a proposed asset investment, the responsible portfolio Minister is empowered and accountable for managing (via the public service) the procurement of built assets, with the provision of policy advice by central agencies. Implicit in this approach is the assumption that organisations may lack capability in planing for, and procuring built assets. The policy framework is provided to support clients identify and articulate their needs, and to plan and deliver capital works projects. The outcome of this type of approach to capital works procurement is therefore predicated on the organisational capability of the agency that undertakes the procurement, and their willingness to seek and take policy and practical advice of those agencies with expertise in the procurement of built assets.

3.2.2 Decentralised with central board / committee review of process

The strength of a centralised board / committee approach is that there is a specifically instituted mechanism to formally check the design solution, and in some cases the tender documentation, and to ensure the cost effectiveness of the building, as well as the suitability for its stated purpose (Parliament of Australia 2004). While each department has its own procurement guidelines, the centralised committee approach has the potential to provide a check that buildings are needed, will meet their intended purpose, are cost effective and address whole of life considerations.

Committees operating under this approach require a justification of the need for a particular building in submissions to them. Additionally, individual agencies can identify, and justify, their need for built assets in budgetary processes, and strategic asset management frameworks can also be utilised to determine the need of clients for additional buildings.

Figure 2 - Decentralised with central board / committee review of process approach

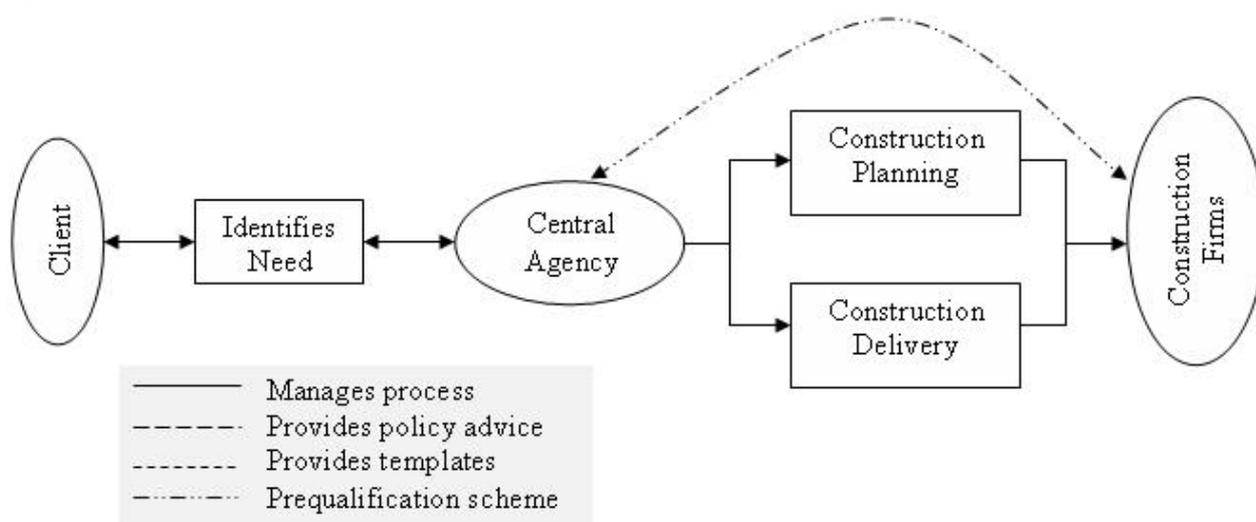


Each individual agency is responsible for the identification and articulation of their need for a building, together with the actual tendering process, and the management of the delivery stage of the building project. While these processes are reviewed by a parliamentary committee, the client is technically responsible for all stages of the process. Clients' need for buildings is tied to budgetary processes, and may include strategic asset management plans. Implicit in this approach is that clients have the capability to procure capital works, however a mandatory check is provided in order to ensure due process has been followed. The outcome of this type of approach to capital works procurement is therefore predicated on the organisational capability of the agency that undertakes the procurement, and as a result, clients who lack certain organisational capabilities are likely to be heavily reliant upon external consultants in the procurement process (Interview data).

3.2.3 Centralised Approaches

The main rationale for a centralised approach mentioned by respondents was that a central agency can develop expertise and can ensure that projects are well executed (Interview data). For small jurisdictions, this is a pragmatic approach that ensures expertise in managing capital works procurement and the maintenance of good relationships with suppliers (Interview data). Additionally, by managing the scheduling of capital works procurement, a central approach can stagger the release of major government projects, thus helping to prevent the construction market from ‘overheating’ by the sudden glut of government construction projects (Interview data). In smaller jurisdictions the centralised approach may be more efficient as it avoids unnecessary duplication in small government agencies and allows pooling of limited specialist resources. Additionally, centralised approaches enable the support of local industry through a consistent and transparent approach to capital works procurement (Interview data).

Figure 3 - Centralised approach



Against this, centralised approaches can result in that agency determining the needs of other agencies. “Sometimes clients believed that they were not sufficiently in control of quality, cost or time parameters of construction projects which in turn affect their service delivery to public. Some departments believed that they could better manage public construction projects if they were in control” (Interview data). Some respondents indicated that they had moved away from centralised approaches to capital works procurement as clients did not feel that the process met with the expectation of clients (Interview data).

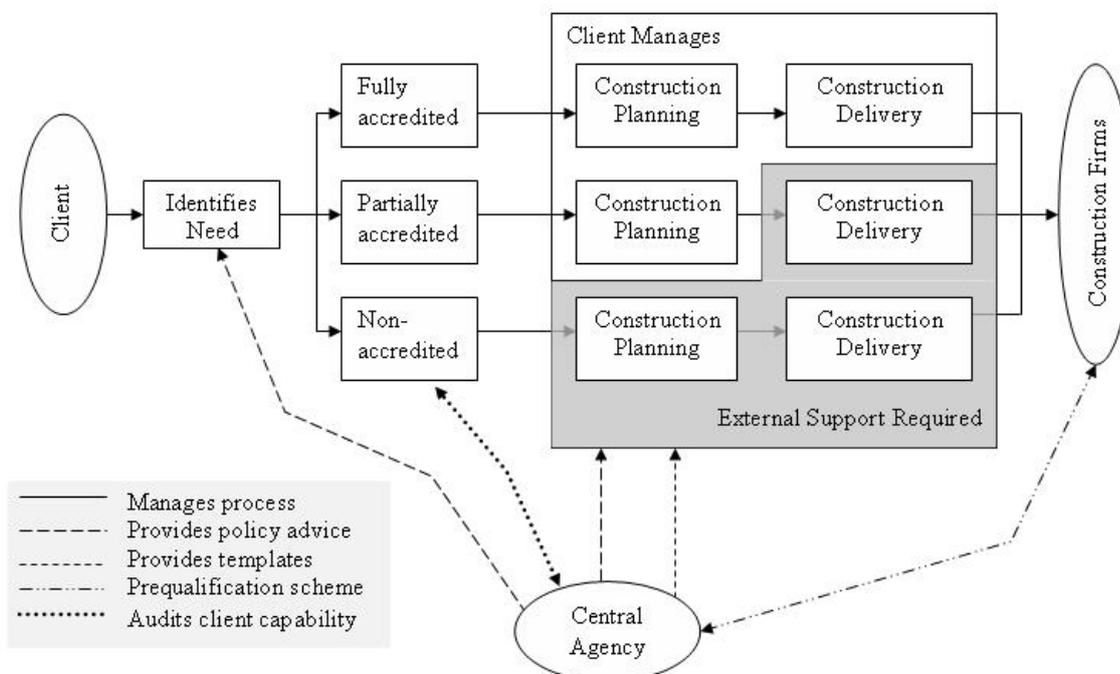
Implicit in this approach is that clients are unlikely to have the organisational capability to properly identify their own building needs, nor to manage the planning and delivery of built assets. This is quite plausible for smaller jurisdictions where an agency may only need a new building every five years or more, and it is therefore difficult to hold on to expertise (Interview data). Alternatively, as in the Western Australian case, the capacity and responsibility is specified in legislation. Centralised approaches have the potential to produce outcomes that may not meet the needs of clients, and the outcome is therefore dependent on the ability of central agencies to ensure that client needs are specified clearly, that built assets facilitate the provision of services by the client, and that this information is communicated clearly to construction firms. Some of the jurisdictions have developed sophisticated policy instruments to assist central agencies to achieve these outcomes (Government of South Australia 2006).

3.2.4 Decentralised according to organisational capabilities

The APCC (2002) suggested that individual jurisdictions undertake an assessment of the capabilities of public sector agencies in procuring capital works. While this is implicit in the approaches examined above, in New South Wales², the organisational capability of agencies in planning and delivering capital works projects is assessed up front, and is a key part of the process (NSW Finance 2004a). For projects valued over \$1 million, a centralised 'default Procurement System' is provided for those agencies that have not been assessed as having organisational capability in the planning and delivery of capital works projects (Interview data). The policy framework has been developed in New South Wales to ensure uniformity in the approach to market, that the project achieves outcomes for NSW Treasury and the client, and that an asset is created within a specified range of performance (Interview data).

For NSW the procurement of capital works starts not with the building planning phase, but with an assessment of a need for the building in the first instance, and how this building will enhance the ability of the agency to provide services to the community (NSW Treasury 2004a), which is similar to processes in Queensland and Victoria. In other words the policy process requires that building planning commences with a clear identification of how the building will meet client's service delivery needs. The relationship between the building and the needs of the client are established early in a 10 stage process, as is the organisational capability of the client in procuring built assets (Interview data). Against this, the process is more complex than other systems, with nine different possible procurement scenarios depending on the capability of the client and the level of risk assigned to the project. The policy has only been in effect for a short period of time and needs to run for a longer time before benefits can be assessed (Interview data).

Figure 4 - Decentralised according to organisational capabilities

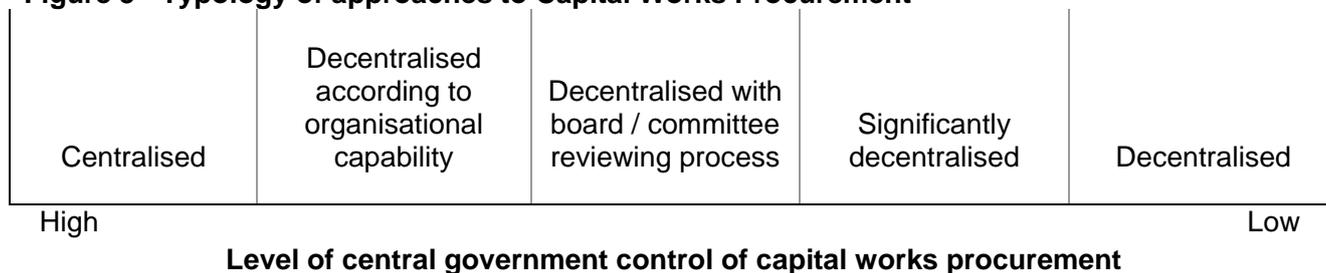


² While South Australia has developed a capability based approach for goods and services procurement, capital works operates under a centralised purchasing approach (Government of South Australia 1998).

3.3 Typology

The APCC (2002) has noted that the Commonwealth, State and Territory jurisdictions are all on a continuum from centralised to decentralised, however, an attempt to place specific jurisdictions on a typology has hitherto not been attempted on the public record. The variant approaches examined above could be considered on a typology according to the level of central control over the procurement process. A centralised approach means that there is a strong control of capital works procurement by a single central government agency, whereas a decentralised model devolves procurement to all agencies in a jurisdiction. We propose here that the capital works procurement policies and programmatic responses will vary according to the degree of centralisation or decentralisation this continuum can be based on categories of approaches which can be typified as either *centralised*, *decentralised according to organisational capability*, *decentralised with board / committee reviewing process*, *significantly decentralised*, and *decentralised*. The following typology is advanced:

Figure 5 - Typology of approaches to Capital Works Procurement



4.0 CONCLUSION

The States, Territories and Commonwealth of Australia have different procurement policies and approaches to procurement. The reasons for these variations relate to shifts in government policy (Interview data), legislative mandates (Interview data), and a prevailing pragmatic approach to meeting client needs (Interview data). Some approaches are new, such as the approach currently implemented in NSW (Interview data). This paper argues these policies implicitly or explicitly make assumptions about organisational capability of clients to determine their requirements for capital works and their ability to oversee the procurement process.

4.1 Implications for Innovation

It is argued that government can influence the construction sector by the way it manages capital works procurement. Several respondents indicated that changes were made to the procurement process, at least in part, to better manage the relationship between government and the construction sector as a whole (Interview data). For example in Victoria, one of the reasons behind the creation of the Multi-Year Strategy was to identify potential future projects that were “in the pipeline” so that the construction sector could be provided with a greater degree of certainty of longer term demand (Interview data). Current policy approaches to capital works procurement have evolved over time (Interview data), and many mentioned that their current approaches are under review, or had just recently been reviewed (Interview data) or felt that a change was imminent (Interview data). NSW explicitly attempted to innovate in its approach to capital works procurement (Interview data). It is apparent that there is innovation by Australian governments in capital works procurement at a policy level and this case study contributes to our understanding of policy as suggested by Osborne and Brown (2005), as different clients seek to achieve value for money (Interview data), implement whole

of life approaches to asset procurement (Interview data), and manage the purchase of capital works strategically (Interview data).

4.2 Implications of Client Capability to Capital Works Procurement

In *significantly decentralised* and *decentralised with committee review* approaches, there is an implicit assumption that clients are competent in identifying their own needs, and in managing the planning and delivery phases of the project. Risk is managed through policy frameworks that support the identification of need and the procurement process, or by conducting mandatory checks on the procurement process. In *centralised* approaches, it clients are implicitly assumed to lack the organisational capability to procure capital works, and the need is determined in consultation with the central agency, as is the planning and delivery of the built asset. In the *decentralised according to capability approach*, the capability of the client is explicitly assessed, and their role in the procurement process is determined by their level of capability.

Following this analysis a tentative proposition can be advanced, although this requires testing empirically:

Capital works procurement policies have inherent assumptions about the organisational capability of clients to manage the planning and delivery phases of construction projects.

While the process for assessing organisational capability differs between jurisdictions, this principle appears to form part of the logic underpinning the approaches taken in each jurisdiction.

4.3 Further Research

The project has shown a wide variation of capital works procurement policies in Australia. While examining the typologies and logic of these approaches, the effect of these different approaches in terms of consistency, effectiveness, efficiency, probity, productivity and product innovation remains unclear.

Future research could consider:

- How do clients perceive the effectiveness of current approaches?
- How do construction firms perceive the effectiveness of current approaches?
- Which approach is more efficient in delivering built assets, and how is this efficiency determined?
- What are the outcomes of the various approaches for construction innovation?
- How does each approach address issues of probity, consistency and transparency of process?
- How does each approach affect the capacity and productivity of the construction sector?
- How do the various jurisdictions apportion risk in the procurement process?

Future research could additionally consider the practicality or even achievability of an appropriate policy regime and institutional framework that seeks consistency in a federal system of government such as in Australia.

5.0 REFERENCES

- APCC (1998) *National Prequalification Criteria Framework*. Canberra: APCC.
http://www.apcc.gov.au/docs/prequalification_criteria.pdf on 10 February 2006.
- APCC (2001) *Asset Management*. Downloaded from
<http://www.apcc.gov.au/docs/AssetManagement.pdf> on 10 February 2006.
- APCC (2002) *Client Skills: Skills required by Government as the Construction Industry Client*. Canberra: APCC. Downloaded from <http://www.apcc.gov.au/docs/ClientSkillsSep2002.pdf> on 10 February 2006.
- APCC (2003) *National Procurement Reform Principles*. Downloaded from
<http://www.apcc.gov.au/docs/APCCNatProcurementReformPrinciplesMch2003.pdf> on 10 February 2006.
- ACT Basis (Buyers and Sellers Information Service) (2001). www.basis.act.gov.au/basis/
- Bryman, A. & Bell, E. (2003). *Business Research Methods*. Oxford: Oxford University Press.
- Building Commission (2002) Ministerial Direction No. 1 *Tendering Provisions for Public Construction*. Downloaded from
<http://www.buildingcommission.com.au/asset/1/upload/MinisterialDirectionNo1.pdf> on 20 January 2006.
- Building Commission (2006) *Process Guide – A guide to client control of construction projects*. Downloaded from <http://www.buildingcommission.com.au/www/default.asp?casid=3191> on 8 February 2006.
- Cavana, R.Y., Delahaye, B.L. and Sekaran, U. (2001) *Applied Business Research: Qualitative and Quantitative Methods*. Sydney: John Wiley and Sons.
- Commonwealth Department of Finance and Administration (2005) *Commonwealth Procurement Guidelines*. Downloaded from http://www.finance.gov.au/ctc/docs/CPGs_-_January_2005.pdf on 23 January 2006.
- Department of Administrative and Information Services (2005) *Services Guide*. Downloaded from
http://www.dais.sa.gov.au/webdata/resources/files/dais_services_guide_Oct05.pdf on 23 January 2006.
- Department of Finance and Administration (2005) *Commonwealth Procurement Guidelines*
- Department of Treasury and Finance, Tasmania (1997) *Procurement Practices Manual*. Adelaide:
- Government of South Australia (1996) *Project Initiation Process: Asset Management Policy Series*. Downloaded from [http://147.109.254.181/domino/bfg.nsf/BF6470B28F51292ACA256C980005D576/\\$FILE/PIP.pdf](http://147.109.254.181/domino/bfg.nsf/BF6470B28F51292ACA256C980005D576/$FILE/PIP.pdf) on 21 January 2006.
- Government of South Australia (1998) *SA Government Procurement Reform Strategy*. Department of Administrative and Information Services.
- Hampson, K & Brandon, P. (2004) *Construction 2020: A Vision for Australia's Property and Construction Industry*, Brisbane: Cooperative Research Centre for Construction Innovation.
- Mertens, D.M. (2005) *research and Evaluation in Education and Psychology: Integrating diversity with Quantitative, Qualitative and mixed methods*. 2nd Edition. Thousand Oaks: Sage Publications.
- Northern Territory Government (2003) *The Northern Territory Procurement Code*.
- Northern Territory Treasury (2003) *The Northern Territory Procurement Policy and Strategies*.

- NSW Government (2005) *Code of Practice for Procurement*. Downloaded from http://www.treasury.nsw.gov.au/procurement/pdf/code_of_prac_curr.pdf on 18 January 2006.
- NSW Treasury (2004a) (2004) *NSW Government Procurement Policy*. Downloaded from <http://www.treasury.nsw.gov.au/pubs/tpp2004/tpp04-1.pdf> on 16 January 2006.
- NSW Treasury (2004b) *Agency Accreditation Scheme for Construction Projects*. Downloaded from <http://www.treasury.nsw.gov.au/procurement/pdf/accredit.pdf> on 20 January 2006.
- NSW Treasury (2004c) *Total Asset Management Policy*. Downloaded from <http://www.treasury.nsw.gov.au/pubs/tpp2004/tpp04-3.pdf> on 20 January 2006.
- Osbourne, S.P. and Brown, K.A. (2005) *Managing change and innovation in public service organizations*. New York : Routledge.
- Parliament of Australia *Joint Standing Committee on Public Works: Role and Operations*. Downloaded from <http://www.aph.gov.au/house/committee/pwc/role.htm> on 23 January 2006.
- Public Works Tender Board (1997) *Guidelines*. Launceston:
- QLD Department of Public Works (2004). *State Purchasing Policy*. Brisbane: Department of Public Works.
- Queensland Government (2006) *Capital Works Management Framework*. Brisbane: Department of Public Works, Queensland Government. Downloaded from <http://www.build.qld.gov.au/amps/AmpsDocs/CWMFMRBP.pdf> on 7 December 2005.
- Saunders, M.N.K., Lewis, p., and Thornhill, A. (2000). *Research methods for business students*. Harlow, England : Financial Times Prentice Hall, an imprint of Pearson Education.
- Stake, R.E. (2003) "Case studies" in Denzin, N.K. and Lincoln, Y.S. (Eds.) (2003). *Strategies of Qualitative Enquiry*. 2nd Edition. Thousand Oaks: Sage, pp. 134 – 164.
- Stake, R.E. (2005) "Qualitative case studies" in Denzin, N. & Lincoln, Y.S. (eds). *The Sage Handbook of Qualitative Research Methods*, 3rd Edition. Thousand Oaks: Sage, pp. 443-466.
- WA State Public Works Act 1902*.
- Yin, R.K. (2003a). *Case Study research: Design and Methods*. 3rd Edition. Thousand Oaks: Sage Publications.
- Yin, R.K. (2003b). *Applications of Case Study Research*, 2nd Edition. Thousand Oaks: Sage Publications.
- Zikmund, W.G. (2003). *Business Research Methods*, 7th Edition. Mason, OH: South-Western, Thomson.



**Cooperative Research Centre
for Construction Innovation**

9th Floor, L Block
QUT Gardens Point
2 George Street
BRISBANE QLD 4001
AUSTRALIA

Tel: +61 7 3138 9291

Fax: +61 7 3138 9151

Email:
enquiries@construction-innovation.info

Web:
www.construction-innovation.info



Established and supported
under the Australian
Government's Cooperative
Research Centres Program