Positioning Paper

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Towards best practice for public housing asset management

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LIST OF ACRONYMS

AAM	Advanced Asset Management
ADS	Asset Dwelling Service
AHURI	Australian Housing and Urban Research Institute Ltd.
AM	Asset Management
BEAM	Built Environment Asset Management
CADD	Computer Aided Design and Drafting
CAM	Core Asset Management
CIR©	Corporate Infrastructure Resources
CRE	Corporate Real Estate
CREM	Corporate Real Estate Management
CREAM	Corporate Real Estate Asset Management
CSHA	Commonwealth Social Housing Authority
DBMS	Database Management Systems
DHS	Department of Human Services (Victoria)
FaCSIA	Australian Government Department of Families, Community Services and Indigenous Affairs
HNZ	Housing New Zealand
HNZC	Housing New Zealand Corporation
IPWEA	Institute of Public Works Engineering Australia
IAM	Infrastructure Asset Management
IRIS	Integrated Resource Infrastructure Solutions
LAN	Local Area Network
LCC	Life Cycle Costing
MLP	Master Limited Partnership
NCRB	National Council on Rationalised Building
NPM	New Public Management
NPV	Net Present Value
ODM	Optimised Decision Making
OoO	Office of Housing (Victoria)
PAS	Property Assessment Survey
PPP	Public Private Partnership
PREM	Public Real Estate Management
PREAM	Public Real Estate Asset Management
REAM	Real Estate Asset Management
REIT	Real Estate Investment Trust (including Equity REITs, Mortgage REITs and Hybrid REITs)

REOC	Real Estate Operating Company
SMI	Strategic Management Initiative
TAM	Total Asset Management
WAN	Wide Area Network

EXECUTIVE SUMMARY

This Positioning Paper continues work being completed by a multidisciplinary team investigating good practice in managing Australia's public housing assets.

Other research on the financial issues relating to asset management has also been completed as an earlier stage of the project. The results of this analysis will be included in the Final Report.

This report presents the preliminary literature findings and outlines the research remaining to be completed in the project. One of the main issues which has arisen from the work is to challenge the conservative view of asset management practices in social housing, not because the traditional views are incorrect, but rather because a narrow view of asset management may result in a self-confirming study – existing practices will be confirmed. The research team has found it necessary to be more aggressive in pursuit of a wider gamut of practices and has explored heavily the practices they have identified in the corporate sector.

For the purpose of this study, asset management can be defined as a systematic process of planning, acquisition, transfer, re-organisation, improvement and management of physical assets in a cost-effective way. It combines social and engineering principles with sound business practices and economic models to provide the tools necessary to facilitate a more effective approach toward decision-making for public housing.

The paper's primary aims are to:

- identify and examine the current state and attributes of asset management practices applicable to social housing in Australia;
- discuss the key asset management issues and questions arising from international experience with social housing asset management;
- identify the set of characteristics associated with best practice applied to social housing asset management in Australia; and
- review the literature and policy debates as they relate to the topics that emerge from each of the above objectives.

The policy context for social housing asset management is that housing services, including new construction and maintenance, have been progressively deteriorating as government support for social housing has increasingly been cut back over the past decade. Some housing associations are contracting their maintenance work and public rental stock, particularly in housing estates.

A review of the literature highlights the different circumstances that prevail and throws modest light on the Australian situation. The international literature shows more evidence about asset management policies and regulations than about practice of asset management for social housing. In addition there is more non-governmental participation in social housing in several European countries. In Australia the need for asset management for social housing is driven largely by ageing assets (stock obsolescence) and shortage of new housing; backlog maintenance problems are not as acute. The Australian literature shows that states and organisations are at different levels of asset management practice implementation. The literature also draws a link between economic strength and public housing estates and implementation of asset management. The need for a best practice approach to asset management is advocated.

This study is being undertaken in conjunction with a project analysing the status, experiences and financial models used in asset management of public or social housing. The two will generate complementary material. This Positioning Paper has been written prior to any extensive empirical work and is based on available policy literature in Australia and overseas.

Section 1 sets the context for the study and establishes the context for social housing asset management. Here the traditional view of asset management is initially followed, allowing the context to introduce the scale and nature of the problem. The section then discusses a broader view of asset management, including a typology for understanding asset management. This is then expanded into a definition of real estate asset management. These definitions are critical in establishing the purpose of the research, as different views of the meaning of the term asset management can have far-reaching implications in interpretation of findings. The discussion then moves to consider asset management in social housing and practices for asset management in social housing. This sets the scene for the research which is then outlined in the final parts of the section.

In Section 2, the policy and historical context of public housing asset management in the Commonwealth of Australia is reviewed, including the practices and characteristics of social housing in the different states and territories. This section establishes the size of the stock, its condition and the demand for services. The basic asset management strategies of condition, funding and maintenance conclude this traditional treatment.

Section 3 outlines a framework for identifying asset management best practice for public housing in Australia. Here the report deviates from the original scope. The literature review and the results from Part 1 of the project, combine to inform this review and dictate the need to move beyond commonly understood concepts of asset management in housing. The report here considers the potential to be found in the literature relating to the strategic management of property and in particular the field known as Corporate Real Estate (CRE). A model for looking at practices adopted from pervious work by the authors is considered and the Section concludes with a tabulation of CRE practices.

Section 4 is a literature review which pays particular attention to the public or social housing reforms internationally, the accompanying debates and controversies, and the empirical evidence for their outcomes. The conclusion drawn from the international literature is that the literature is broadly of two types: empirical studies and policy reports. There is indeed a disappointing dearth of literature looking specifically at asset management practices for social housing. Thus we are able to describe stock in many places in some detail, we can comment on the trends and major policy drivers that entail, but can say little about the detail of the mechanics (practices) of asset management. Certainly it is possible to conclude that there is no magic bullet extant in the literature to be applied in Australia. It was from this that the decision was made to broaden the project in order to consider the use and application of CRE practices in public housing.

Section 5 describes the methodology for the study. In undertaking the study all states and territories have been/will be consulted. The comprehensive study will use multiple questionnaires and focus group surveys and will undertake case studies of selected housing associations in states and territories in Australia. The surveys will look at the categorisation of housing stock, the use of traditional asset management practices in organisations and then, in a new component, will explore individual participants' uses and attitudes toward CRE practices in public housing asset management.

1 INTRODUCTION

This Positioning Paper continues work being completed by a multidisciplinary team investigating good practice in managing Australia's public housing assets. Other research on the financial issues relating to asset management has also been completed as an earlier stage of the project, prepared as a background paper, and is excluded from this Positioning Paper. While there is necessarily overlap between this Positioning Paper and the earlier background paper on financial issues, this separate major component of the overall research project will not be replicated or encapsulated within this Paper. However, the final project report will include an aggregation of all background papers and Positioning Paper, as well as including the completion of the research.

The separation of the financial analysis from this Positioning Paper has allowed the research team to adopt two positions with regard to asset management. In the background paper on financial issues, a conservative position was taken with regard to the meaning, role and function of asset management of Australia's public housing assets. This is a stance which would be familiar to most current managers. In this view, adapted from Gruis and Nieboer (2004a), the public housing asset management focus is on the physical housing stock, and excludes activities that do not affect the characteristics of the housing stock. Therefore, the main activities in asset management concern rent policy, acquisitions, maintenance, renewal and sale allocation.

In this Positioning Paper, this conservative view is challenged. Not because it is considered incorrect, but rather because such a narrow view of asset management may result in a self-confirming study. In other words, the potential result of the research will be that current methods and techniques will necessarily be good practice. Once again, this is quite probably true – but it is only by examining a broader view that the conclusion can be considered reliable.

Thus we outline here a broader view of asset management, and discuss its contextual meaning for public housing. In this we have deliberately opened up the new theories in strategic corporate real estate and similar asset management research which goes beyond the operational to the general field of built environment asset management (BEAM) to examine underlying strategic mechanisms and principles. These principles include a substantial financial element to decision-making and management, to achieve benefit from the assets derived from general asset management, but also consider the organisation, performance and service (outcome) needs of the public housing environment.

1.1 Context

Australian social housing agencies are some of the biggest holders of real estate assets in Australia and they face immense challenges in the identification of the right skills, systems and models of practice to improve service delivery and management of these assets. Presently, public housing stock in Australia is around 306,000 housing units (Roy Morgan Research, 2007) accounting for about 5% of total housing stock and 24% of rental housing. In the past two decades, Australia has made various reforms in public housing asset management, but there is still a long way to go in terms of the adoption of good asset management practice. This challenge is not just because of funding constraints, poor design and ageing stock (Arthurson, 1998) but because the complexity or the management tasks associated with demand and supply is so great that there are no quick and easy solutions. There has also been a gradual

development of understanding of asset management, which has evolved only slowly from a highly technical focus toward a greater consideration of strategic issues.

While the practice of asset management in public housing necessarily started from the inception of social housing, for many it was largely about new construction and responsive maintenance. By the early 1990s, the range of asset management issues, their complexities and associated problems, prompted a new and broader interest in public housing asset management. In Australia, this could be seen as part of a general movement in the management of public sector assets that had origins in the activities of the National Council on Rationalised Building (NCRB), commencing with reports in the 1980s, such as *Problem Areas in Building Construction, Materials and Details* (Milton and Valentine, 1986). Later NCRB reports included *A System for Recording Asset Life Cycle Performance Data* (Bromilow *et al*., 1995) and *Asset Management Information* Guidelines (Bromilow, 2000). Other government and peak bodies were also involved during the 1990s through publications such as *Asset Management. Audit Report No. 27, 1995-96*. (Auditor-General, 1996), *Total Asset Management (APCC, 1996)*, *Asset Management – Better Practice Guide* and *Asset Management Handbook* (Australian National Audit Office, 1996c). As a whole, these raised the importance of public sector asset management, including social and public housing.

Over the last decade, social housing and particularly public housing in Australia has confronted a difficult financial environment with a recent report by the Australian Centre for Economic Studies showing that funding for public housing fell by 11% between 1996–1997 and 2004–2005 (cited in Atkinson and Jacobs, 2008a), and of the total $280 billion of state and Commonwealth expenditure in 2006–07 only $1.1 billion was used to support public housing (Atkinson and Jacobs, 2008a). It has been argued that the current system is essentially unsustainable (Hall and Berry, 2004). Furthermore, largely as a result of the funding cuts between 1996 and 2006, about 23,000 houses were lost to the sector (Atkinson and Jacobs, 2008b).

Currently in Australia, there are around 306,000 units of social housing (Table 3) that are worth about sixty billion Australian dollars (Dunckley and Elliot, 2008). The majority of these are managed by state government-based housing authorities and the rest by a disparate mix of community housing providers. Because housing organisations vary greatly in the quality and size of their housing stock and the nature of their housing asset management objectives, all face the challenge of modernising service delivery and getting the best from housing service delivery.

From the new public reforms and re-organisations that have evolved in different countries in the 1990s, follow requirements for a fresh look at new and innovative ways for asset management – outside the confines of conventional public service structures. These can be found via new technologies, new operating models and identifying best practices. Several studies indicate that public infrastructure asset management is often not complete, or not fully updated, because of a lack of technical and economic capacity. Central to the problems of managing public housing assets is a common thread of management style found in many organisations that own or use property assets to achieve short- or long-term organisational benefits (Roulac, 2001, Veale, 1989).

Essentially, the core of an effective asset management strategy is good information about the performance of an organisation's physical assets that is capable of holistic analysis. Perhaps due to the lack of information on public housing asset condition and the associated understanding of the necessary management systems, surprisingly few studies have examined and documented how public housing organisations organise and analyse their housing assets for decision-making purposes. Despite the

unquestioned acceptance of asset management practices as an important vehicle for economic and social development of public housing, no study has attempted to collect and compare international public housing asset practices with Australia in order to advise asset managers on good practice for public housing management, nor have any addressed roads, schools and other infrastructure assets. Curiously, the closest any study has come emerges from private property management (Simons, 1993, Obermann *et al*., 2002, Gruis and Nieboer, 2007).

Asset management lies at the core of current social housing reform. In the market sector, asset management is all about achieving a good return on a property investment. Property not delivering a good return should be sold or improved by some kind of intervention. The problem for social housing is that such simplistic principles cannot be transferred from the private to the social sector by virtue of the many other objectives of social housing and the community service obligations that attach to them. Thus, effective management of social housing is both different and more complex than generic asset management. But, as a starting point, effective housing management and development is influenced by asset management in a number of ways, including:

1. technical management (maintenance, renovation, etc.);
2. social management (housing allocation, etc);
3. financial management (treasury, rent policy); and
4. tenure management (letting, buying, selling) (Priemus *et al*., 1999).

The responsibly for undertaking these management activities falls to the asset management units of State Housing Authorities (SHAs), including the role of overseeing a process of strategic decision-making, business planning, portfolio analysis, benchmarking, feasibility studies and financial modelling tools, as reflected in strategic and corporate plans: for example in New South Wales Department of Housing (2000), Queensland Department of Housing (2002) and the South Australian Housing Trust (2002).

This Positioning Paper is about good practices in managing Australia's public housing assets. It is the third of four reports from a research project which is designed to document the state of practice in Australian social housing management systems, and to provide ideas and data both from Australia and overseas to facilitate changes to these systems in response to a changing social housing context. In particular, the project will examine the role of management and of discretionary decision-making, and the use of technical and financial systems within several social housing organisations.

The first two reports, a positioning paper and final report addressing Stage 1: Financial issues, considered asset management from a restricted definitional viewpoint. This is important, as this reflects the current understanding and practice in public housing. This report will now extend the analysis to consider a broader definition.

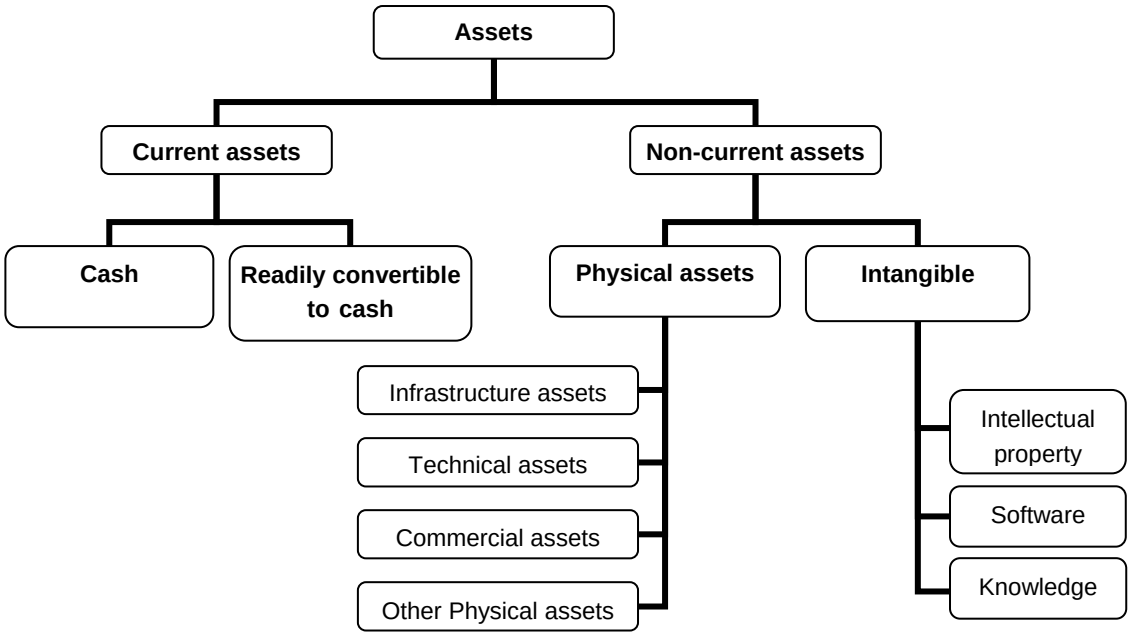
1.2 A broader view of asset management?

The term *asset management* (AM) is a container term covering the management of asset types as diverse as those shown in Figure.1. As a consequence, the term is easy to use imprecisely. Therefore, this section explores the possible uses before proposing an asset management definition applicable to public housing.

Asset management covers many things:

- *wealth management*, where optimising a person's or entity's range of asset classes, such as cash, equities, bonds and real estate to maximize the portfolio's value, relative to acceptable risk;
- *the (systematic) management of any physical asset* (or portfolio of assets), for example furniture or a fleet of cars; and
- the built environment's:
  - *engineering infrastructure assets* – those that support and facilitate society's functioning; and
  - *property or real estate assets*, for either the private or public sector, that may be technical or commercial assets, as shown in Figure.1.

Figure1: Types of assets



After: (Leong, 2004) and (Koskelo, 2005)

However, in real estate management there are a plethora of terms that cover the activities of managing real estate assets. Even when a single term is used, there seem to be differing definitions and understandings of the term. For example, the term *asset management* has been used to refer to the contract administration of project-based housing assistance contracts (for instance, where a public housing organisation transmits to a property its rental subsidies and conducts various reviews/inspections), or the compliance monitoring of tax-credit projects.

The many terms which cover the domain of asset management include:

- estate management;
- property management;
- portfolio management;
- service delivery management; and
- (strategic) asset management.

Estate management is an historical UK usage that emphasises the landlords' ownership of the land and their legal and social relationships to tenants (Deakin, 1999). In this, there is an assumption of a 'static' estate where management tends to be reactive and focused on the physical integrity of the estate's housing stock that make up the estate to meet the landlord's legal and social responsibilities. This constitutes much of what is historically inferred as *asset management*. Larkin's definition of asset management in the context of social housing (Larkin, 2000) – "the range of activities undertaken to ensure that the housing stock meets needs and standards now and in the future in the most efficient way" – seems to reflect this notion.

Property management is an evolution to a more dynamic approach that now includes senses of tenant, or occupier, interests (Deakin, 1999, Varcoe, 2000), although the inclusion of the 'profitable' operation of real property, shifts the emphasis back to the interests of owners or holders of tenure (leases and the like) (Rondeau *et al*., 1995). Property management definitions tend to be focused on day-to-day operations that include activities like:

- maintenance;
- tenant relations;
- security;
- income and cost administration;
- reporting; and
- leasing (JLW Advisory, 1995).

Portfolio management encompasses the management of a group of properties to achieve value and benefit over and above that derived from management of individual assets (Varcoe, 2000).

Service delivery management is the management and administration of resources for delivery-specified services (Varcoe, 2000). While Varcoe's definition is most specifically intended for property services provided by real estate professionals, the term also includes managing services housed in an asset or facility, for instance library services in a library asset. The separation of service and asset management functions recommended by the Productivity Commission (Industry Commission, 1993) clearly reflects this distinction. This view could be extended to include the provision of housing as a service within residential accommodation (housing services for public sector housing).

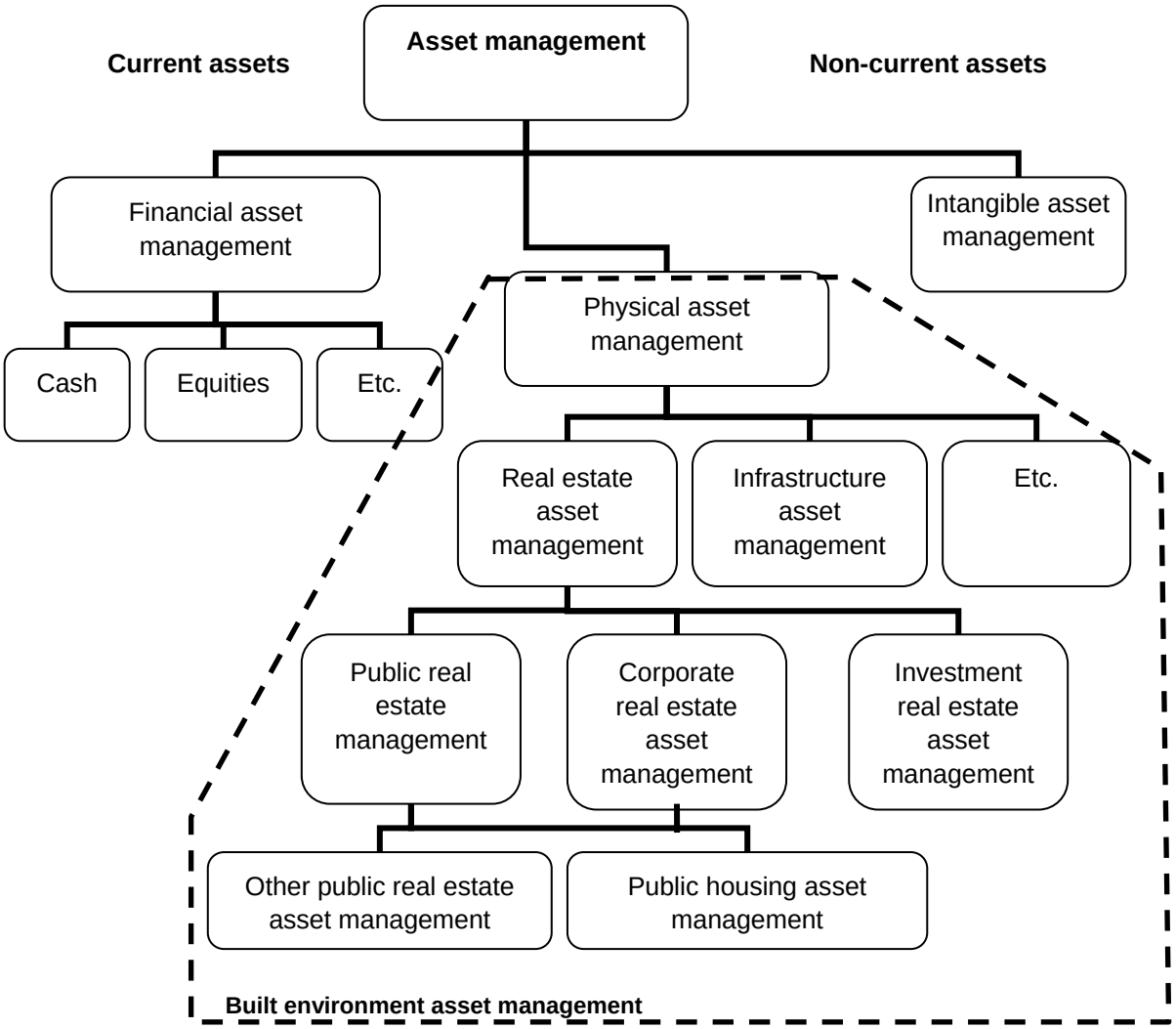
1.3 Defining real estate asset management

In property or real estate asset management (REAM), a number of fields can be identified (shown in Figure.2) within the general field of built environment asset management (BEAM). Depending on the management context and resultant strategic objectives for assets, general asset management principles will be modified or adapted accordingly. These general principles include a substantial financial element to decision-making and management to achieve benefit from the assets derived from general asset management. This arises because, for many of the above contexts, the benefit is presumed to be maximising financial benefit through capital growth and/or income. This is certainly so within the property and real estate field, where the buying, selling, and managing of assets is to maximize this financial value (Veale, 1989) and is most prevalent in investment real estate asset management. However, in *corporate real estate management* (CREAM or CREM) the benefit for an organisation's **operations** is emphasised (Zeckhauser and Silverman, 1983, Brown *et*

al., 1993, Kenley *et al*., 2000a). In *public real estate asset management* (PREAM or PREM) the social benefits are emphasised (JLW Advisory, 1995, Evers *et al*., 2002).[1] *Infrastructure asset management* (IAM) also has a social benefit dimension, although this is often construed as the most cost-effective achievement of required service levels using a combination of management, engineering, economics, planning and other practices (Obermann *et al*., 2002, IPWEA, 2006). Social benefit is inferred in correctly specifying the appropriate service levels.

While asset management is extremely useful to investment real estate, it is just as useful for CREM and PREM organisations. Where the real estate assets are managed for operational purposes, such as is the case with public housing, then the CREM field, potentially, has useful insights to be applied, especially as recent thinking in the field has emphasised both strategic and business outcomes.

Figure 2: Contexts for managing assets.



Real estate asset management (REAM) includes considerations of the maintenance of physical and operational integrity to ensure continuing value – financially and

[1] In Australia, the CREAM term, arguably, has application because of the influence of New Public Management.

operationally (Rondeau *et al*., 1995, Varcoe, 2000). The issue, while always important, achieved considerable prominence in the 1990s, in what can only be described as an explosion of interest across both the public and private sectors.

One of the simplest outlines of real estate asset management comes from the Australian National Audit Office (1996a) which posits five principles.

1. Asset management decisions for acquisition or replacement, use, maintenance, and disposal are integrated with organisational strategic planning.
2. Asset planning techniques are based on an evaluation of non-asset alternatives to the acquisition of new assets and which consider the 'life-cycle' costs, benefits and risks of ownership.
3. Accountability is established for asset condition, use and performance. This includes identifying those responsible for the asset, establishing performance standards for condition, operations and maintenance, and documenting resources required to achieve these standards.
4. Disposal decisions are based on analysis of the methods which achieve the best available net return within a framework of review of surplus, obsolete, under-performing and unserviceable assets. Any disposal plans are to take into consideration both the state of the market into which the asset is being disposed, and the condition of the asset.
5. An effective internal asset management control structure is established that includes asset registers, information and staffing practices. While this principle is most evident in terms of the asset management function itself, it can also include 'Plans' established under each of the other principles.

Similarly, Australian building owners and managers' thoughts of real estate asset management involve the planning and implementation of property investment and management strategies via:

- developing investment objectives;
- research and asset allocation;
- development of investment policy and strategy;
- risk management;
- acquisition/disposal management;
- re-positioning and adding value to existing assets;
- ensuring the efficient delivery of property-related services across a portfolio or at the single asset level; and
- performance measurement at the property and portfolio level (JLW Advisory, 1995, p.1).

Such encapsulations of practice still inform conceptualisations of real estate asset management to this day, although they fail to produce a clear, comprehensive framework for public housing asset management. Nevertheless, several key principles emerge:

- the existence of asset management plans and policies;
- risk assessment;

- life-cycle approaches to assets, including calculating life-cycle costs, usually expressed in Net Present Value (NPV) terms at acquisition (and presumably at disposal);
- acquisition, redevelopment and disposal in accordance with organisational (strategic) needs;
- information requirements including:
  - asset registers;
  - condition levels;
- performance assessment including:
  - setting performance standards;
  - determination of functionality levels;
  - cost-benefits analysis for decision-making;
  - review of asset performance at individual and portfolio levels;
  - investment return (other than cost-benefit analysis);
- relationship of asset management to organisational needs; and
- existing assets repositioned, that is, redeveloped and enhanced in value, both in-use and financially.

1.4 Asset management for public housing

Asset management for public housing is the field of managing physical, built assets for the purposes of achieving social housing outcomes. In the Australian context this is most usually the responsibility of SHAs but non-SHA providers also feature. As such, asset management encompasses managing built assets that range in scale from a single housing unit to whole estates consisting of both building and infrastructure assets. Built assets are themselves complex assets consisting of constituent sub-assets. Depending on the scale of the base asset, these could consist of everything from building elements to whole buildings. This diversity of asset scales is particularly evident in Australia where the typologies of assets in public housing asset portfolios are very heterogeneous.

Asset management in Australia's public housing are heavily influenced by emerging trends in public sector asset management. This has moved generally toward strategic asset management.

1.4.1 Strategic asset management in the public sector

- There are clearly levels of asset management practice. The early 1990s literature provided both *strategic asset management* (for example: South Australia Department of Treasury and Finance, 1996), and *total asset management* (for example: National Public Works Council, 1993), to denote proactive levels of management above just ensuring continuing integrity of the asset through maintenance. Moving to these higher levels were about connecting asset management with the organisational need for the assets and towards fitting asset purposes into broader, strategic, organisational objectives. The possibility of 'non-asset' solutions to organisational needs was to be considered (National Public Works Council, 1993, Australian National Audit Office, 1996c).

Strategic asset management can be said to combine the principles of financial asset management and strategic planning (Gruis and Nieboer, 2004b). Strategic planning is

the process of developing and maintaining a viable fit between the organisation's objectives, customers, employees, processes and other resources (Howe, 1986, Hannagan, 1992, Lewis, 1993, Roulac, 2001, Thompson Jr and Strickland III, 2003). Strategic asset management is then interrelated to business planning and forms an evaluation framework for real estate asset management (Roulac, 2001). The characteristics of strategic public housing asset management are, according to Gruis *et al*. (2004), market-orientated, systematic, comprehensive and proactive.

Much of the rhetoric in the 1990s explosion of interest in asset management is framed in terms of strategic asset management. This is most often suggested to arise from asset management being informed by organisational strategic planning. A typical early example is seen in the Australian National Audit Office (1996b, Figure 1.2), and a similar, more contemporary, expression is found in INGENIUM and IPWEA (2006). The latter structures its asset management process across three levels – strategic, tactical and operational – with the strategic level being where asset management plans are informed by the organisational strategy. However, the strategic connection appears tenuous and seems to exist as a pretext to moving on to, and concentrating on, tactical and operational asset management practices within which the technically proficient real estate professional is generally more comfortable.

This form of strategic asset management has become an embedded practice in Australian public sector asset management with most, if not all, Australian jurisdictions adopting this in some form. Examples include:

- Asset Management, Canberra; (Australian Procurement and Construction Council Inc., 2001).
- Asset Management procedure guide, Melbourne; (Building Policy Group Department of Infrastructure (Victoria), 1999).
- Introduction to Total Asset Management (TAM), Sydney; (New South Wales Treasury (Office of Financial Management), 2004).
- Strategic asset management guide, Brisbane (Queensland Department of Public Works, 2002).
- Asset Management guide: Sport and recreation facilities, Perth. (Western Australia Department of Sport and Recreation, 2004).

1.4.2 Application to social housing.

Where SHAs are subject to overall state asset management policies, these state-level, general policies will also apply.

Asset management is a relatively new concept for public housing managers (Gruis and Nieboer, 2004a) where it straddles both private and public sector management methodologies. Gruis and Nieboer (2004a, p.5) argue this stems from "the private sector, where it is concerned with an analysis of the performance of an organisation's assets in support of decisions about holding, selling and repositioning. In private sector asset management, however, the emphasis is on optimising financial performance. However, in the public rented sector, it is not necessarily, or mostly not, the primary criteria for management decisions". The latter is the concept encapsulated in operational or social benefits that are the focus of CREM and PREM.

Gruis and Nieboer (2004a) and Nieboer (2005) suggest four types of asset management strategies applicable to social housing: "strategic business planning"; "portfolio analysis"; "benchmarking"; and "balanced score card", which are used to evaluate the performance of assets and organisational standards. They argue that asset management initiatives have varied in their relative emphases on these four

methods. However, closer inspection of these 'strategies' shows that the last three are what would more usually be called 'performance assessment' techniques. However, they do have application in strategic planning and decision-making for assets.

1.5 What are asset management practices in social housing

There are some fundamental questions to address before designing the actual research in this research project. In the review thus far, it is clear that public housing asset management has evolved over time, not only in Australia but also throughout the world, and gradually taking on more strategic asset management elements from commercial asset management. It can be argued that this is a process on a continuum, and each jurisdiction will find itself at different points, and indeed the system as a whole may travel further as continued scrutiny of good practice, as evidenced by this project, impacts on developments in the field.

To answer the question about good practice, or indeed to seek best practice (were such a thing to exist), requires recognition of the continuum and a willingness to explore beyond current practice. Therefore, in this position paper, we will present a theoretical understanding of asset management which assesses but also goes beyond the traditional asset management approach generally pursued in public housing management. The intent here is not to argue that there is anything wrong with the current approach, but rather to explore a wider view and to identify practices from a broader literature which may apply to housing asset management, and which may be already in use, or which may be desirable. Such practices will not necessarily be identified in current debates. It is hoped this approach will enrich the debate and add value beyond identifying and reinforcing existing practice.

1.6 Original aims and research questions

The original aims and research questions are summarised herein. These will be revised in Section 5.

The aim of this project is to develop a set of good practices for strategic asset management which will assist SHAs as they seek to improve housing outcomes for public tenants and to extend the life of their housing stock and maintain its viability and relevance.

Supplementary aims are threefold:

- to scope the attributes of public housing stock and its associated issues;
- to document and discuss the set of characteristics associated with good financial practice applied to public housing asset management in Australia; and
- to document and compare the asset management decision-making framework (its principles, drivers and processes) in each of the eight jurisdictions.

This project addresses five research questions, as follows.

1. What are the key financial criteria and issues applying to public housing asset management in Australia? This research question will explore:

- the most common and critical financial issues which have arisen in the development and implementation of asset management strategies for public and/or social housing internationally and in Australia;
- the most commonly used financial objectives and performance indicators for asset management in public and community housing, how are they applied, what do they tell us and could they be improved;

- the benefits and costs to public housing providers of current asset management and dwelling maintenance practices;
- the implications of current financial practices for asset management for service delivery effectiveness, for stock flexibility and client harmonisation, for asset preservation and for cost-effective well-directed maintenance expenditure, and
- the financial benefits and costs associated with outsourcing asset management and maintenance.

2. What are the relevant attributes of Australia's public housing stock? This research question will explore:

- the attributes that have the most significance on asset management and service delivery;
- the issues and problems that are associated with these attributes;
- the current demands on stock; and
- the differences in attributes, if any, between public housing and community housing.

3. How are SHAs dealing with their particular stock issues in each jurisdiction? This research question will explore:

- the basis on which they are making their decisions;
- the degree of variation and convergence between approaches; and
- the differences in approaches, if any, between public housing and community housing.

4. How well are SHAs implementing asset management strategies and to what extent are they achieving their objectives? This research question will explore:

- the performance indicators used to measure success in management strategies;
- good outcomes, particularly for tenant and landlord stakeholders; and
- the differences in strategies, objectives, performance indicators and good outcomes between public housing and community housing.

5. What practices can be discerned from the Australian and overseas experience of asset management? This research question will explore:

- those practices that lead to better overall housing outcomes for tenants (affordability, adequacy, etc);
- those practices that lead to better overall housing outcomes for landlords (such as financial outcomes); and
- the differences in practices between public housing and community housing.

1.7 Scope and structure of the report

This Positioning Paper will:

- outline the policy context for social housing asset management;
- present a theoretical framework for extending understanding asset management and for distinguishing between different forms of asset management;

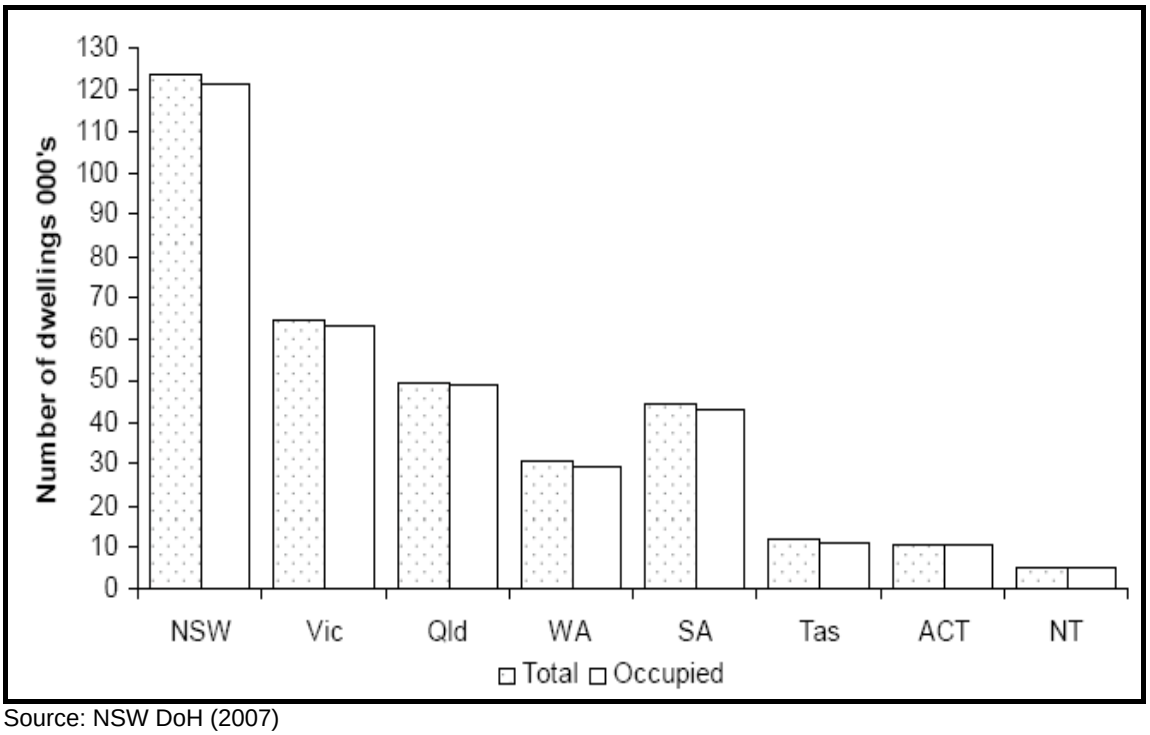
- provide a preliminary outline of the current asset management issues confronting Australian public housing; and
- outline the research directions and revised methods for this work on good practice for public housing asset management.

2 POLICY CONTEXT FOR SOCIAL HOUSING ASSET MANAGEMENT

2.1 Introduction

Until the 1980s, State and Territory Housing Authorities (SHAs) focused on large acquisition programs to meet the needs of two target groups: low income families and older persons. As demand was high and the stock new, little attention was paid to its appropriateness and long-term viability, apart from some modernisation programs. Within the states, the size, physical condition, social and economic characteristics of public housing assets are reported as varying widely. A recent report about social housing availability in Australia, shows that less than half of families in need were provided with public housing within three months of application (Roy Morgan Research, 2007). The same report also documented that, at June 2006, New South Wales had the largest number of public housing properties in Australia, while Queensland, ACT and New South Wales had the highest occupancy rates (Figure 2.1). According to Burke (2005), one of the major factors for the declining performance of public housing management in meeting applicant needs, is that social housing has become increasingly marginalised from the mainstream of housing provision, not just in numbers, but in terms of its underlying philosophy, its impact on the Australian economy, and how society sees its purpose.

Figure 3: Number of occupied dwellings by state and territory



Source: NSW DoH (2007)

2.2 Housing asset condition

The condition and age of housing stocks is a major issue for government housing organisations, not only in Australia, but in many other countries that expanded public housing programs from the 1950s to the 1970s. In the late 1990s some social housing conditions were so bad that no-one wanted to live in them. The problem was that dwellings in some public housing estates were un-lettable, mostly because of their age, condition and reputation. In fact, as the nation's housing stocks are ageing, so maintenance, repair and replacement costs are increasing as resources shrink. Some housing types were un-lettable because there was no demand on the housing register for them (Table 1).

The physical condition, age and extent to which social housing stocks and new housing developments have kept pace with the changing population profile and household structures, is increasingly being contested. New South Wales is the largest provider of public housing compared to other states and territories in Australia. Table 1 shows that the largest loss in public housing over this period occurred in South Australia, which had 12,548 fewer public housing dwellings in 2006 than it did in 1996. Of the states and territories, only Victoria and Queensland had a net increase in dwelling numbers between 1996 and 2006 (of 3,258 and 2,504, respectively).

Table 1: Housing dwellings by state and territory (1996, 2001 and 2006)

	1996	***2001***	***2006***
New South Wales	117,692	114,606	109,494
Victoria	51,713	55,024	54,971
Queensland	45,721	47,378	48,225
South Australia	53,023	44,758	40,475
Western Australia	30,754	29,457	28,900
Tasmania	12,406	11,639	10,452
Northern Territory	7,494	5,307	4,710
Australia Capital Territory	10,738	9,884	9,310
Australia	329,830	318,292	306.696

Source: Australian Centre for Economic Studies (2006) (Atkinson and Jacobs, 2008a)

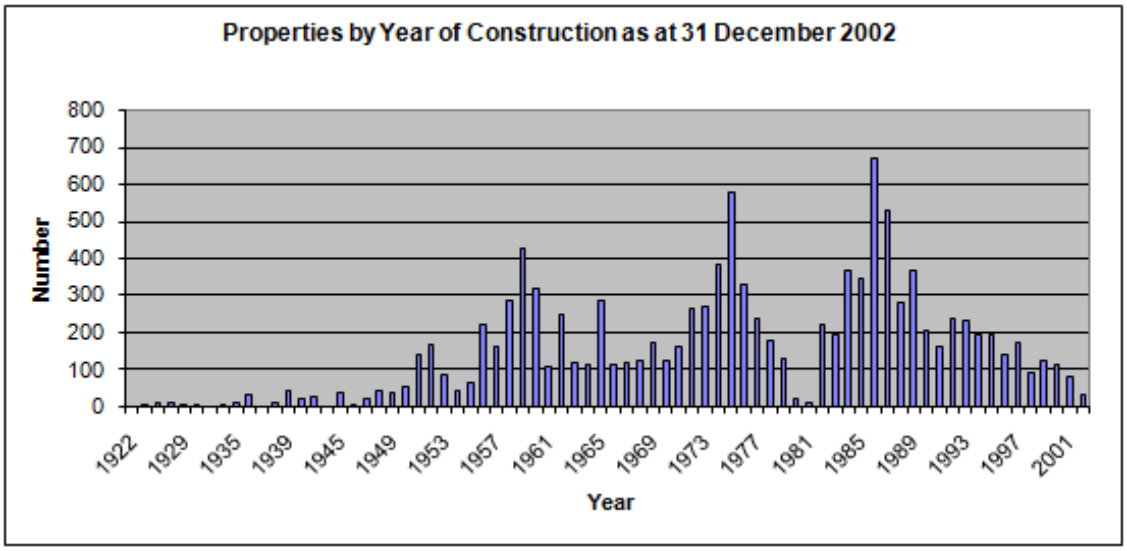
The average age of public housing stock in the ACT is about 27 years (Figure 4), and as a consequence, age has a major impact on repairs and maintenance requirements. In Western Australia, the average age of the public rental housing stock is around 22 years. Over 44% (around 15,550 units) have been constructed since 1989. Old and inappropriate dwellings that no longer suit the needs of tenants have been transferred over the years. More and more of capital budgets are going into rehabilitation instead of new construction. In Australia, the national stock of government housing is about 306,000 dwellings, of which approximately 65 per cent (259,000) were built before 1980.

Burke noted that the absence of appropriate policy intervention and the emergence of spatial concentration of disadvantaged areas has a high probability of threatening urban sustainability and affecting Australia's ability to lay claim to having some of the most liveable cities in the world (Burke, 2005). Furthermore, the world is becoming environmentally more fragile and those environmental issues should figure more significantly in any housing policy discussion. This means that social housing

decision-making, including decisions around new construction, must be integrated into a wider urban planning and renewal process.

The ageing and inappropriateness of much social housing stock has raised questions not only about what management strategies are to guide maintenance and redevelopment, but also about the failure of past construction and repair programs, given that in some cases the properties being rehabilitated are only a few decades old.

Figure 4: The distribution of properties by year of construction for ACT



Source: (DHCS, 2003)

2.3 Strategy to meet changing needs and demand

Currently there is a growing list of demand for housing for all social housing tenures (Table 2). In Australia, there are currently about 176,321 people on public housing waiting lists. The chart below shows the difference between the accommodation needs of both tenants and applicants compared to the available accommodation from the existing housing list. The interesting thing about the “waiting list” is that it provides the statistics for focusing on housing solutions for people with the greatest need.

Table 2: Total number of applicants on waiting list, at 30 June 2008

Year	*NSW*	*VIC*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*	*Aust.*
2003	84,954	39,739	32,316	13,356	29,557	2,740	3,471	1,923	208,056
2004	77,984	40,701	35,430	12,732	28,565	3,229	3,730	1,876	204,247
2005	73,734	41,296	38,298	12,733	28,430	3,116	4,119	2,179	203,905
2006	58,172	41,114	37,215	13,130	27,925	3,387	3,600	2,391	186,934
2007	50,316	40,911	36,815	14,571	26,201	3,055	1,870	2,582	176,321

Source: Roy Morgan Research (2007)

2.4 Asset maintenance and transfer

There have been reforms around the housing asset maintenance service delivery model. Many states have introduced asset improvement programs to reduce the maintenance backlog by improving dwellings in poor condition. Some departments

have begun introducing a new approach to maintenance, with new loans to remove the maintenance backlog.

The maintenance reform program is an approach based on five key ideas:

1. using asset performance to guide intervention;
2. using component life-cycle planning to formulate forward programs;
3. optimising a planned and systematic intervention;
4. pre-empting component failure; and
5. bundling the maintenance work.

In Victoria, in the last 10 years, the Office of Housing (OoH) has sold stock needing the most maintenance and replaced it. This has resulted in an improvement of the average age of stock, and in reduced backlog maintenance. However, the level of backlog maintenance has increased since 2000 due to more accurate property condition assessments, more up-to-date costing of work required to bring properties up to standard and mandatory expenditure on items not directly affecting the property condition.

Backlog is often referred to as the work not completed by the due date. It is an organisation policy that it is required to maintain and keep assets in top condition. As in other places, backlog maintenance is a public housing issue for public housing authorities in Australia (AAP, 2008). It is infrequently carried out, often due to limited funds. A recent audit report (Auditor General of Victoria, 2004) found that while the OoH does not have a funded backlog maintenance strategy, it continues to address backlog maintenance through the development of annual regional stock plans and regional forums to prioritise maintenance requirements. The situation is similar in other states and territories (Koch, 2008).

2.5 Housing and other assets

Asset management (AM) in public housing differs somewhat from that of community housing assets. First, because of the dominant role played by national subsidies in funding housing, local authorities have less control over both revenue flows and policy decisions than they might like, given the uncertainties of budget obligations and ideological shifts regarding everything from tenant rights to privatisation. Second, because of housing's association with such issues as neighbourhood revitalisation, welfare eligibility rules, employment training programs, child and aged care, and so forth, the framework for asset management of public housing appears to be more complex than that of other community service providers.

2.6 Life-cycle costing

Sustaining assets through life-cycle costing is one of the main principles for managing public sector assets. It is a significant tool because it places a premium on the best use of financial, technical and human resources to the benefit of the organisation. Life-cycle costing (LCC) sometimes focuses primarily on capital or fixed assets (Ellram and Siferd, 1998); (see also Flanagan *et al*., 1989, Kirk and Dell'Isola, 1995). However, the extent and variety of circumstances of uses of LCC is somewhat wider, as LCC models are used for a range of purposes including to inform and encourage public bodies, to advise clients and policy makers, to support business cases, for comparison of alternative investment options, for detailed budgeting of selected options, for purchasing decisions, for assessment of economic life-cycle of products, for monitoring of costs, etc. In Victoria, for example, the OoH do not use life-cycle costing to calculate the current and future maintenance costs of its properties, despite

the Victorian audit review (2004) call for the adoption of life-cycle costing, and its planned use by the OoH's Strategic Asset Management Division for future work plans (Auditor General of Victoria, 2004).

3 ASSET MANAGEMENT: TOWARDS IDENTIFYING BEST PRACTICE

Public housing in Australia is constituted by several varied activities undertaken by an array of participants. These stakeholders have been classified as: tenants, public housing organisations, private housing organisations, asset managers, governments, citizen advocates, etc. In the realm of government, which is the major sponsor of public housing, social housing policies, objectives and asset management activities are best understood in the context of changing developments in the political and economic environment. However, one of the core objectives of social housing is to ensure that all applicants have access to housing that is adequate, equitable and appropriate for living. Currently, the policy context for social housing management is driven by market competition and government regulations through various housing organizations. Out of this policy mix has emerged recognition of the significance of sensible financial planning, efficiency, strategic management and market orientation in public housing management. This type of asset management is what Priemus *et al*.(1999) referred to as 'strategic housing asset management'. Also, strategic housing management may contain elements of portfolio asset management such as defining the desired mix of dwelling types and rent level, analysing the performance of the residential portfolio, defining guidelines for management, acquisition and disposition of the estates in the portfolio (Priemus *et al*., 1999). Moreover, there has been variability in the application of asset management and strategic asset management in the public sector (Brackertz and Kenley, 2002a); for example, Brackertz and Kenley (2002b) attempt to identify the tools for asset management and evaluation in the local government public sector, while Ming Yu and Han (2001) discuss the effects of information systems on public housing asset management.

The policy challenge is to develop best practice for social housing objectives, strategies and activities around the competing and often shifting views of stakeholders. According to McNelis (2007), 'what happens to social housing will depend on which of the stakeholders prevails'. What is important to note is that housing objectives therefore relate to particular stakeholders, whose approaches seek to elaborate on the objectives of social housing as it relates to themselves.

These objectives emerge out of the immediate and practical interest of each of the stakeholders: some applicants are interested in providing a dwelling that will meet their particular needs and preferences, and such needs and preferences can vary considerably from applicant to applicant. On the other hand, housing providers have their particular sets of interests: financial viability, managing the demand for social housing, managing an array of needs and preferences of applicants, balancing the various and often competing demands and expectations of stakeholders.

Best practice requires the integration of social housing objectives and asset management strategies. Social housing operates within the context of a society and economy the purpose of which is to provide, among other things, a standard of living for all households (McShane, 2002). These objectives can be achieved through a variety of social and economic activities, including: construction and maintenance; the ability to ensure a minimum standard of building is adhered to; delivery of timely maintenance to customers; tenant participation; allowing tenants to understand their use pattern and costs; the processes for deciding whether and when to upgrade, demolish or sell dwellings; and functions undertaken by the government. This standard of living includes many different components, one of which is housing. A society can ensure that all its citizens and households achieve this equitable and

affordable dwelling standard in a range of ways, some of which are combined with asset management strategies.

Concerns have been expressed about the inadequacy of public housing maintenance in many states in Australia (Auditor General of Victoria, 2004, Auditor General of NSW, 2005). Tenant survey reports in Australia show a high level of dissatisfaction with the quality of public housing conditions and maintenance. The scale of the problem has been reported (Veale, 1989). Two studies at Harvard University and Massachusetts Institute of Technology (MIT) in the mid-1980s show that many housing executives were unhappy with the level of management of public housing (Pittman and Parker, 1989, Veale, 1989). The studies found that many of the most basic good management models used in the private sector are not being used in public organisations because of lack of managerial skills and lack of asset data (information) which in turn means that social housing functions are not being fulfilled in the most efficient way. Similarly, the Productivity Commission (Industry Commission, 1993) stated that there was a need to increase effectiveness in public housing authorities, particularly where some commercial focus could be fostered. The housing authorities had recognised tenant dissatisfaction as a major issue and moved to fix it; yet, it felt that a new approach to maintenance was needed.

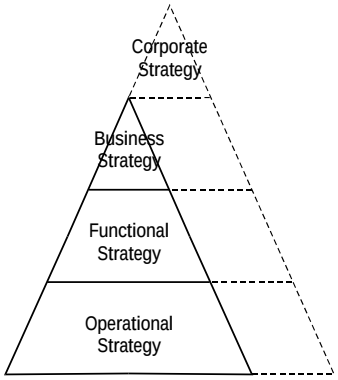
Because data about public assets is difficult to obtain, it is impossible to identify unusually high- or low-cost project expenditure components or to do a comparative analysis to identify unusually inefficient processes. The absence of this data, in turn, makes it extremely difficult for asset managers to determine how to allocate funds for individual housing projects, and how to identify projects with unusually high operating cost components that require management intervention and correction. Project-level asset accounting will allow managers and auditors of public housing to more accurately evaluate the appropriate strategies to improve the operation of individual projects as well as to allocate operating funds among projects. It will also facilitate decisions as to whether to abandon or, if not, how to effectively rescue a failing project. It could be argued that managers of public housing who do not already collect financial and asset information on their properties will not effectively use this information. However, the collection of property level data is likely to affect public housing management decisions and will also enable governments to re-orient the way they manage and evaluate a public housing organisation's performance.

Currently, government evaluates organisations and not asset conditions. Having staff who track the performance of individual properties and information on the operating costs and conditions of those projects should lead to higher levels of performance with respect to the physical conditions of properties, occupancy status, and asset management. Collection of operating cost data will also greatly assist any new managers of public housing to reform obsolete management practices, provide a wealth of data to independent assessors and facilitate the eventual re-calculation of operating subsidy formulas.

3.1 From good practice asset management to best practice

Management of public sector assets within the frameworks noted previously can be said to represent 'good' current practice in asset management. However, while these strategic asset management plans make some acknowledgement to managing assets to meet organisational objectives, frequently the actual asset management strategies noted in an organisation's documented plans are internally focused on the detailed operation of the assets and not on the business of the organisation. The basis for this assertion can be seen with reference to general strategic management models where hierarchical, tri-level layers of strategy are found. Figure 5 is typical of such models.

Figure 5: Layers of organisational strategy



(After: Thompson Jr and Strickland III, 2003, Figure 2.1)

As such, layers of strategic activity and practices occur and are required at each of these levels. Good strategic asset management is most frequently practiced at technical, operational levels where issues like maintenance, condition assessments, and capital budgeting for new works predominate thinking and practice. These are not unimportant but it is observed that practice generally occurs despite relatively poor framing of the organisations' business strategies. This is true whether that business has a private sector profit orientation, or a public and not-for-profit sector service delivery orientation. The dominance of the technical issues identified occurs because asset managers, while knowledgeable in managing physical assets, lack sufficient 'business' perspective to successfully carry this out. Technical folk tend to be focused on 'bricks and mortar' issues.

Real estate asset management (REAM) practitioners are further impeded in making this transition to 'business strategist' (Joroff *et al*., 1993) because of the lack of theoretical models that connect the operational and business strategy levels beyond the directive that asset management plans should be framed relative to organisational strategic planning. More strategic organisational management would be informed by a two-way exchange between organisational objectives and service and asset potentials.

Best practice asset management must surely be framed with stronger and better connections between operational strategies and business strategies. The transition from good practice to best practice requires, in the first instance, development of appropriately useful models, and secondly, the implementation of these in practice.

IPWEA (2006) is one of the few authorities that recognises layers of asset management practice and associated practices, calling them *core asset management* (CAM) and *advanced asset management* (AAM) (INGENIUM and IPWEA, 2006).

Core asset management is defined as:

> "Asset management that relies primarily on the use of an asset register, maintenance management systems, job/resource management, inventory control, condition assessment, simple risk assessment and defined levels of service, in order to establish alternative treatment options and long-term cashflow predictions. Priorities are usually established on the basis of financial return gained by carrying out the work (rather than detailed risk analysis and optimised-decision-making)" (IPWEA, 2006, p.xiii).

Advanced asset management is defined as:

> "Asset management that employs predictive modelling, risk management and optimised decision-making techniques to establish lifecycle treatment options and related long-term cashflow predictions" (IPWEA, 2006, p.xii).

Each definition indicates respective practices which, in detail, are:

- *core* (IPWEA, 2006, p.1.9):
  - risk assessment by identifying critical assets;
  - asset registers with low (less detailed) level of component breakdown;
  - asset condition and performance using hard data for critical assets but using desk-top analysis for less critical assets;
  - asset condition and performance:
    1. hard data for critical assets;
    2. desk-top assessment by those with good knowledge of the assets;
  - optimised decision-making at the level of cost-benefit analysis of capital options; and
  - level of service based on historical performance;
- *core* (IPWEA, 2006, p.2.8):
  - take a lifecycle approach;
  - develop core asset management plans based on:
    1. best available current information and random condition/performance sampling;
    2. simple risk assessment to identify critical assets;
    3. existing levels of service (service level reviews come later); and
    4. contrasting existing management strategies with opportunities for improvement.
  - prioritise capital works using simple ranking criteria (subjective points scoring or simple cost benefit analysis to evaluate options);
  - calculate long-term (10-20 year) cash flow predictions for asset maintenance, rehabilitation and replacement, based on local knowledge of assets and options for meeting current levels of service; and
  - provide financial and critical service performance measures against which trends and asset management plan implementation and improvement can be monitored;
- advanced (IPWEA, 2006, p.2.9):
  - the asset management strategy is clearly derived from a corporate strategic plan;
  - long-term, whole-life plans and cost/risk/performance optimisation;
  - objectives and performance measures are aligned and complementary;
  - IT systems are integrated, used and understood;

- competencies and training are aligned to roles, responsibilities and collaborative requirements;
- strategies are risk-based, with appropriate use of predictive methods, optimised decision-making (ODM) techniques to identify the optimum long-term asset management plan to deliver a particular level of service; and
- iterative continuous improvement.

3.2 A business-centered asset management

As noted previously, considering a broader framework for moving from good to best practice asset management requires framing asset management practice with regard to business strategy and practice.

The existing models that attempt do this tend to come from the Corporate Real Estate Management (CREM) literature, where organisational benefit from property assets exists that is similar to that sought or required for public housing asset management. Notable exceptions are the (INGENIUM and IPWEA, 2006) Total Asset Management (TAM) process (albeit with the shortcomings previously noted) and enterprise-wide alignment (Kaplan and Norton, 2006).

These models include:

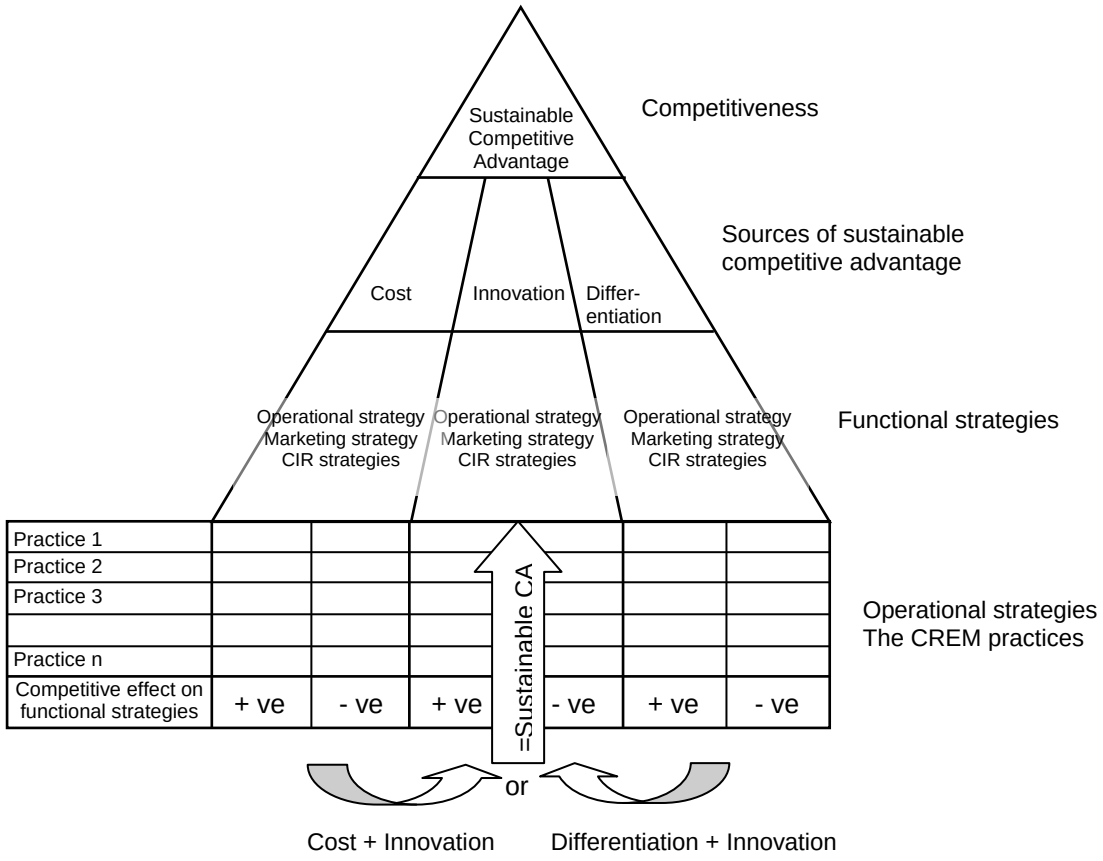
- the evolution to business strategist in managing the fifth resource – CRE (Joroff *et al*., 1993);
- strategic alignment through processes of:
  - business alignment;
  - service definition;
  - internal operating strategies;
  - external operating strategies; and
  - service delivery (Lambert *et al*., 1995);
- a horizontal alignment across the organisational silos through CRE alone or through integration with other organisational or corporate infrastructure functions (Materna and Parker, 1998, Englert, 2001).
- a four-way integrative process involving a corporate business strategy, business unit organisation and processes, corporate infrastructure resources strategies, and infrastructure and processes (Englert, 2001); and
- enterprise-wide alignment, which for support services like CRE and AM, occurs through being either a low-cost service provider, a product leader, or by providing complete customer solutions (Kaplan and Norton, 2006). The latter is the only possible, sustainable option which has two options – customer intimacy or customer solutions strategies – both of which have consequential changes in competencies for support services toward relationship management, having a culture of collaboration, and adopting a customer focus. Furthermore, public housing organisations have fewer incentives to treat tenants as customers with attendant changes in how social housing could/should be managed.

Any of these alignment approaches are intended to change the professional from being a functional, technical specialist to a trusted advisor or business partner.

However, few if any of the frameworks connect the technical real estate management practices to business strategy other than being recipients of its outputs. One

conceptual framework that does this is the Sustainable Competitive Advantage Model for CRE shown in Figure 6 (Heywood and Kenley, 2008).

Figure 6: The Sustainable Competitive Advantage Model for CRE



After: Heywood and Kenley, 2008, Figure 5

The model uses sustainable competitive advantage (competitiveness) to represent business strategy because, in the private sector, a commercial enterprise's competitiveness is the intended outcome of its business strategy. The connection between CRE practices on all other organisational functions and their strategies is shown by the bottom layer's positive and negative competitive effects on the functional strategies. That business strategy is achieved by/derived from three sources that in turn are produced through organisational capabilities and competencies created by the organisational resources managed by the various organisational functions (Prahalad and Hamel, 1990). These functions themselves strategise to achieve these capabilities (a second level of strategy). The Model's functions represent core business (operations), sales and promotion (marketing), and business support functions, here called Corporate Infrastructure Resources (CIR®) consisting of CRE, human resources, IT and finance (Materna and Parker, 1998), but also called Integrated Resource Infrastructure Solutions (IRIS) (Dunn *et al*., 2004).

The detailed real estate practices constitute the operational strategies for the CRE function (a third layer of strategy).

The Model's origins were specifically applied to private sector business with a competitiveness nomenclature. However, the principles that directly connect operational practices and strategies to business strategy through functional area strategies do apply for any business, including the public sector. For example, the

growing trend for tenant participation in social housing asset management is aligned to the marketing strategy in the model. It is also similar to customer relationship management and property information process in Corporate Real Estate practices (Ming Yu and Han, 2001, Finch, 2000, Hinks, 1998), and is one of the other factors in market practice that also stimulate asset management (Kotler, 2008). According to Chandler (1991) the tenant participation enhances group interaction, community development and leadership development. These social objectives allow for what Reed (2008) refers to as "human linkages." Most traditional business models often suggest these capabilities.

In public (housing) asset management the business strategy may include housing services and community creation social objectives. The sources that achieve this could include policy settings and societal normative expectations.

The research method for this project will be changed to explicitly measure performance against these strategic approaches. The aim is to:

- → assess the level of awareness of practices;
- → assess the level of adoption of practices; and
- → assess the considered level of value of practices.

It must be said that in designing this research, it is not anticipated that widespread use of broader asset management practices will be identified or even found to have value. However, there may be uses – which must be identified – and there may be interest. At the very least, it is necessary to document the current attitude toward such practices.

3.3 CRE practices

The following table summarises the CRE practices as tested in the Sustainable Competitive Advantage Model for CRE. These will inform the research method (Section 5). An annotated version of this list is provided in Appendix 4.

Table 3: Table of CRE practices

1	***CRE holding practices***
1.1	Freehold
1.2	Lease hold
1.3	Capital lease
1.4	Operating lease
1.5	Synthetic lease
1.6	Bond net lease
2	***CRE financing practices*** There are three sub-clusters of practices pertaining to financing CRE. First, these include obvious organisational methods, such as debt or equity, but also include, secondly, property-specific methods such as sale-and-leaseback and contemporary hybrid forms using the property's income-generating capacity, for instance, securitisation and unitisation of CRE such as described by (Ooi and Kim-Hiang, 2002). Third, there are practices, derived from CRE as a financial asset and commodity, which use property to financially support the organisation, an example of which is the potential for cash or profit creation from existing CRE assets.
2.1	Financing – corporate
2.2	Corporate-retained earnings

2.3	Cashflow from corporate operations
2.4	Corporate debt
2.5	Corporate equities
3	***Financing CRE-specific financial instruments*** Finance is raised on the back of real estate assets of the corporation
3.1	REITs (including Equity REITs, Mortgage REITs and Hybrid REITs)
3.2	Real estate operating companies (REOCs)
3.3	Property trusts
3.4	Use of lease arrangement
3.5	Use of sale-leaseback
3.6	Issue of equity security (CRE unitisation)
3.7	CRE syndication
3.8	Spin-off into Master Limited Partnership (MLP)
3.9	Joint-venture
3.1	CRE securitisation
4	***CRE to support the organisation*** These mostly come from McDonagh (1998)
4.1	Financial ratios
4.2	Tax strategy
4.3	RE speculation
4.4	Corporate returns
4.5	Debt procurement
4.6	Securitisation of CRE
4.7	Sale and leaseback
4.8	Equity participation lease
4.9	Stand-by lease commitment
5	***CRE accounting practices*** This cluster of practices includes two sub-clusters that are drawn from Joroff *et al*. (1993). First, the practices of how CRE is accounted for, or priced against operational purposes, for instance whether property costs are absorbed as a corporate overhead, or whether business units are charged market rents. Second, there are practices for measuring CRE expenses.
5.1	***Measuring CRE expenses***
5.1.1	Accounting cost
5.1.2	Value-adding
5.1.3	Real estate market pricing
5.1.4	Capital market pricing
5.2	***CRE accounting practices*** These practices are those for how the corporation and its business units account for the cost of their real estate.
5.2.1	Absorbed as corporate overhead
5.2.2	Business units pay depreciation

5.2.3	Business unit pays opportunity cost of capital
5.2.4	Business unit pays market rents
6	***Site selection practices***
6.1	***CRE generic strategies*** These are the practices used when selecting locations to do business. This is the application of CRE strategies at the level of deciding about a specific site (Nourse and Roulac, 1993).
6.1.1	Cost minimisation
6.1.2	Flexibility to accommodate organisational changes
6.1.3	Facilitate HR objectives
6.1.4	Facilitate marketing objectives
6.1.5	Promote sales and selling process
6.1.6	Facilitate production, operations and service delivery
6.1.7	Facilitate managerial process and knowledge work
6.1.8	Capture the real estate value creation of business
6.1.9	Capture the financial creation value of the real estate
7	***Alternative workplace styles*** These practices include a range of alternative and flexible workplace practices that differ from traditional workplace models (Kenley *et al*., 2000b).
7.1	Caves/cubes
7.2	Common
7.3	Team space
7.4	Group address
7.5	Project team environment
7.6	Collaborative team environment
7.7	Activities settings
7.8	Hotelling
7.9	Hot-desking
7.10	Just-in-time space
7.11	The universal plan office
7.12	Teleworking
7.13	Home working
7.14	Work-at-home
7.15	Telework centres
7.16	Executive office suites
7.17	Remote telecentres
7.18	Neighbourhood offices
7.19	Touchdown offices
7.20	Guesting
7.21	Virtual offices
8	***Information systems?***

	There are two sub-clusters of information system practices. The first is the purposes the information is used for, such as strategic or transactional purposes. The second sub-cluster is a listing of IT tools that may be used in CRE, including graphical, database, and network CRE information systems. Automating processes is using IT to automatically do tasks otherwise done manually. Informating is turning those automatic processes into data for use in managing (Kenley *et al*., 2000b).
8.1.0	***IT purpose***
8.1.1	Strategic systems
8.1.2	Transactional system
8.1.3	Provide information for decision-making and controlling
8.1.4	Infrastructure investment
8.2.0	IT tools
8.2.1.0	***Graphic***
8.2.1.1	GIS
8.2.1.1	CAD
8.2.2.0	***Databases*** 'A collection of identically or similarly structured records of data that are comprised of attributes that describe some fact, event, or quantitative point' (Teicholz, 1992, p.170).
8.2.2.1	Simple form databases
8.2.2.2	Relational databases
8.2.2.3	Organisational relational databases
8.2.2.4	Object-oriented databases
8.2.2.5	Distributed databases
8.2.3.0	***IT infrastructure***
8.2.3.1	Intranet
8.2.3.2	Internet
8.2.4.0	***Asset or resource management***
8.2.4.1	Property management software
8.2.4.2	Property management information software
8.2.4.3	Asset management software
8.2.4.4	Facilities management software
8.2.4.5	Property inventory database
8.2.4.6	Cross-functional resource management software
8.2.5.0	***Web-enabled technologies***
8.2.5.1	Property web interface
8.2.5.2	Web-based property management
8.2.5.3	Web-based property help desk
8.2.6.0	***Procurement***
8.2.6.1	Supply chain management software
8.2.6.2	Purchasing system
9	***Metrics***

	This category of practices is those used to create and apply various performance indicators (metrics) to CRE (Kenley *et al.*, 2000b). Considered an emerging strategic management discipline (Frost, 1999).
9.1	Lease *vs*. own model
9.2	Acquisition *vs*. disposal model
9.3	Staff model
9.4	Space model
9.5	Scenario model
9.6	Balanced scorecard
9.7	Service-balanced scorecard
9.8	Benchmarking
9.9	EVA
9.1	Return on RE investment
9.11	Customer satisfaction indicators
10	***Benchmarking*** This particular cluster of CREM practices focuses on comparative performance that may be, for example, internally, externally or process-orientated. A continuous and systematic process for evaluating the products, services or work processes of organisations that are recognised as representing best practices for the purpose of organisational improvement (Massheder and Finch, 1998a, 1998b, p.100) There are different types of benchmarking.
10.1	Internal benchmarking
10.2	External benchmarking
10.3	Process benchmarking
10.4	Strategy benchmarking
10.5	Key performance outcomes

4 LITERATURE REVIEW: CURRENT HOUSING ASSET MANAGEMENT

There is a growing literature on asset management of public housing, mostly because this is a relatively new and evolving concept for many public housing organisations and because there are relatively few and limited reviews and pilot studies. The literature is broadly of two types: empirical studies and policy reports by housing organisations as they conduct their own reviews or change the nature of their management systems; and research reports which critically evaluate or raise theoretical issues. Both forms of literature have been used to write the policy context, but it is helpful to summarise some of the themes that have emerged.

4.1 International

Any reference to international literature on reform of public housing asset management should note the narrative by Jencks (1978). Jencks has reported on the death of public housing in relation to architectural practice, housing quality and tenant behaviour in the USA. In addition, Veale (1989) and colleagues in 1987 at MIT, USA investigated the concerns, priorities and attitudes of asset managers in regard to private and market-oriented real estate assets following the introduction of corporate real estate models in US organisations. The aim of that study was to evaluate and compare the reasons for current practices and the rationale for decision-making in property asset management. The study noted that acceptance of asset management models by managers for decision-making was driven by the notion that it would improve operational effectiveness, risk analysis and inventory control. Overall, the study found that there was inadequate information about asset conditions, which affects accountability and decision-making.

Similarly, Simons (1993) carried out a survey of asset management to examine the effects of the adoption of corporate asset management practices in public organisations in Cleveland, USA. The study examined five corporate factors, including management functions, performance evaluation, property asset management, effectiveness of property managers, accounting information systems, decision-making, property inventory, acquisition, and disposal decisions. The study then made a comparison between private and public asset management, and found that decision frameworks for property asset information are inadequate, under-managed and ineffective in public corporations compared to private property organisations.

Veale and Simons remind us how asset information, performance evaluation and accounting practices can affect the quality of decision-making about housing assets. The study also provided researchers and property managers with a new analytical concept of ‘asset performance’, as well as setting off a more general debate about the role of ‘real estate executives’ as guardians of strategic property assets. Other researchers that built on this literature, specifically in terms of asset management, include those of Pittman and Parker (1989), Gale and Case (1989) and Redman and Tanner (1991).

Pittman and Parker (1989), Gale and Case (1989), Veale (1989) and Nourse (1994) have found that communications, relationship management, property asset acquisition and disposal decisions and operations are essential to effective asset management. The number of levels and the frequency of contact with the asset manager by staff, were employed as measures of the efficiency and effectiveness of communication, and were found to be significant.

Before turning to contemporary literature, some general observations can be made about the broad direction of asset management and social housing reform. North American and European countries in broad terms have a strong sense of the business roles of housing management. One of the major catalysts in the United States was the adoption of the business model and the exclusion of municipal government from core housing management in favour of tenant and housing associations. With its capacity to provide an element of customer choice, the idea meshed in principle with market-oriented notions of consumer choice popular in the United States. While little attention was paid to housing asset reforms between the 1970s and the 1980s, it attracted considerable interest in New Zealand, Australia and United Kingdom, where a number of academics and housing organisations began to explore the potential of customer choice in housing asset management.

In recent years, social housing delivery and asset management performance measurement (Sanderson, 2001) have attracted much attention in the literature, both in terms of the performance standards set and the mechanisms for planning and implementing asset improvements (Bovaird and Loffler, 2002). However, almost all papers that have been published in academic journals focus on housing delivery and constraints in Europe, Australia and New Zealand (Gruis and Nieboer, 2007). As a consequence, relatively little is known about best practices for asset management of public housing in an empirical and general context.

To explain asset management in the public housing market, this report now considers the published nature of practices in different countries, and in particular the idiosyncratic way asset management systems have become concentrated.

4.1.1 United Kingdom

The UK provides an interesting case as it has been unusual in providing social housing, owned and managed by local government, on a quasi-monopoly basis (Stephens *et al*., 2002). The Housing Act of 1988 was the major catalyst that changed housing management practices in the UK. In almost two decades, the UK government has increasingly decentralised the management of public housing, which has led to the emergence of housing co-operative societies, private for-profit housing associations and tenant housing organisations. Asset management is therefore part of a broader reform program of the social housing sector that is evidenced by the government's reduction in housing expenditure of more than 50 per cent between 1979 and 1983. Further actions taken include the disposal of some of the best council-managed public housing (Stone, 2003). Construction of new housing units has generally been reduced, even in the midst of genuine and pressing housing needs.

According to Meikle and Connaughton (1994) (who focused on attitudes and policies toward housing and housing disposal, repair, maintenance and refurbishment) a substantial proportion of housing construction output is currently devoted to repair and maintenance. However, their analysis failed to identify differing attitudes and the appropriateness or effectiveness of current policy.

Starting from the late 1980s to the 1990s, the UK government responded to the physical crisis of public housing with a series of "restoration" programs (Malpass and Mullins, 2002). These schemes, which have focused on large, run-down inner-city estates and are continuing, have been renewing estates physically through a mix of renovation and demolition/replacement. Over time, these schemes have evolved to include attention to social issues and formalised procedures for resident involvement in decision-making, including decisions about housing stock transfer (Stone, 2003). Other on-going reforms include a mechanism to raise private capital to refurbish un-transferred public housing estates.

4.1.2 Ireland

The government of Ireland introduced the Strategic Management Initiative (SMI) in the 1990s as a reform program for the social housing sector (Norris and Connell, 2002). The objectives for the housing management program included strategic management and planning and tenant participation. Housing management characteristics include tenant purchase schemes and tenant participation models.

A study by Redmund and Walker (a section in Mawson *et al*., 1995, pp.312–316) found that in Ireland, social housing asset documents are largely descriptive rather than analytical in that they summarise the key features of the service rather than identifying their gains and shortcomings. Also, the plans they proposed for improving service quality are lacking in detail, and are largely aspirational, with scant consideration of how the proposed reforms are to be achieved (Walker, 2001). They also observed that the statements lacked understanding of the degree of tenant involvement necessary for housing improvement and display a striking absence of adequate data and information systems necessary for effective performance monitoring. Examples of good practices in local government were identified and explained.

In the case of social housing reforms in England and Wales, Boyne and Walker (1999) noted that the responsiveness of housing organisations to the demands of their tenants is probably greater as a result of reforms in the 1980s and 1990s in particular on measures of performance.

More recently, Walker (2001) evaluated the impact of New Public Management (NPM) practices on social housing delivery in England and Wales. Walker reported that the NPM program is generally seen to be centred on market mechanisms and private sector management practices into public services provision. The study found that the NPM was successful in reforming management behaviour and resource allocation practices.

4.1.3 USA

The United States government has also faced severe challenges in asset management of social housing; some of them are similar to those in many developed countries, yet greater attention is given to the financial and management performance of public housing projects. Recently, many US housing agencies have embraced the asset management decision-making framework to help them highlight both the significance of public housing infrastructure as an investment and the cost-effectiveness of systematic condition- and performance-monitoring and maintenance programs.

A housing operating cost study, published in 2003 by the Department of Housing and Urban Development, sets out a financial model for public housing in the USA. The report, which was based on a cost management framework by the Harvard Graduate School of Design, proposed the benchmarking of public housing infrastructure development based on a federal housing administration inventory (Harvard University Graduate School of Design, 2003). Other factors often employed in asset management evaluation include: physical condition (age and quality); social (occupants, wait list); financial (rent, sale, loans); system (technology); and personnel assessment (staff) (Batko and Diggs, 1996).

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4.1.4 Europe

There is no single 'European model' to which social housing organisations in Europe can aspire, because social housing providers in European Union countries have operated much more on the basis of their own 'country-specific' models rather than seeking a generic model to sustain their programs and operations. Indeed, in some European countries, there appears to be little in the way of social housing asset management systems (Norris and Connell, 2002). Research has identified the strongest support for the social housing rental sector is in the Netherlands (Gruis and Nieboer, 2004b), where it represents 40 per cent of the total national housing stock (Boelhouwer *et al*., 1997), and accounts for one-third of the social housing sector of Europe (Norris and Connell, 2002).

Private finance is an important source of financial support for social housing organisations in most European countries, with the exception of France (Stephens *et al*., 2002). Also, intermediary financial agencies are used in several states to enable finance to be accessed at preferential rates.

4.1.5 Sweden

The literature about public housing in Sweden is more about policy and regulation than practice (Turner, 1999). In Sweden, the primary providers of public housing are companies or institutions often run by a municipal government. Lundqvist (1988) discussed the role of the private sector in public housing. He noted that municipal government had employed private companies and recorded great success in the management of public housing. Although this was incompatible with national policy, privatisation gave rise to the advent of tenant and housing associations.

Similarly, Turner and Whitehead (2002) studied the influence of changes on housing subsidies on rental income for housing companies in Sweden. They noted that without support for rental income, a reduction in subsidies together with increased rental cost and high construction costs has caused a decline in housing. More generally perhaps, the most important lesson – not only from the Swedish experience but with evidence from international comparisons – is that subsidy and tax systems have modified the new construction and management of social housing.

4.1.6 UK and Sweden

Elander (1995) reported a comparative study of public housing in Sweden and the UK. He used network theory to study rented housing estates all over Europe aimed at physical and social renewal and regeneration. Drawing upon network theory, a conceptual framework was presented and tentatively applied in a comparative study of rented housing regeneration and area improvement in England and Sweden. Although the contours of broadly similar policy communities in the two countries could be found, there were also striking differences in network formation. Therefore, in England the Department of the Environment plays a more prominent role in policy-making and implementation than its Swedish counterpart, while in Sweden the municipal housing companies, the local authorities and the tenants' organisations take part more actively in the policy process than is the case in England. Closely related to these findings, it was argued that there are also some lessons for practical use that could be learnt from the analysis, although one then has to be careful not to overlook the context-bound specificities, at the national as well as the local level.

4.1.7 Canada

In Canada, shrinking state and provincial housing services have struggled to maintain a vision and scale for asset management best practice. It is only in the last few years that some states have broken out of a decade of declining social rental provision and

begun to develop policy approaches with mixed tenures. In fact, published best practice initiatives are still in the early stages, often in an experimental or pilot model (Policy Research Initiative, 2003).

4.1.8 New Zealand

Just like Australia, a key challenge for the Housing New Zealand Corporation is that much of the rental housing built in the post-war era for predominantly nuclear families is now old, ill-suited for tenants currently on the waiting list (Dodson, 2007). Recently, Housing New Zealand Corporation was split into two entities: Housing Corporation of New Zealand (HNZC) and Housing New Zealand (HNZ). Housing Corporation of New Zealand is responsible for a portfolio of residential loans and the management of the Government's surplus land assets, while Housing New Zealand manages the Government's rental stock. In addition, HNZC introduced an asset management framework to assist programs such as precinct planning, life-cycle modelling, and information management systems. This is being driven by Treasury, which is dictating an asset management framework for the public sector.

4.2 The Australian practice

Until recently, few records of public housing asset conditions and practices have existed in Australia. Despite this, the Australian governments at all levels have been recording and reporting assets since the 1990s as a means of knowing the true status of their assets and as required by the then new AAS27 accounting standards (Shah *et al*., 2004). This has resulted in the demand for large-scale data capture and tools for asset management. However, there currently is a dearth of literature about good practice for public housing asset management in Australia.

While some authors have considered the Australian experience in the context of comparative studies, involving Australia and Europe (for example, Gruis and Nieboer, 2004a) and Australia in the context of developed and developing countries (Conway, cited in Kaganova and McKellar, 2006, pp25-248) few have specifically reviewed the current status of social housing asset management and policy responses in Australia. This is not entirely surprising given the relatively new emphasis placed on this aspect of asset management by government housing organisations. However, there is substantial experience in council housing development initiatives going back to the 1950s and a body of literature that has developed from this. Much of asset management best practice appears to be within the transportation and engineering infrastructure fields rather than in housing (for example, IPWEA, 2006).

It is also the case that much valuable past experience has simply been lost as a result of an enduring lack of evaluative research to learn the lessons and document them. Given the political nature of many social housing development initiatives and the nature of their financial support, few examples of best practice have been formulated. Consequently, dissemination of the lessons of earlier initiatives has been lacking.

Nevertheless, an emerging objective for most public housing reforms currently being implemented in Australia is to review public housing asset management practices, their wider performance impact and to develop new policies for the future. While much of the valuable investment in social housing has been to improve dwelling stocks and diversity through strategic management, there has been a distinctive move toward improving the practice of asset management in the housing reform process.

Meanwhile, state housing authorities in Australia are presently evaluating models of disposal, contract management and construction of public housing to manage all of their social housing assets, which are linked to other management systems that support the agency's overall business processes. Many states have systems that

manage or simply store data on selected categories of social housing features. More recent proposals included asset management reform in the policy package, with social, technological and operational programs complementing physical maintenance activity.

In addition, the New South Wales Department of Housing (DoH) has continued to improve the management of its social housing assets by assessing backlog maintenance and carrying out performance reviews. Separate asset registers are held according to function, such as asset transactions, property asset survey, IT, and public buildings. Although a new asset management system to support asset management has been introduced, this continues to run in parallel with the old system (NSW Department of Housing, 2007). Further improvements are planned including the development and implementation of a repair and maintenance strategy, improvements to asset management information and a comprehensive plan to address the level of backlog maintenance.

Public housing asset management in Queensland is now being managed as part of an overall financial strategy. Risks are identified as part of the service planning and decision-making processes. A risk register is maintained and risk management is well embedded in many housing projects. Information to managers is insufficient to enable them to play an effective role and to properly understand risks facing their social housing assets.

Information technology is being used effectively to improve housing capacity. Many states have an ambitious program of major system replacement to improve organisational effectiveness. Technology has been used to improve efficiency and customer access at the customer service centre where efficiency savings have been achieved alongside improved performance through web-based transactions and speech server technology.

Performance management is adequate. The states have traditionally been strong in managing performance within their directorates and this has resulted in good overall performance in service areas. However, there have been long-standing weaknesses in their overall corporate arrangements. They have recently improved these arrangements but they have yet to become an established part of each organisation's business management processes. Similarly, performance management for key partnerships have improved but there are still inconsistencies in arrangements.

Corporate performance management is developing. While there is generally good performance and improvements in a number of priority areas, the corporate performance management framework has yet to drive improvement in a consistent way across all areas. Some states have sustained good performance in services for ageing dwellings (assets) and there are good examples of performance improvement in recycling and planning performance.

A review of state and Commonwealth guidelines, drawn from a range of documents and reports, gives a clear indication of the current emphasis on asset management of social housing (refer to Table 4). This applies equally to asset forecast, acquisition, disposal, and maintenance in urban, rural and regional contexts. The amount of activity has varied by state. For example, in New South Wales, the current Housing Maintenance Reform Program is the responsibility of the Department of Housing, but Aboriginal housing is supervised by the Aboriginal Housing Office introduced as a component of the State's aboriginal housing improvement strategy. The responsibility for backlog maintenance and reform initiatives may be taken by different departments, or a central unit. While there is a growing emphasis on 'whole of government' responses, there have been varying degrees of inter-departmental co-ordination.

The strategies employed by housing departments have been very diverse, ranging from asset-based approaches involving acquisition, disposal, sales and physical improvements of the housing stock, through to alternative forms of housing management. The relative emphasis placed on these different elements has varied; some have been more asset-based and others more socially oriented. The trend both in Australia and overseas has been towards holistic solutions with a greater emphasis on cross-departmental collaboration (Dodson, 2006).

Like other countries, Australia faces an ageing housing stock, not only in government housing but in other areas of housing and infrastructure, including elderly persons' housing managed by local government and non-governmental organisations. Some of this stock is now up to half a century old, just as in New Zealand, where much of the stock managed by local councils, primarily for the elderly, is in a similar condition. What management practices caused assets to be uncared for, and how can the mistakes be prevented? More and more international evidence is beginning to document that as many asset management problems derive from mistakes in tenant management, including allocations, as they do from design, construction or maintenance issues.

In predominantly asset-based approaches, the focus has been on investment in the physical asset-housing improvements and environmental work often rectifying design defects and addressing safety and security issues. A major strand in this approach has been the re-modelling of estates through demolition, transfers, sales and redevelopment. This has often been combined with the development of more localised management structures which aim to be more responsive to the asset condition and therefore reduce turnover and improve asset performance. These improvements are also geared toward reducing tenant dissatisfaction (Randolph and Judd, 2000).

Current reports note that the condition of public housing stock continues to deteriorate due to years of poor maintenance, and an inability to track project expenditures and conditions. In addition, data collected by the state housing authorities is not balanced from year to year and cannot be identified with particular jurisdictions to a sufficient degree. Consequently, while the following review focuses on the programs of the state housing authorities, reference is also made to recent audit reports and recommendations that operate alongside the housing programs. The following review is necessarily constrained by the documentation that the project team were able to collect from state housing authorities in the time available. The coverage has been variable, with some states able to provide a greater range of material than others.

4.3 Australia Capital Territory (ACT)

There is an established social housing program in the Australian Capital Territory but information is limited about asset conditions and organisational reforms in public housing. The ACT support the development of an asset management strategy for public housing assets and the Government's Commonwealth State Housing Agreement: the Annual Report of the Department of Disability, Housing and Community Services refers to "Public Housing Asset Management Strategy for the consolidation and growth of a viable and flexible social housing system that balance tenants' need for security of tenure against the need to rejuvenate the asset base". About 9.5% (11,400) of all ACT residential dwellings are public housing properties in a diverse range. In 1999, Public Housing Asset Management was adopted in the establishment of a 'Multi-Unit Property Plan' for the funding, maintenance, refurbishing, condition assessment and disposal of ageing stocks.

4.4 New South Wales

There has been a notable effort to improve asset management and the quality of housing to tenants through asset reforms. The New South Wales Department of Housing (DoH) introduced Total Asset Management Software (New South Wales Treasury (Office of Financial Management), 2004) and spatial decision support systems (Barton *et al*., 2004) in the early 1990s. Total Asset Management Software (TAMS) is an asset register and management tool that incorporates a whole-life approach to asset management for construction, maintenance and operation of assets, including buildings. A recent audit report (2005) showed that NSW has the largest stock of public housing in Australia (Auditor General of NSW, 2005). In 2003, NSW initiated a series of public housing 'Asset Management Reviews'. One of the major outcomes of these reviews was the conception of the Maintenance Reform Program (MRP). The purpose of the review was to move asset management from predominantly responsive maintenance to planned and systematic maintenance. It is aimed at pre-emptive failure, reduction and removal of the backlog maintenance of housing assets. It is currently being implemented in three phases at different locations in the state. Its primary objectives are to:

- bring all properties to a consistent and sustainable standard;
- reduce the number of responsive maintenance requests;
- improve client satisfaction;
- improve management of tenant damage; and
- improve contractor performance.

A Property Assessment Survey (PAS) was introduced into the public housing asset plan in 2003. It is aimed at the assessment of repairs and to schedule maintenance works. The Department of Housing has used the data on asset components to build predictive models of its asset portfolio.

The Asset Dwelling Service (ADS) is a component of the MRP, linked to the idea of regular repairs and maintenance. It involves carrying out minor repairs on every public housing dwelling to keep homes in good working condition. The services include repairs to kitchens, shower recesses and hot water services, as well as safety items such as smoke alarms and electrical systems.

4.5 Northern Territory

There is comparatively little available information pertaining to asset management practices in the Northern Territory and there are only limited references to government proposals and 'consultation initiatives' in the Territory Housing newsletter and annual reports (Territory Housing, 2007). Some examples of government initiatives include maintenance and priority housing programs for people who cannot afford private rental housing.

4.6 Queensland

Asset management reform initiatives were introduced in Queensland in 1995 as a component of the state government's housing strategy (QGDoH, 2007). The public housing stock consists of about 50,000 dwellings; however, it is facing financial difficulties due to competing demands to maintain existing stocks and obtain additional stock to address growing demand. Building on reforms to date, Queensland has introduced broad-based asset management practices, tools and frameworks. An example of an asset management system is the maintenance management

framework (MMF) for planning and management of projects. Another example is the strategic asset management guidelines, which assist in project improvement, refurbishment and disposal (Shah *et al*., 2004)

4.7 South Australia

From the late 1980s onwards there has been a growing focus on housing regeneration in South Australia. As with New South Wales, the Department of Families and Communities has responsibility for public housing management. In 2001, South Australia introduced the Asset Condition Database management system. The purpose of the program is to collect asset data and help to inform project managers about asset-planning and decision-making to deliver improved and efficient services. Recently, a Housing Plan for South Australia was released that sought to position public housing on a more sustainable footing, by engaging the private sector in the development and supply of affordable and high-need housing for low-income households (Department of Families and Communities, 2008).

4.8 Tasmania

The Auditor-General highlighted in the 2004–5 report that Housing Tasmania lacked a strategic plan for social housing (Auditor General of Tasmania, 2005). This is being addressed and the annual report published by Housing Tasmania and the Social Action and Research Centre (Flanagan, 2007), outlines a range of whole-of-agency strategic priorities for 2006–10. There are four key areas for action outlined under their goal of 'stronger, healthier communities':

- invest in community housing;
- provide quality services for Tasmanians in rural and remote communities;
- address the environmental and community-wide factors that impact on health and social conditions; and
- research, identify and promote the factors that contribute to community capacity.

The government of Tasmania has been reluctant to bear the risks of a new housing plan due to lack of funds (Gabriel and Jacobs, 2006).

4.9 Victoria

The Office of Housing (OoH) is responsible for the management of public housing assets in Victoria. It is located within the Department of Human Services (DHS).The extent to which the OoH managed housing assets varied. A recent report showed that Victoria has about 54,000 housing stock (Atkinson and Jacobs, 2008b). Another recent audit report (Auditor General of Victoria, 2004) showed that when property condition assessments (recording the condition of each property and its maintenance) have been carried out in Victoria, they have highlight the following.

- Establishment of the Maintenance Call Centre has helped maintenance workload of housing services.
- The method of recording data has not been effectively implemented.
- The database and its software is out-of-date and does not offer the functions needed.
- Quality control procedures and survey management have not been implemented.
- Much of the data is inaccurate and asset life-cycle costing has not been implemented.

4.10 Western Australia

In Western Australia new policies have been developed to provide better guidance to organisations in the areas of asset planning and maintenance. These policies and guidelines are embedded in a new Strategic Asset Management Framework for all asset classes, particularly buildings (Department of Treasury and Finance, 2005). The Strategic Asset Management Framework includes Capital Investment Plans and Asset Disposal Plans, as well as new reporting requirements for maintenance expenditure. Presently, the Western Australia Department of Housing and Works cater for a wide variety of assets that support an extensive range of services. Its tenantable housing stock (Table 4.1) is about 30,000 dwellings (Roy Morgan Research, 2007). The key challenges facing the housing department is with regard to meeting the increasing demand for housing services from citizens. The ageing stock is currently undergoing revitalisation. In addition, community housing programs have been introduced to assist citizens in the low-income category.

4.11 Conclusion

This review of asset management in public housing internationally is disappointingly brief. There is indeed a dearth of literature looking specifically at asset management ***practices*** for social housing. Thus we are able to describe stock in many places in some detail, we can comment on the trends and major policy drivers that entails, but can say little about the detail of the mechanics (practices) of asset management. The international literature is broadly of two types: empirical studies and policy reports. Certainly it is possible to conclude that there is no magic bullet extant in the literature to be applied in Australia. There is no “best practice” model to be adopted. Rather, there is comfort about the existing directions in Australia, and support to move further. However, the authors have concluded that the lack of depth in the literature suggests there is potential for the application for those techniques discussed in Section 3 of this report.

Table 4: CSHA public rental housing summary data (2006-07)

	NSW	*VIC*	*QLD*	*SA*	*WA*	*TAS*	*ACT*	*NT*
Total untenantable dwellings	169	582	274	147	634	81	0	101
Total tenantable dwellings	121,634	63,591	49,827	43,169	30,393	11,588	10,714	5,217
Total applications on waiting list	50,316	40,911	36,815	26,201	14,571	3,055	1,870	2,582

Source: Australia Institute of Health and Welfare (2007).

Table 5: Characteristics of asset management systems by states/territories

	SA	*ACT*	*NSW*	*NT*	*QLD*	*TAS*	*VIC*	*WA*
Reform proposals								
Strategic asset management plan	x	Nr	x	na	x	x	Nr	x
Capital investments strategic plan	x	Nr	x	na	x	na	Nr	na
Maintenance strategic plan	na	Nr	x	na	x	na	Nr	na
Asset disposal strategic plan	na	Nr	x	na	na	x	Nr	x
Obligation to comply with Treasury /Finance asset management guidelines	x	Nr	x	x	na	x	Nr	x
Are you obligated to comply fully?	na	Nr	x	x	x	x	Nr	x
Have you identified the asset mix?	na	Nr	x	na	na	na	Nr	x
Tools and techniques								
Do you use probability analysis techniques for strategic asset analysis?	na	Nr	na	na	na	na	Nr	na
Do you undertake demand management analysis?	na	Nr	x	x	x	na	Nr	x
Asset management practices								
Do you have a dwelling condition assessment program?	x	Nr	x		x	x	Nr	x
Do you have or are developing a life-cycle costing program for your housing assets?	x	Nr	x	na	x	x	Nr	na
Have you applied value management principles to housing maintenance process?	x	Nr	x	na	na	x	Nr	na
Do you outsource your maintenance management?	x	Nr	x	x	na	x	Nr	na
Have you embarked on a major asset restoration program?	na	Nr	x	x	na	x	Nr	x
If you haven't, do you believe you need to undertake a major asset restoration?	x	Nr	na	x	na	na	Nr	na
Have you undertaken any income stream analysis of your housing portfolio?	na	Nr	na	na	na	na	Nr	na
Do you assess the economic loss on your dwellings?	x	Nr	na	x	na	na	Nr	na
Do you use economic loss as a tool in	na	Nr	na	na	na	na	Nr	na

	SA	*ACT*	*NSW*	*NT*	*QLD*	*TAS*	*VIC*	*WA*
asset disposal decisions?								
Do you analyse the cost of different levels of asset effectiveness?	x	Nr	na	na	na	na	Nr	na

Note: Yes = x; Na = not known; Nr = no response.

5 RESEARCH METHOD

The methodology has five stages each of which address a particular research question.

5.1 Stage 1: Financial dimensions of public housing asset management

This has formed the basis for a separate positioning paper and progress report on Stage 1. This material is therefore excluded from this positioning paper.

5.1.1 Status: Stage 1

Stage 1 is complete and published.

5.2 Stage 2: Scoping public housing and community assets in Australia

Stage 2 provides an overview of the attributes of public housing stock and its associated issues and problems (Research Question 2) through five tasks.

1. A review of available reports that document the state of public housing assets and their associated issues: (*complete*).
2. A survey of SHA asset managers in each jurisdiction and five community housing representatives to ascertain the attributes of their housing stock (e.g. age, type, size, construction materials, condition and quality, public housing density) and the associated issues, and the status of their asset management practices: (*nearly complete*).
3. An analysis of survey data.
4. Phone interviews with asset managers in each jurisdiction and five community housing representatives will complement the survey data, particularly in relation to the status of their stock and current and emerging issues.
5. A positioning paper will summarise the above.

This research stage will help identify stock variations and issues across jurisdictions and between public and community sectors. It sets the parameters for asset management strategies and thus provides the context for the following stages which are concerned with objectives, policies and processes of asset management.

This overview of housing stock and its associated problems will add to our understanding of the issues faced by SHAs and how they vary between jurisdictions and how these issues compare with the community sector.

5.2.1 Status: Stage 2

Stage 2 has completed Task 1 and is currently finalising data collection in Task 2. It is proving difficult to gain a response from the appointed respondents.

5.3 Stage 3: Making decisions about housing assets

Stage 3 will be expanded to incorporate the additional requirements of an enhanced research program addressing adoption of CRE practices as outlined in this report. This change has arisen from the results of Stage 5, which has identified a broader context for asset management for public housing. The emphasis on documenting existing practices may be reduced correspondingly, particularly because much of this

has already been completed in the Stage 1 report – with its emphasis on the technical financial issues and strategic practices.

Stage 3 explores the processes by which SHAs and a sample of community housing reach decisions about their housing assets and how these vary between jurisdictions and sectors (Research Question 3). It involves three tasks.

1. A review of SHA strategies, policies, decision-making frameworks and reports relevant to the project will clarify the current state of practice in asset management for the various jurisdictions in Australia and highlight the basis on which decisions are made: (*complete*).
2. Phone interviews with asset managers in each of the eight jurisdictions. Given the diverse structure of asset holdings, this will provide a comprehensive picture of current strategic asset management processes, e.g. how material concerning non-residential asset management is adapted to a residential setting, how social housing objectives are incorporated into the process, the key factors driving asset management decisions in the organisation and how social goals are reconciled in this process. These interviews will also seek to identify good practices, particular directions and issues. Interviews with five community housing representatives covering the same issues.

   This task was originally to focus on the dominant strategic and technical issues. However, due to the findings of the research analysis and the coverage of Stage 1, this stage will be expanded to include the CRE practices outlined earlier in this report, which will be undertaken as a survey of social housing practitioners.
3. Workshops in four states (New South Wales, Queensland, South Australia and Victoria) with asset managers, policy staff, local office staff and tenants will also include community housing representatives if possible. These workshops will focus on the local outcomes of asset management strategies. What staff and tenants at the coalface experience may be very different from the policy principles or the views of management; for example, what worked in one estate may not work in another because of different local housing market and tenant attributes. Similarly, what might be seen as a success from an organisational perspective may be seen differently from a tenant's perspective. Participants will be chosen to reflect a range of asset management strategies and localities. These full-day workshops will explore the potential role of tenants and housing workers in asset management processes and practices, identify what both see as problems, and draw out variations in the range of asset management problems that SHAs and community housing confront.

   The difficulty in gaining responses from nominated respondents throughout all stages of this report indicates that it may be ambitions to undertake workshops in all these jurisdictions. Instead, workshops in two jurisdictions will be undertaken, canvassing the practices assessed in Stage 2 and canvassing the broader context.
4. Comparison will be made between the different practices found in the public and community, if any.

This stage will add to our understanding of how asset management decisions are made and the variations between jurisdictions and sectors. The stage will expand to include commentary on the broader asset management practices identified from the CRE context.

5.3.1 Status: Stage 3

Stage 3 has been designed and is in the process of undergoing pilot testing of the survey tools. This is currently subject to revision to incorporate the results of Stage 5.

5.4 Stage 4: Case studies

Stage 4 concerns the implementation of asset management strategies (Research Question 4). Detailed analysis of three major projects will enable a more focused examination of how high-level policies translate into detailed planning and implementation.

This stage will involve the collection of additional data from an in-depth study of community housing in Melbourne. A workshop protocol with asset managers, policy staff, local office staff and tenants from one community housing project will follow the format developed for the Stage 3 workshops. The data collected from this community housing will form the basis of a case study comparison with two public housing projects. The case studies will reflect considered best practice asset management strategies; such as a refurbishment or retrofitting program, sale of assets and the transfer of assets. This stage will highlight issues of good practice, constraints imposed by local issues and commercial imperatives, implementation problems and how they were addressed, and how information was fed back into the overall strategy for the SHAs.

5.4.1 Status: Stage 4

Stage 4 is awaiting the result of Stage 3 and is subject to revision to incorporate the results of Stage 5.

5.5 Stage 5: Good practice: overseas and private sector experience

We have completed Stage 5, which is the detailed analysis of the literature in relation to overseas and private sector experience. This analysis has revealed the broader context which has, in turn, led to a change in the strategy for Stages 3 and 4 of the project.

Clearly, this early identification (arising essentially from delays in Stages 1 and 2 due to delayed responses) has enabled a change in direction for Stages 3 and 4 to be implemented. This will make a richer picture of asset management practice in Australian housing asset management.

5.5.1 Status: Stage 5

Stage 5 is complete and is reported in this Positioning Paper. This stage has led to the redesign of Stages 3 and 4.

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APPENDIX

Appendix 1: Redevelopment data

Table A1: Total number of dwellings undergoing major redevelopment, at 30 June 2007

Year	*NSW*	*Vic*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*
2003	na	na	na	na	na	na	na	na
2004	na	na	na	na	na	na	na	na
2005	na	na	na	na	na	na	na	na
2006	61	61	64	576	838	24	–	51
2007	69	676	36	263	502	4	66	34

Source: CSHA national data report, Canberra (2007).

Appendix 2: Waiting list data

Table A2: Total applicants on waiting list, at 30 June 2007

Year	*NSW*	*Vic*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*
2003	84,954	39,739	32,316	13,356	29,557	2,740	3,471	1,923
2004	77,984	40,701	35,430	12,732	28,565	3,229	3,730	1,876
2005	73,734	41,296	38,298	12,733	28,430	3,116	4,119	2,179
2006	58,172	41,114	37,215	13,130	27,925	3,387	3,600	2,391
2007	50,316	40,911	36,815	14,571	26,201	3,055	1,870	2,582

Source: Australian Institute of Health and Welfare (AIHW) (2007).

Appendix 3: Housing stock data

Table A3: Public housing stock by states

Year	*NSW*	*VIC*	*Qld*	*WA*	*SA*	*Tas*	*ACT*	*NT*	*Aust*
Stock holding (2005–2006)	1,117,692	54,971	48,225	29,900	40,475	10,452	9,310	4,710	306,696
Backlog maintenance									
Age (< 40 years)	20%						23%		
Waiting list (2001)	96000		24.353						
Waiting list (2007)	45,000		34,592						
New applications	10000		5,000						
People housed	340,000		56,000						

Source: Australian Institute of Health and Welfare (AIHW) (2007).

Appendix 4: CREM technical practices

Table A4: Total number of applicants on waiting list, at 30 June 2008

1.0	***CRE holding practices***	
1.1	Freehold	The corporation owns the real estate it is holding.
1.2	Lease hold	"A lease is a contract in which the lessor, the owner, gives the right of property occupancy to the lessee, the tenant, in exchange for rental payments and other contractual terms."(Hines, 1990) Long-term Short-term
1.3	Capital lease	A lease will be considered as a capital lease if any of the following applies: → the lease automatically transfers ownership of the property to the lessee by the end of the term; → the lease contains a bargain-purchase option; → the lease term is equal to 75% or more of the estimated economic life of the leased property; and → the present value of the lease term equals or exceeds 90% of the fair-market value. If none of these applies, then it is an operating lease (March, 1991).
1.4	Operating lease	The lease costs are expensed against income every year and not counted into the asset base or the debt burden of the company (O'Mara, 1999).
1.5	Synthetic lease	Synthetic lease is a bond net lease and will be treated by the company as an "operating" lease for accounting purposes. However, the company is considered as the owner of the property for income tax purposes, therefore it can deduct interest and depreciation but not rent (Isaac, 1994, O'Mara, 1999 p239, Evans and Ryan, 1998).
1.6	Bond net lease	Companies have complete freedom to use the property. They will assume all of the real estate risks and obligations of ownership (Isaac, 1994).
2.0	***CRE financing practices*** There are three sub-clusters of practices pertaining to financing CRE. First, these include obvious organisational methods, such as debt or equity, but also include, secondly, property-specific methods such as sale-and-leaseback and contemporary hybrid forms using the property's income-generating capacity, for instance, securitisation and unitisation of CRE such as described by (Ooi and Kim-Hiang, 2002). Third, there are practices, derived from CRE as a financial asset and commodity, which use property to financially support the organisation, an example of which is the potential for cash or profit creation from existing CRE assets.	
2.1	Financing – corporate	Finance is obtained by the corporation for its various purposes and then allocated to CRE expenses. It may come from three sources: corporate debt, corporate equity, and corporate retained profit.
2.2	Corporate-retained earnings	The corporation retains profits for organisational purposes, such as CRE needs, rather than returning them as dividends to shareholders.
2.3	Cashflow from corporate operations	The corporation's cashflows are used for financing the corporation's CRE requirements.

2.4	Corporate debt	Finance for organisational purposes, including CRE, is obtained through corporate borrowings. The security for the debt may or may not be the corporation's CRE.
2.5	Corporate equities	The corporation issues shares (equities) for funding organisational purposes, including CRE.
3.0	***Financing CRE-specific financial instruments*** Finance is raised on the back of real estate assets of the corporation.	
3.1	REITs (including equity REITs, mortgage REITs and hybrid REITs)	REIT is a US practice. It is essentially a tax conduit vehicle in corporate or trust form that combines the capital of investors to acquire and hold real estate or provide financing for all forms of real estate (Institutional Real Estate Inc, 1997). The revenues from these managed properties return to investors as dividends (Ettorre, 1995). There are three types of REITs. → *Mortgage REITs*: which loan money to real estate owners and whose revenue comes principally from interest earned on their mortgage loans (Franklin Select Realty Trust, 1999). They hold at least 75% of their invested assets in mortgage including participating mortgages and interests in assets in mortgages, including participating mortgages and interests in mortgage pools (Hines, 1988 p.245). → *Equity REITs*: which own real estate and whose revenue comes principally from rent (Franklin Select Realty Trust, 1999). These REITs hold at least 75% of their invested assets in the ownership of property or other equity interests (Hines, 1988, p.245). → *Hybrid REITs*: which combine the investment strategies of both equity and mortgage REITs (Franklin Select Realty Trust, 1999). They mix equity and mortgage investments in their pools (Hines, 1988, p.245). REITs shares are traded on national exchanges. In this sense, they are very similar to Australian Property Trusts, with the exception that the Australian version cannot actively develop property without altering their tax status.
3.2	Real estate operating companies (REOCs)	Similar in most of the aspects to REIT. However, these corporations do not seek the REIT tax election and are taxed like any other corporation (McMahan, 1999b).
3.3	Property trusts	This is the Australian version of the US REITs with the exception that Australian Property Trusts cannot actively develop property without altering their tax status.
3.4	Use of lease arrangement	A long-term lease agreement is a commitment by the corporate lessee to make a series of payments to the lessor; in this sense it is similar to the commitment to make debt-service payments under a mortgage. → Long-term → Short-term
3.5	Use of sale-leaseback	The most common form of off-balance sheet financing that allows companies to maintain control and management of strategic facilities and is equally applicable to existing properties and new developments (Weatherhead, 1997, p.101, Olsen, 1997). The selling firm receives a capital

		amount (typically the full market value of the property) from an investor, the proceeds of which can be reinvested in high-yielding areas of the business (Adendorff and Nkado, 1996, p.70, Olsen, 1997). The seller signs a (long) operating lease to continue to use the property in exchange for rent. An operating lease with below-market or flat rental payments can improve the corporation's bottom-line (Olsen, 1997, Adendorff and Nkado, 1996, p.70). The deal removes the premises from the balance sheet and the buyer obtains an investment secured by the credit of the seller and the quality of the property (Weatherhead, 1997, p.101, Adendorff and Nkado, 1996, p.70). This practice can provide a form of long-term finance for companies not able to issue investment-grade public debt, such as less mature and start-up operations without long operating histories (March, 1991). The annual lease cost can be equated to the interest charged on a situation of financing for ownership, for example, if funds can be borrowed at 10% for 15 years and the sale-leaseback has an effective cost of 9%, then the sale-leaseback provides an effective financing vehicle (Milnes and Pollina, 1992).
3.6	Issue of equity security (CRE unitisation)	Unitisation is a form of securitisation that specifically refers to the securitisation of equity interest (Isaac, 1994). By creating tradeable securities from a property asset the aim is to parallel a return comparable to that from direct ownership or equity interest (Hines, 1988, p.81).
3.7	CRE syndication	Corporations holding property for operational purposes may wish to release their cash investment through property syndication (Hines, 1988, p.21). Real estate syndication refers to any group of passive investors who have combined their financial resources with the expertise of a real estate professional for the common purpose to acquire, develop, manage, operate, or market real estate. They can take the form of a partnership, limited partnership, tenancy in common, corporation, or sub-chapter corporation (Sirmans, c1989).
3.8	Spin-off into master limited partnership (MLP)	An MLP is one where partners join together to finance investment in RE. In general, the MLP is comprised of an entity for raising capital and another entity of the active investment of capital. The latter entity may be called the MLP operating company (Hines, 1988, p.295). In the *spin-off* or rollout, the company spins off some or all of its CRE assets into an MLP. The interests in the MLP are distributed to the company's shareholders. The shareholders benefit from the pass-through of partnership income. Since the assets in the corporation are carried at book value by widely accepted accounting conventions, the shareholders may gain from the market value of the properties that are reflected in the value of the partnership interests (Hines, 1988, p.302). Other possible MLP forms include straight sales of CRE where the corporation sponsors a public offering of an MLP then it sells its real estate assets to the partnership, or *sale-leaseback* forms where the corporation sells its CRE to an MLP and leases the properties back in a sale-leaseback agreement (Hines, 1988, p.302). The latter is dealt with elsewhere in *Sale and leaseback* definitions.

3.9	Joint-venture	These are arrangements where the corporation joins with others to use its CRE equity to finance its real estate expenses. Financial institutions and developers provide money for corporate real estate to receive its shares of ownership → with financial institutions; and → with developers.
3.10	CRE securitisation	CRE securitisation converts CRE into marketable securities that are sold to various investors, who take a smaller stake than the whole security. The arrangement requires development of a market and a recognised exchange in which the securities can be traded freely. The interest payments are serviced from cash flows on the assets (Weatherhead, 1997, p.103).
4.0	***CRE to support the organisation*** These mostly come from McDonagh (1998).	
4.1	Financial ratios	Managing CRE to obtain desirable financial ratios
4.2	Tax strategy	Create tax shelter
4.3	RE speculation	Take advantage of cyclical movements to increase returns on real estate
4.4	Corporate returns	Active management of CRE to leverage corporate returns
4.5	Debt procurement	Use CRE as security to obtain corporate debt
4.6	Securitisation of CRE	CRE used to create finance for the corporation through *securitisation* as part of the financial apparatus normally available to corporate business. CRE assets are taken off-balance sheet to become the assets of investors in the securitised debt. The business continues to occupy the accommodation paying rent that forms the investors' incomes (Weatherhead, 1997, p.103–106).
4.7	Sale and leaseback	The corporation sells a CRE asset to an investor and simultaneously takes back a long lease. By subletting the building to other tenants the original owner enjoys by way of a profit rent the difference between the rent paid to the investor and that received from the tenants.
4.8	Equity participation lease	Under this arrangement, a transaction is structured so that a company can receive a portion of the property's cashflow and or sale or refinancing proceeds regardless of its ownership status to the property. The major advantage of an equity-participation lease is that the corporation's net lease cost is reduced as it participates in the property's increasing cashflow and appreciation (March, 1991).
4.9	Stand-by lease commitment	In this arrangement, the company stands behind other tenant leases in the building in the event of defaults. It is a creative way for a company to use its credit to enjoy the benefits of property ownership or alternatively lower the costs as a tenant. By standing behind the weaker leases, the corporation helps the landlord's efforts to sell or refinance the property on more attractive terms. As an owner, the corporation would enjoy the additional sales or refinancing proceeds. As a tenant, it would be compensated for this commitment through decreased rental payments (March, 1991).

5.0	***CRE accounting practices*** This cluster of practices includes two sub-clusters that are drawn from (Joroff *et al*., 1993). First, the practices of how CRE is accounted for, or priced against operational purposes, for instance whether property costs are absorbed as a corporate overhead, or whether business units are charged market rents. Second, there are practices for measuring CRE expenses.	
5.1	***Measuring CRE expenses***	
5.1.1	Accounting cost	Real estate is only considered as an accounting value. CRE unit may be acting as a cost centre.
5.1.2	Value-adding	CRE is revalued to market levels as opposed to book values that may be at historical, or purchase, price levels.
5.1.3	Real estate market pricing	Market rents are the focus for the CRE unit operating as if it were a real estate company.
5.1.4	Capital market pricing	The capital markets are the focus for the CRE unit with the impact of capital market forces considered in real estate decisions.
5.2	***CRE accounting practices*** These practices are those for how the corporation and its business units account for the costs of their real estate.	
5.2.1	Absorbed as corporate overhead	Real estate costs are absorbed as a corporate overhead and not paid by the space-occupying business units. Part of the Taskmaster level of CREM evolution.
5.2.2	Business units pay depreciation	As part of mechanisms to make business units responsible for their real estate costs they pay depreciation for the (owned) space they occupy. Part of the Controller level of CREM evolution.
5.2.3	Business unit pays opportunity cost of capital	A preliminary measure of the true cost of occupying space where business units pay some corporate opportunity cost such as return on assets (ROA). Part of the Dealmaker level of CREM evolution.
5.2.4	Business units pay market rents	Space-occupying business units pay market rents to the CRE unit as if the space were leased on the open market. This would be full market rents for Intrapreneur level of CREM evolution, or partial level for the Dealmaker level. Business units must justify their occupancy at market rents on an economic basis by preparing a business case for their space use. Business units must justify through their business case the occupation of space at market rents on an economic basis, that is, the business benefit derived from occupation of the space.
6.0	***Site selection practices***	
6.1	***CRE generic strategies*** These are the practices used when selecting locations to do business. This is the application of Nourse and Roulac's (1993) CRE strategies at the level of deciding about a specific site.	
6.1.1	Cost minimisation	This is an explicit lowest-cost provider strategy and sends signals to critical constituencies of cost consciousness in providing real estate.
6.1.2	Flexibility to accommodate organisational changes	Real estate accommodates changing organisational space requirements and thereby manages variability or risk associated with dramatic escalation or compression of space needs. This strategy favours facilities that can

		readily be adapted to multiple uses by corporation and others.
6.1.3	Facilitate (Human Resources) objectives	Real estate provides efficient environment to enhance productivity. The strategy recognises that environments are important elements of job satisfaction and therefore compensation. As well as the actual workspaces, they may be in locations convenient to employees with preferred amenities (transportation, shopping, restaurant and entertainment).
6.1.4	Facilitate marketing objectives	The real estate by providing a symbolic statement of substance or some other value acts as a form of physical institutional advertising (such as corporate branding). The real estate controls the environment of interaction with a company's product/service offering.
6.1.5	Promote sales and selling process	High-traffic locations are selected to attract customers with attractive environments created to support or enhance the sale. This favours locations and arrangements that are convenient to customers.
6.1.6	Facilitate production, operations and service delivery	Real estate is sought or designed that facilitates making company products, or delivering services through selecting locations and layouts that are convenient to suppliers.
6.1.7	Facilitate managerial process and knowledge work	Real estate emphasises the knowledge-work setting over traditional industrial paradigms. This recognises the changing character, tools used in, and location of work.
6.1.8	Capture the real estate value creation of business	This refers to a corporation garnering the real estate impacts resulting from demand for real estate created by customers, by employees, and by suppliers (and competitors).
6.1.9	Capture the financial creation value of the real estate	This refers to the management of CRE resources as more than a source of cashflows and earnings from selling real estate. By paying strategic attention to the active acquisition, management and disposition of CRE resources, as a commodity, there are also opportunities to impact profits, stock prices, price-earning ratios and dividends payouts (Gale and Case, 1989, p.26).
7.0	***Alternative workplace styles*** These practices include a range of alternative and flexible workplace practices that differ from traditional workplace models (Kenley *et al*., 2000a).	
7.1	Caves/cubes	These are flexible, partitioned areas for common use within an office (Stocks, 1999).
7.2	Common	Open plan meeting rooms to encourage spontaneous get-together (Stocks, 1999).
7.3	Team space	An open workspace arrangement, usually involving workstations with fewer or lower partition, that allows team employees to communicate and collaborate more freely. An example of this is a project room, where work team members can use electronic whiteboards, interconnected CADD systems and the like to communicate visually as well as verbally (Kooymans, 1998).
7.4	Group address	Designated group or team workspace for specific periods of time (Gilleard and Rees, 1998).
7.5	Project team environment	Flexible work areas designed to support work teams as they expand and shrink (Gilleard and Rees, 1998).

7.6	Collaborative team environment	Environments designed to support the functioning of cross-functional, collaborative teams. They typically include a dedicated team space and individual work-stations for concentrative work (Sims *et al*., 1996, p.2).
7.7	Activities settings	A workspace that provides a variety of work settings to fit diverse individual or group activities such as a lounge area, desk or work area, conference area, etc. (Gilleard and Rees, 1998)
7.8	Hotelling	This is a workplace arrangement based on normal utilisation of office and workspaces being less than 100% of a working day. Therefore, workspace is not dedicated to any specific worker beyond their required occupation time (Gilleard and Rees, 1998). Individuals book their use of space on a first-come basis through a concierge for hourly, daily, weekly or monthly periods (PCA, 1999).
7.9	Hot-desking	Similar to *Hotelling* but less formal (Kooymans, 1998). Hot-desking is variously used to mean either *Desk sharing* or *Hotelling* (Knight Frank Hooker, 1995, p.34). It can also be referred to as *Free-address*, *Non-territorial offices*, *Managed sharing* or *Shared assigned* (Knight Frank Hooker, 1995, Gilleard and Rees, 1998). In essence, workspace is shared among staff who do not need desks all the time. Individuals have a small store for personal and work items, and use nearby work-stations, desks, tables with computers (or docking points for laptops) and telephones (Weatherhead, 1997, p.83).
7.10	Just-in-time space	Similar to *Hotelling* with less-formal booking arrangement (Kooymans, 1998). In essence, it describes a work area available to everyone as needed (Knight Frank Hooker, 1995, p.34). Just-in-time space can also be similar to *Guesting* as it can include space gained by planting employees in customers' space (as customer service) (Stocks, 1999). It can also include the development of home offices, and *Satellite offices* in locations where space is not at such a premium, and working virtually (but not necessarily at home) (Breuer *et al*., 1997).
7.11	The universal plan office	With this practice, space is no longer allocated based on rank and status. A single-size office is used to accommodate people doing different jobs. The only tailored provision is the furniture equipment used to fit-out the space. This practice helps reduce costs and disruptions of re-configuring the office to accommodate differences in ranks and status (Joroff *et al*., 1993). Organisations attempting this strategy have in general implemented a modified universal plan with three levels of workstation sizes: for the highest level executives, for managers above a certain level and for professional and support staff. Office size for each level is the same, which is different from the above principle of a single-size office (Joroff *et al*., 1993).
7.12	Teleworking	Employees work at home some days and some days in the office during the same working week while still being accessible through ICT links. The practice requires a supportive corporate culture and has IT expenses through providing staff with the communication infrastructure required to work effectively from home (Weatherhead, 1997, p.82, Kooymans, 1998). It can also be referred to as

		Telecommuting (Kooymans, 1998) and *Home-based telecommuting* (Apgar IV, 1998).
7.13	Homeworking	People work at home and can still be accessible by telephone, fax and online links. It includes *Work-at-Home* and *Teleworking*.
7.14	Work-at-home	Company-employed workers are assigned to work full-time out of their homes (Kooymans, 1998). This differs from *Teleworking* in the percentage of time spent working at home.
7.15	Telework centres	Telework centres are office facilities remote from the users' central, or *anchor* offices. These centres provide traditional office environments to telecommuters for a fee (Tepper, 1997). Employees are able to work in an office but do not have to commute far from their home. Telecommuters who use telework centres also have arrangements for access to central office space. Other arrangements similar to telework centres include *Executive Office Suites* (Tepper, 1997), *Satellite offices* (Sims *et al*., 1996); *Telecommuting centres* (Sims *et al*., 1996); *Remote telecentres* (Gilleard and Rees, 1998); *Telecottages*/*Cottages* (Kooymans, 1998, Stocks, 1999); *Telecentres* (Kooymans, 1998).
7.16	Executive office suites	Similar to *telework centres*, the only difference is in the customers they market to. Users of executive office suites are small businesses and branch office operations that usually do not have other office locations (Tepper, 1997).
7.17	Remote telecentres	They are office centres that provide technology and administrative support to employees. They are located near customers and staffed by employees dedicated to the site or splitting their time between that location and another (Gilleard and Rees, 1998). The difference from *Telework centres* is that this practice is not intended to serve teleworkers but rather functions more like a branch office.
7.18	Neighbourhood offices	They are extensions to the local business centre. With this arrangement, users are offered a business address, a professional answering service and full office support system (PCA, 1999).
7.19	Touchdown offices	These are facilities provided for those who are not normally based on the premises but may need to work there. These facilities can be booked, ranging from lockers and telephones to individual quiet rooms with computers. Docking stations for laptops and PCs linked to the main company databases, printing, copying facilities, and stationery are also provided (Weatherhead, 1997, pp.199, 200). It is similar to *Hotelling* in the sense that people do not have their individual assigned space and can book the facilities.
7.20	Guesting	Organisations using one-another's office space (as in *Just-in-time*) (Stocks, 1999).
7.21	Virtual offices	The idea of the office being wherever the worker is – be it in the car, airport, hotel, at home, with a client, etc. (Knight Frank Hooker, 1995).
8.0	Information Technology Systems? There are two sub-clusters of information system practices. The first is the purposes the information is used for, such as strategic or transactional purposes. The second	

	sub-cluster is a listing of ITS tools that may be used in CRE, including graphical, database, and network CRE information systems. Automating processes is using ITS to automatically do tasks otherwise done manually. Informating is turning those automatic processes into data for use in management (Kenley *et al*., 2000a).	
8.1.0	ITS purpose	
8.1.1	Strategic systems	Provides a competitive advantage, usually via increased sales or positioning the firm in the market place. Strategic systems hence aim at expansion rather than efficiency. They are used to facilitate customer service, increase switching costs, new products/services, reduce cycle times, and increasing barriers to entry (Weill, 1992).
8.1.2	Transactional system	IT provides a system to facilitate transactions. This is the most basic level of IT use and it aims at cutting costs (Weill, 1992).
8.1.3	Provide information for decision-making and controlling	IT provides information for making decisions and for controlling the organisation (Weill, 1992).
8.1.4	Infrastructure investment	Infrastructure investment provides a base for enabling technology, shared across firms; other systems take advantage and build on this infrastructure (Weill, 1992).
8.2.0	***ITS tools***	
8.2.1.0	Graphic	
8.2.1.1	GIS	Geographic information system, a computerised database management system in which information is referenced in terms of its geographic location. It is an automated system for the capture, storage, retrieval, analysis and display of spatial data (Clark, 1995). It is a high-tech development of direct importance to corporate real estate managers, as it can be used to integrate location with property values, site plans, contract details, journey times, etc. It has the capacity to become even more relevant to corporate real estate managers and business strategic planners, because all types of operational and marketing data and information on occupational costs can be linked with real estate decisions." (Weatherhead, 1997, pp.71, 72)
8.2.1.1	CAD	Computer-aided design (CAD) systems are the combination of computer hardware and software designed primarily for graphic data generation and manipulation associated with the production of reproducible drawings in automating the manual procedures of design (Teicholz, 1992, pp.130, 170). They are peripheral to most aspects of managing and using real estate unless new buildings or refurbishment are planned. The process uses drawing packages linked to design rules and also often linked to rapid photocopying and production. It helps speed up the design and construction process. Business managers can gain a better impression of their new building before they make the final commitment. (Weatherhead, 1997, p.73).
8.2.2.0	Databases 'A collection of identically or similarly structured records of data that are comprised of attributes that describe some fact, event or quantitative point' (Teicholz, 1992, p.170).	
8.2.2.1	Simple form databases	A sequential list of records with attributes where the records may be sorted or otherwise reordered, but they still

		remain unstructured. A query command searches every record for potential matches, making complex queries nearly impossible for large databases. (Teicholz, 1992, p.125)
8.2.2.2	Relational databases	The most commonly used type of database for high-powered functions related to dynamic information that arranges each "database" in a table. – each row is a record, and each column is a field. (Teicholz, 1992, pp.173, 126–127) A relational database does not require predefined physical pointer associations linked to the storage system, but rather relates records on the basis of identical fields within one file or spread across several. Some data redundancy is present, but relational database management systems (DBMSs) offer flexibility by allowing a database to evolve as the contents and even the structure of the records change. Graphic and non-graphic attributes can be linked in a record. In a sense, the relational data exists purely as data, remaining independent of applications that utilise them. This allows different applications access to the same data, potentially being extracted by multiple users running different applications. (Teicholz, 1992, pp.126–127)
8.2.2.3	Organisational relational databases	An organisation-wide relational database where different functional areas access and use a common data set (see *Relational databases*).
8.2.2.4	Object-oriented databases	
8.2.2.5	Distributed databases	
8.2.3.0	***ITS infrastructure***	
8.2.3.1	Intranet	Internal computer networks utilising web technologies for information distribution, interactive communications and administrative applications that span the whole enterprise (Brown and Topi, 2000, p.586). Intended for exclusive use within an enterprise, intranets are designed to protect the enterprise's data and operating procedures' confidentiality. Intranets can provide a plethora of 'self-service' capabilities to enable employees to manage their respective portfolios without intervention of service staff (Showalter, 2000). They could variously be styled as a LAN (local area network) or as a WAN (wide area network) depending on their geographic distribution. (Brown and Topi, 2000, p.586).
8.2.3.2	Internet	The world-wide network of networks, also known as the World Wide Web (WWW), has technologies based on 'servers, browsers, languages, protocols and telecommunications infrastructures' (Brown and Topi, 2000, p.585). It offers a compelling application platform by providing both strategic and tactical benefits. These benefits include global availability, instant application distribution, platform and version independence, reduced training costs through a common feel to platforms, and increased data reliability (Jovin, 2000, p.615).
8.2.4.0	***Asset or resource management***	
8.2.4.1	Property management software	A generic label for a range of specific software applications used to manage property assets, including asset management, facilities management, property inventory, facility databases and the like.

8.2.4.2	Property management information software	A database-based, management information system for property transaction processing and standardised reporting (Johnson *et al*., 1997, p.213).
8.2.4.3	Asset management software	Software to manage built and other assets providing for the management of maintenance, renewal and improvement work to buildings and their surroundings, and to services relating to those buildings (Holmes, 1994, p.137)
8.2.4.4	Facilities management software	The application of computer systems in performing facility management functions, including hardware, software, databases, and procedures. These functions could include: facility planning and design, financial forecasting and budgeting, space planning and management, construction works and maintenance and operations management (Teicholz, 1992, pp.5–7)
8.2.4.5	Property inventory database	A database of property as resources classifiable as leased, owned, ground-leased, subleased, organisational, and the like (Brown *et al*., 1993, p.514).
8.2.4.6	Cross-functional resource management software	Applications to manage data and information across different functional areas, e.g. manufacturing and marketing sharing a common product, manufacturing and delivery information; or CRE and HR using common workforce information.
8.2.5.0	***Web enabled technologies***	
8.2.5.1	Property web interface	Use of web pages to provide property technical information.
8.2.5.2	Web-based property management	Uses web technologies on the organisational intranet to implement property management, specifically the use of self-service applications and information to enable employees' management of their respective portfolios. Applications could include management information systems (MIS) and executive information systems (EIS) as well as asset and facilities management and CRE management.
8.2.5.3	Web-based property help desk	Web-enabled problem-solving for asset, property and facilities management.
8.2.6.0	***Procurement***	
8.2.6.1	Supply chain management software	Software to manage supply chain relationships on both business-to-business (buy side) and business-to-customer (sell side) supply chains. The use of extranets, in the first instance, and the Internet, in the second, enables management of buy and sell sides of the chain. The opening of enterprises' intranets to trusted suppliers (buy side) and to dealers, brokers, and customers (sell side) to reduce cycle times and costs in expediting finished products to the customer (Showalter, 2000, p.44).
8.2.6.2	Purchasing system	Computerised systems for purchase of corporate supplies and materials.
9.0	Metrics This category of practices is those used to create and apply various performance indicators (metrics) to CRE (Kenley *et al*., 2000a). Considered an emerging strategic management discipline (Frost, 1999).	
9.1	Lease *vs.* own model	

9.2	Acquisition *vs.* Disposal model	
9.3	Staff model	One tool to select a facilities configuration that is best suited for potential operations at an affordable cost (Apgar IV and Bellew Jr., 1995).
9.4	Space model	One tool to select a facilities configuration that is best suited for potential operations at an affordable cost (Apgar IV and Bellew Jr., 1995).
9.5	Scenario model	One tool to select a facilities configuration that is best suited for potential operations at an affordable cost (Apgar IV and Bellew Jr., 1995).
9.6	Balanced scorecard	An evaluation system that helps define and evaluate a firm's strategy in four major areas: financial, customers, internal business, innovation and learning (McMahan, 1999a). These indicators summarise the current and predicted environment and allow managers to view performance in several areas simultaneously (Lopes, 1996). By limiting the number of measures used, the balanced scorecard minimises information overload and forces managers to focus on the handful of measures that are most critical (Kaplan and Norton, 1992).
9.7	Service-balanced scorecard	Web-based performance measurement of facilities for public use, based on service provision.
9.8	Benchmarking	A continuous and systematic process for evaluating the products, services or work processes of organisations that are recognised as representing best practices for the purpose of organisational improvement (Massheder and Finch, 1998a, p.100).
9.9	EVA	Economic value-added (EVA) EVA measures whether the operating profit is enough compared to the total costs of capital employed. It is calculated as follows: EVA = NOPAT-Capital Cost; or = (Rate of return – Cost of capital) * Capital. The idea behind EVA is that shareholders must earn a return that compensates the risk taken (Mäkeläinen, 1998).
9.10	Return on RE investment	Rate of RE as a cost on corporate revenue
9.11	Customer satisfaction indicators	
10.0	***Benchmarking*** This particular cluster of CREM practices focuses on comparative performance that may be, for example, internally, externally, or process-orientated. A continuous and systematic process for evaluating the products, services or work processes of organisations that are recognised as representing best practices for the purpose of organisational improvement (Massheder and Finch, 1998a, p.100). There are different types of benchmarking.	
10.1	Internal benchmarking	Companies' internal benchmarking can provide comparisons between different business units or functions within the company (Cameron and Raphaely, 1997);
10.2	External benchmarking	Compares company data with data from others in the industries or to operations practices that it wants to emulate (Cameron and Raphaely, 1997);

10.3	Process benchmarking	This focuses on work processes or operating systems. It attempts to identify the most effective operating practice across organisations which perform similar work functions. Best for firms in different industries (JLW Advisory, 1995).
10.4	Strategy benchmarking	
10.5	Key performance outcomes	Key performance drivers – time or quality benchmarking

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