



*CITYFUTUREs

Managing Major Repairs in Residential Strata Developments in New South Wales

Dr Hazel Easthope
Prof Bill Randolph
Ms Sarah Judd

A study by the City Futures Research Centre at UNSW
provided with the assistance of the NSW Office of Fair Trading

July 2009



BUILT
ENVIRONMENT

Managing Major Repairs in Residential Strata Developments in New South Wales

Hazel Easthope, Bill Randolph & Sarah Judd

July 2009

Cover montage: [Managing Strata Repairs] June 2008, Dr John Barton

© City Futures Research Centre, University of New South Wales 2009

City Futures Research Centre
Faculty of the Built Environment
University of New South Wales
Sydney NSW 2052

CITY FUTURES RESEARCH CENTRE

City Futures is a University Research Centre dedicated to developing a better understanding of our cities, their people, the policies that manage their growth, the issues they face, and the impacts they make on our environment and economy.

Based in the Faculty of the Built Environment, City Futures is interdisciplinary in outlook and activity. It draws on the skills and knowledge of those within the Faculty whose knowledge encompasses the physical and spatial aspects of urban living, as well as those in other Faculties in the University whose interests coincide with our focus on the city.

The core activity for City Futures is research. It offers a place where scholars can pursue research on aspects of urban development and change. But it also focuses outwards, engaging with the wider audience beyond the University. Wherever possible, City Futures works in partnership with the community, government and business to contribute to growing the evidence base on the issues that impact urban regions and how we can better manage their dynamic progress.

City Futures will also strongly focus on the training of the next generation of urban research scholars through an active postgraduate research program. We are committed to expanding the skills and capacity of young urban researchers and to communicating the value of good research to those involved in making policies that impact on the city.

Together with colleagues in other institutions who share our focus and passion, City Futures is committed to research and training that will contribute to better urban outcomes for Australia and beyond.

THE AUTHORS

Dr Easthope is a Research Fellow at the City Futures Research Centre.

Prof Bill Randolph is the Director of the City Futures Research Centre.

Ms Sarah Judd is a Research Assistant at the City Futures Research Centre.

Acknowledgements

We would like to thank the NSW Office of Fair Trading for funding this project under their Property Services Grants funding program (file 08/22483). We would also like to express our sincere thanks to all of the strata lot owners who took the time to complete the survey. A special thank you to Nick Joannides and Eamonn Madden from Partridge Partners, James Dwyer from Alexander & Dwyer Group, Robert Braid from RBA Architects and Cathy Sherry from the Faculty of Law at UNSW for their expert advice. Thank you to the NSW Office of Fair Trading, Jimmy Thomson, BCS Strata Management Pty Ltd. (Body Corporate Services), Hill Unit Management, Premier Strata Management Pty Ltd., North Harbour Strata Managers, and Network Strata Services for their promotion of the owners survey. Thank you also to Edgar Liu from CFRC for his comments on an earlier draft of this report.

Executive Summary

1. Introduction

This document reports on the findings of research carried out by the City Futures Research Centre at the University of NSW into the management of major repairs and maintenance of common property in residential strata properties (containing three or more lots¹) in New South Wales. This is the first report to outline the attitudes and experiences of strata owners towards planning for major repairs and maintenance in NSW.

The project had three major aims:

1. To establish current practices in respect to funding major repairs and maintenance in residential strata titled developments through a desk-based literature and policy review.
2. To explore the attitudes and knowledge of planning for major repairs and maintenance funding among consumers of residential strata, including resident- and investor-owners and executive committee members through a survey of strata owners.
3. To undertake a benchmarking exercise based on data collected by strata property managers in order to estimate the types of information available on maintenance and major repairs at the block level, to identify the form in which this information is recorded and to assess how easily the data can be accessed electronically and analysed for trends. Based on these findings, to make recommendations on improving management data collection to enable future policy development in this area.

By 'major repairs and maintenance' we refer to four main areas:

1. Routine maintenance (e.g. clearing gutters, gardening).
2. Major capital works (e.g. replacing carpets in common areas, up-grading lifts).
3. Emergency major repairs (e.g. repairing damage caused by a storm or burst pipes).
4. Building defects (e.g. defects in the original construction of the building).

2. Research Context

Repairs and maintenance are arguably the most important aspects of strata scheme management to get right. From a consumer perspective, these activities affect the lives of the thousands of people living, and investing, in strata titled properties. These properties are people's homes, and in many cases their principal financial investments. However, little systematic information is available on the practices and outcomes of these activities.

It is also important from a political perspective. The realisation of urban consolidation policies in Australia's five largest cities will rely heavily on the provision of strata titled properties and hence the success of these policies is directly linked to the successful management of strata properties.

Owners corporations are making vital decisions regarding the management and maintenance of tens of thousands of residential properties, amounting to billions of dollars in assets around Australia. There is thus a need to understand what is actually going on in the day to day management of schemes, understanding what is working well and what is not, especially in regard to repairs and maintenance of common areas, so that governments and other stakeholders can consider how to improve the situation for all those involved.

Due to the historical influence of the NSW strata title legislation on other state and territory governments in Australia as well as other countries, the NSW strata title system is a nationally and internationally important case study from which to address issues regarding major repairs and maintenance in multi-unit developments.

¹ Some components of the NSW strata title legislation differ for 2 lot schemes.

3. Research Methods

The research was carried out in three stages corresponding to the main aims:

1. Stage 1 of the research established current practices regarding major repairs funding both in Australia and overseas through a desk-based literature and policy review.
2. Stage 2 sought to establish the attitudes and knowledge of repairs liabilities and funding methods by strata owners in NSW through an on-line survey of strata owners. We received 244 valid responses to this survey, which was conducted between August 2008 and April 2009. The survey comprised respondents from a variety of demographic backgrounds who owned a range of strata properties. Though consisting of only a small sample of the total population of strata lot owners in NSW, the findings covered in this report can be seen as indicative of the range of opinions and experiences of these strata owners regarding the management of major repairs and maintenance in strata properties. Discussion of these survey findings are supplemented with references to relevant state legislation as well as expert advice from Sydney-based engineers and architects.
3. Stage 3 undertook a benchmarking exercise on current management practices with regards to funding major repairs based on discussions with strata management agents about the types of information available on maintenance and major repairs at the block level and the form in which this data is recorded.

4. Repairs, responsibility, management & practice

In this section, we outline common defects and commonly required repairs, as well as current practices of major repairs funding in NSW. We link these to the attitudes and knowledge of strata owners who responded to the survey.

4.1 Common repairs & maintenance problems

Almost two-thirds of survey respondents considered the overall condition of their building to be either good or excellent, while just over one in ten respondents considered it to be poor. The most common problems with building condition identified in the survey were non-rectified defects, and structural problems.

Routine maintenance and major capital works

Common problems due to age or lack of maintenance in residential strata schemes in NSW include: water ingress; water leaks in internal wet areas; failure of services; outdated balcony balustrades; blocked guttering; electrical faults; and concrete cancer.

Emergency major repairs

The emergency major repairs most commonly identified by survey respondents also related to water ingress, as well as plumbing problems.

Building defects

Common building defects in residential strata schemes in NSW include: water ingress; water leaks in internal areas; defective services (e.g. broken lifts or air-conditioning units); defective or inappropriate design of balconies or balustrades; guttering faults; electrical faults; building movement; cracking to internal and external structures; tiling problems; various defects caused by the use of inappropriate building materials; and poor fire and safety compliance.

Of the respondents who owned a property that was built since 1997, almost two-thirds owned a lot in a scheme with ongoing defects in the building. The defects most commonly identified by survey respondents related to water ingress.

4.2 Responsibility

There was confusion on the part of many survey respondents about who was responsible for the management of major repairs and maintenance in their strata schemes.

The owners corporation is ultimately both legally and financially responsible for the management of major repairs and maintenance in their strata scheme. Should the reserves and insurances of the owners corporation not cover the full costs or any compensation awarded against them as a result of poor management of major repairs and maintenance, each owner is financially responsible for the remaining costs (proportional to their unit entitlements).

Where a strata managing agent has been employed and delegated duties by the owners corporation, that managing agent has a legal duty of care to ensure that the actions, omissions and statements they make in the course of their duties do not injure or cause harm or loss to another. Should they be negligent in their duties, they may be liable for damages.

It is the responsibility of the owners corporation to ensure appropriate people are hired to carry out the major repairs and maintenance on their property. The owners corporation should be aware that when hiring uninsured tradesmen, they may be financially liable for any injury experienced by that tradesman.

4.3 Planning for major repairs & maintenance and management of funds

- There are six **main sources of funds** that can be used for major repairs and maintenance in residential strata. These are: the administrative fund; the sinking fund; special levies; loans taken out by the owners corporation; insurances; and moneys (or other rectification) received as a result of legal action.
- **Estimates of future spending** required in a strata scheme can be made by specialist consultants, strata managing agents, building managers and the owners corporations themselves. There were examples of all of these amongst the survey respondents. However, some survey respondents said that no estimates had been made.
- **Levels of dissatisfaction** with the way in which funds were collected in their strata schemes were high amongst survey respondents. The most common concern related to owners' unwillingness to pay higher levies, resulting in insufficient funds in the budget and the consequent collection of special levies. Indeed, almost a third of survey respondents indicated that major repairs and maintenance was funded by special levies in their scheme. The second most common concern related to a lack of, or poor, planning regarding major repairs and maintenance funding and a lack of information provided to owners about these issues by the executive committee and/or managing agent.
- The majority of the survey respondents had **participated in management decisions** regarding major repairs and maintenance in their strata schemes. The most common difficulty noted by survey respondents in making such decisions was agreement from owners over major repairs and maintenance expenditure. The next most common difficulty noted was in accurately estimating costs of future works.
- Just over half of survey respondents considered that their owners corporation or managing agent had **budgeted adequately for routine maintenance**. A quarter did not think that budgeting for routine maintenance had been adequate in their scheme. The most common reason given for being dissatisfied with the budgeting undertaken for routine maintenance was that there was little pro-active planning undertaken and that their schemes operated on a 'crisis management' model.
- One-third of survey respondents considered their owners corporation or managing agent had not **budgeted adequately for major capital works**. The major concern was the striking of special levies to cover the costs of major capital works. Indeed, a third of all respondents noted that major capital works were often funded by special levies.
- Approximately one-third of the 80 respondents who answered the question regarding the **adequacy of their sinking funds** responded positively. The most common reason given for considering their sinking fund adequate was that a good sinking fund plan was in place. There was, however, also a common concern over the inadequacy of some sinking funds, particularly when they did not fully cover major capital works costs.
- There are a number of channels through which the **rectification of defects** in a strata scheme can be funded. These include: the owners corporation covering the costs out of the administrative or sinking funds or through a special levy (or loan); the builder or developer covering the costs (or the costs

being covered under home warranty insurance); taking one of a number of parties (most commonly the builder or developer) to court and suing for breach of contract or negligence; and insurances held by the owners corporation. There were examples of all these methods currently being used by survey respondents. A further five respondents said that the defects would not be fixed.

4.4 Putting the planning into practice

Routine maintenance

- Approximately half the survey respondents had some concerns regarding the way in which routine maintenance was managed in their schemes. Common concerns included a lack of planning and of proactive leaders; the visibly poor standard of the common property, in some cases leading to safety concerns; and a poor standard of work and lack of quality control in regard to completed works.
- Those survey respondents who were satisfied with the way in which routine maintenance was managed in their schemes pointed to active executive committees, contactable and responsive strata managers and/or building managers, the existence of a regular maintenance schedule, good financial planning and the availability of funds; and good reporting practices and the availability of information regarding routine maintenance.

Major capital works

- Approximately half of the survey respondents had some concerns about the way in which major capital works were managed in their schemes. Common concerns included inadequate assessments of the nature and costs of required works, insufficient funds available to cover these costs and a poor standard of work where it was undertaken.
- Those survey respondents who were satisfied with the way in which major capital works were managed in their schemes pointed to effective budget planning resulting in sufficient funds available to cover major capital works; an active executive committee, including a good relationship with an active strata managing agent and/or building manager; and the fact that expert advice had been sought and acted upon.

Emergency major repairs

- Just over a third of respondents were dissatisfied with the way in which emergency major repairs had been dealt with in their scheme. Common concerns included the length of time it took to undertake repairs, a lack of information provided to owners, a lack of consultation with owners; the effectiveness of both the strata manager and the executive committee; and the poor standard of repairs.

Stakeholders

- There are a number of stakeholders involved in the management of major repairs and maintenance in residential strata schemes in NSW. These include (but are not limited to): builders, developers, real estate agents, (resident and investor) owners, the owners corporation and its executive committee, tenants, strata managing agents, (resident and non-resident) building managers and caretakers, contractors, and professional consultants (such as quantity surveyors, engineers, lawyers).
- A number of survey respondents noted their concern with the **continued involvement of the original owner** (builder or developer) in their strata scheme. In particular, concern was raised that the original owner was maintaining control of the executive committee and influencing the actions of various stakeholders, including strata managers. It is possible that changes under the *Strata Scheme Legislation Amendment Act 2008* (NSW) will lead to a reduction in such concerns in the future.
- Almost half of the survey respondents who owned a lot in a scheme with a **strata manager** said that they were dissatisfied with their strata manager's treatment of major repairs and maintenance issues. The most common complaint was that the strata manager did not provide the executive committee and/or the owners with sufficient information and that the agent did not respond to requests from owners and/or the executive committee for that information.

- The most common concern amongst those survey respondents who were dissatisfied with their **owners corporation's** treatment of major repairs and maintenance issues was the amount of time taken to reach an agreement. Other concerns included harassment and inappropriate and non-essential spending.
- Almost half of the survey respondents said that they were aware of disputes between **individual owners** and the owners corporation related to the management of major repairs and maintenance. Some disputes resulted from the failure of the executive committee to meet its obligations with regard to documentation, communication, obtaining quotes for needed works and the overseeing of repair works. Other disputes were of a more personal nature, including accusations of harassment.
- Problems in the conduct of particular owners were also identified. These included owners interfering with hired contractors and attempting to claim moneys to improve their individual lots. Some respondents noted that some owners had taken (or threatened to take) legal action against each other and/or against the executive committee regarding this issue. On the other hand, concern was also raised about the lack of action on the part of owners.
- A number of survey respondents noted disagreements in their schemes about whether certain repair or maintenance projects were necessary. In some cases, delays due to such disagreements (or general inaction) led to further damage to property. Disagreements often occurred when different types of owners within a scheme (such as occupiers and investors; newer and older owners; shorter-term and longer-term owners) had conflicting attitudes regarding costs and standards.

5. Availability and comparability of repairs and maintenance data

Executive committees in NSW keep a number of records relating to repairs and maintenance, including details of cash flow, levies and expenditures. The lack of a universal database and standardised formats for this information precluded the possibility of obtaining a representative sample of relevant financial data.

One potential source of information on, at the very least, 'typical' repairs and maintenance costs and issues at block level are strata management firms. The researchers received detailed data on major repairs and maintenance funding in confidence from three strata management companies of different sizes in NSW. While producing only a small data set, they clearly demonstrated the divergent collection and reporting practices across strata schemes managed by different agents. The researchers found that availability of data on maintenance and major repairs at block level – while often recorded in detail – is difficult to access due to issues of confidentiality and consent from individual owners corporations; a lack of standardisation in accounting codes; and the range of software packages used by different firms to record the data. This means that automated comparisons between the data held by different strata managing agents is impracticable, at least without extensive retrospective re-coding of accounting codes. Three possible approaches for the collation of major repairs and maintenance data are outlined in Section 5 of the main report.

6. Discussion

This section discusses some concerns which are beyond the scope of this research but which will require further consideration in any coordinated approach aimed at improving the condition of the strata stock in the longer-term. While the need for major repairs is strongly related to the level of maintenance that a building has received throughout its life, it is also related to the design and construction process of a building. This issue was made apparent by the comments of survey respondents regarding defects in their buildings that had existed since the time of construction. There are a number of factors that can contribute to defects in a building. These include certification of component parts, training and management of contractors and subcontractors and the potential knock-on effects of cost-cutting imperatives during development.

7. Conclusions

The standard of the management of major repairs and maintenance in residential strata in NSW influences tens of thousands of people living and investing in strata and underpins the success of the NSW Government's urban consolidation strategy. It is therefore important to understand what is actually going on in terms of the interpersonal and organisational relationships that influence current practices, attitudes and knowledge regarding planning for major repairs and maintenance. It is also important to know what the condition of the strata stock is across the state and to get an idea of the typical costs associated with maintaining and repairing particular types of strata properties.

The survey responses indicate that common causes of concern regarding the management of major repairs and maintenance in residential strata in NSW are:

1. Ongoing building defects since construction.
2. Lack of planning and of pro-active leaders.
3. Inadequate assessments of required works and associated costs leading to budget shortfalls.
4. A poor standard of work and of quality control where works are undertaken.

The survey responses indicate that the following conditions were important for satisfaction amongst owners regarding the management of major repairs and maintenance in their schemes:

1. An acknowledgement by all owners of their responsibilities as members of an owners corporation, and as joint owners of common property.
2. An active and responsive executive committee and (where applicable) strata managing agent.
3. A good relationship (and flow of information) between the executive committee, managing agent (where applicable), building manager (where applicable), owners and tenants regarding plans for major repairs and maintenance.
4. A regular maintenance schedule and a plan for major capital works, based on expert advice.
5. Effective budget planning resulting in sufficient funds to fund required works.
6. Repairs and maintenance works that are undertaken are properly funded and multiple quotes are received for works before a contractor is chosen.

The report also concludes that the effective management of a strata scheme is strongly influenced by the relationships between owners, between owners and the executive committee, the original owner (the builder or developer), strata managers and building managers. However, the roles of the multiple other stakeholder groups involved in the management of strata properties (e.g. lawyers, engineers, the NSW Office of Fair Trading and the Consumer, Trader and Tenancy Tribunal) will also need to be taken into account when considering ways in which to improve the quality of residential strata stock in NSW.

While the legislation covering the sector is incredibly important in governing the actions of all those involved in the management of major repairs and maintenance in residential strata buildings, our findings suggest that in practice, there are gaps in owners understanding of the implications of the existing legislation. There are also large discrepancies between owners in terms of their knowledge regarding best practice in the sector (such as the importance of receiving professional advice, hiring licensed contractors and drawing up regular maintenance schedules), as well as their willingness to act in response to this advice. Part of the solution will be to improve the information available to strata owners. Much information is already available on best practice in this area. NSW Office of Fair Trading, the Owners Corporation Network and the Institute of Strata Title Managers are some of the agencies that provide such information. However, more detailed information, such as a dataset of typical costs for different property types, would be beneficial in helping owners to make informed decisions about budgeting for major repairs and maintenance. Three possible avenues for further consideration for the collection of such information are suggested in the report.

The other part of the solution will be to provide information to those owners who are not actively seeking it, so that owners have this information *before* a problem occurs. For example, consideration could be given to the development of a toolkit compulsorily distributed to every strata owner at the time of purchase which clearly outlines their rights and responsibilities regarding the upkeep of the common property in their scheme. Deliberation on how best to inform owners of their rights and responsibilities regarding the management of major repairs and maintenance will need to be ongoing and will of course be dependent on the resources available to those agencies who will provide such services. However, it is essential that this issue remain at the forefront of government consideration as poor management of major repairs and maintenance in strata properties has implications for the quality of life of tens of thousands of people in NSW and billions of dollars worth of assets.

Contents

EXECUTIVE SUMMARY	3
GLOSSARY	10
1. INTRODUCTION	11
2. PUTTING THE RESEARCH IN CONTEXT	12
3. RESEARCH METHODS	14
4. REPAIRS, RESPONSIBILITY, MANAGEMENT & PRACTICE	15
4.1 Common Repairs & Maintenance Problems.....	19
4.2 Responsibility	25
4.3 Planning for major repairs and maintenance & management of funds.....	28
4.4 Putting the planning into practice	41
5. AVAILABILITY & COMPARABILITY OF REPAIRS AND MAINTENANCE DATA ..	54
6. DISCUSSION	58
7. CONCLUSION	60
REFERENCES	62
Appendix 1: NSW Strata title in an international context.....	64
Appendix 2: Managing Strata Repairs Survey Questions.....	68
Appendix 3: Map of Sydney Zones	85

Glossary

Administrative fund	A fund for the purposes of day-to-day and recurrent expenses (more detail in the report).
Building manager	A person or company employed by the executive committee to manage, maintain and control the use of the common property.
Common property	Property owned by the owners corporation. Typically this would include the buildings and outdoor areas. In general, it includes all property in a strata scheme that is not a privately owned strata lot.
Executive committee	A committee elected by the owners corporation to represent all of the owners and manage the strata development. Also sometimes referred to as a 'body corporate'.
Levies	Fees that must be paid by owners to the owners corporation. These can take three forms: administrative fund levies (contributions to the administrative fund), sinking fund levies (contributions to the sinking fund) and special levies (contributions towards unexpected costs).
Owners corporation	A body corporate comprised of, and representing, all owners of lots in a strata development.
Sinking fund	A fund for the purposes of renewing, repairing or replacing common property (more detail in the report).
Strata lot	Typically the airspace bounded by the inner skin of the boundary walls (i.e. the paint) and the ceiling height and floor area which is owned by an individual or company (rather than by the owners corporation). E.g. an apartment but not its walls, which constitute part of the common property.
Strata managing agent	A professional employed by the owners corporation to deal with the management of the block and take care of the paperwork for the block. In NSW, all strata managing agents must be qualified with a Certificate IV in Property Services (Strata Management) and registered with the Office of Fair Trading. Also sometimes referred to as a 'strata manager'.
Strata Scheme	A single strata title development including lots and common property as well as the rights and obligations of owners, tenants and the owners corporation.
Unit entitlement	Not all owners have equal weight in the owners corporation. The measure of their weight is called their unit entitlement and is generally based on the relative value of the strata lot they own. The unit entitlement regulates both the voting rights of each lot owner and the levies that they are required to pay the owners corporation.
Building defect	A fault or imperfection resulting from poor design and/or construction of a building.

1. Introduction

This document reports on the findings of research carried out by the City Futures Research Centre at the University of NSW into the management of major repairs and maintenance of the common property of residential strata properties (containing three or more lots²) in New South Wales. This research was funded by a grant from the NSW Office of Fair Trading.

By 'major repairs and maintenance' we refer to four main areas:

1. Routine maintenance (e.g. clearing gutters, gardening).
2. Major capital works (e.g. replacing carpets, up-grading lifts).
3. Emergency major repairs (e.g. repairing damage caused by a storm or burst pipes).
4. Building defects (e.g. defects in the original construction of the building).

The project had three major aims:

1. To establish current practices in regards to funding major repairs and maintenance, including capital works budget setting, funding options and administration arrangements, in residential strata title schemes.
2. To explore the attitudes and knowledge of planning for major repairs and maintenance funding among consumers of residential strata, including resident- and investor-owners and executive committee members.
3. To undertake a benchmarking exercise based on data collected by strata managing agents in order to estimate the types of information available on maintenance and major repairs at the block level, to identify the form in which this information is recorded and to assess how easily the data can be accessed electronically and analysed for trends. Based on these findings, to make recommendations on improvements to data collection to enable future policy development in this area.

The research was carried out in three stages corresponding to these aims:

1. Stage 1 of the research established current practices regarding major repairs funding both in Australia and overseas through a desk-based literature and policy review.
2. Stage 2 sought to establish the attitudes and knowledge of repairs liabilities and funding methods by strata owners in NSW through a survey of strata owners.
3. Stage 3 undertook a benchmarking exercise on current management practices with regards to funding major repairs based on discussions with strata management agents about the types of information available on maintenance and major repairs at the block level and the form in which this data is recorded.

Section 2 of the report provides some information about the residential strata sector in NSW and its relationship with similar sectors around Australia and internationally. The third section of the report outlines the methods used to conduct the research outlined in this report. Section 4 draws upon both the NSW legislation and responses from a survey of 244 strata lot owners in NSW to discuss repairs liabilities and funding mechanisms for residential strata in NSW. This section outlines some common repairs required to strata buildings in NSW (including common building defects); highlights issues of legal and financial responsibility for the management of major repairs and maintenance in residential strata; and outlines current management and planning practices with regards to major repairs and maintenance in strata schemes and the challenges that can be faced in putting those plans into place. The fifth section reports on the findings from the benchmarking exercise with strata managing agents about the information available on major repairs and maintenance in residential strata and the potential to aggregate this data. Section 6 discusses concerns with building standards which are beyond the scope of this research but which will require further consideration in any coordinated approach aimed at improving the condition of the strata stock in the longer-term. Finally, the report concludes with a summary of main findings and a discussion of the implications of the research.

² Some components of the NSW strata title legislation differ for 2 lot schemes.

2. Putting the research in context

Urban consolidation policies and higher density housing development have become major drivers of urban change in Australia. Indeed, New South Wales (NSW), Victoria (VIC), Queensland (QLD), South Australia (SA) and Western Australia (WA) all have strategic metropolitan plans in which urban consolidation is a key component. As Forster & Hamnett (2008:248-249) state:

All five major Australian cities have prepared revised metropolitan strategies in recent times which aim to accommodate at least 60 per cent of future urban development within growth boundaries – published or de facto – and the most recent of these aspire to even more heroic levels of urban consolidation.

The realisation of these policies will rely heavily on the provision of strata titled dwellings. Residential strata properties include most forms of medium and higher density attached housing such as villas, town houses, semi-detached houses, flats and apartments built as multiple dwellings on single lots of land and schemes range from 2 lots to large multi-storey mixed use complexes of hundreds of apartments and commercial uses. It is therefore essential for the future of Australia's urban areas that their strata stock is managed efficiently, effectively and equitably. While strata title has been around since the late 1960s in Australia, it is only recently that issues surrounding the management of strata schemes have become prominent. This is due to a number of factors. Three of the most significant are:

- i) Many of those properties built under strata title in the ten years following the introduction of the Strata Titles Act (1961) are now over 30 years old and this ageing stock requires increasing attention in terms of maintenance and repairs.
- ii) The metropolitan plans' calls for increasing urban consolidation have led to incentives to build apartment blocks (such as changes in planning restrictions) that have resulted in a significant increase in the number of new apartments in Australia's five major cities.
- iii) The population now living in strata properties is estimated to exceed three million people in Australia and almost two million in NSW alone (Easthope and Randolph 2009). Table 1 outlines the growth in attached dwellings across NSW. In Sydney, approximately 27.5% of residents currently live in strata developments. Furthermore, if plans under Sydney's Metropolitan strategy are realised, approximately 45% of Sydney's dwellings will be strata titled by 2030 (Randolph 2006).

Table 1: Increase in attached dwellings, 1996-2006, New South Wales (ABS 1997, 2007)

Total flat, unit or apartment 2006	470,496
Total semi-detached, row or terrace house, townhouse etc. 2006	241,351
Total attached dwellings³ 2006	711,847
Proportion of all dwellings 2006	28.8%
Total attached dwellings 1996	606,794
Proportion of all dwellings 1996	25.4%
Av. annual increase in attached dwellings 1996-2006	10,505

A key characteristic of these schemes is the communal ownership of the building. In order to facilitate effective management of the common property, each scheme is constituted around an elected owners'

³ These figures are for attached dwellings (not only strata). It is possible to have attached dwellings that are not under strata title (e.g. Company titled apartments or townhouses under Torrens title) and not all of these 611,847 properties were under strata title (indeed, Table 1 indicates that there were 681,716 strata titled properties registered in NSW in 2009). However, these figures provide a good indication of growth in the sector.

corporation, often supported by a growing industry of strata management companies and other property professionals. These arrangements are underpinned by a set of legal instruments in the form of State-based strata title laws. As Everton-More *et al.* (2006:1) note, “a strata title scheme implicitly involves a combination of both individual and collective ownership of property”, with common parts of the property comprising the latter. Indeed, with the introduction of Strata Title legislation in the early 1960s, new principles of land law were imported into the apartment sector that created tensions between owners’ understanding of their rights of ownership and their responsibilities as part-owners of a communal building, compounded by the reality of living in close proximity with neighbours.

There is thus a need to explore the role of management arrangements in providing the complex framework of rights and responsibilities for the multiple stakeholders involved in strata schemes. It is these stakeholders who are expected to deliver a functioning and sustainable urban environment for many years to come. This is especially true in the case of the management of repairs and maintenance of the common areas within strata schemes. This is no small matter. Owners corporations are currently making vital decisions regarding the management of approximately one quarter of all residential properties in NSW and tens of thousands more around the country. They are also making decisions about the maintenance of billions of dollars worth of property and infrastructure. Indeed, it can be argued that the strata system constitutes an extremely significant fourth tier of governance in Australian cities, beyond the Federal, State/Territory and Local government levels (Easthope and Randolph 2009). The management of major repairs and maintenance in residential strata titled properties affects the lives of all of those people living, and investing, in strata titled properties. These properties are people’s homes, and in many cases their principal financial investments.

NSW is an important case in this regard, as the NSW strata title legislation was the forerunner not only to legislation in other states and territories in Australia but also internationally. Indeed, the *Conveyancing (Strata Titles) Act NSW* (1961) has formed the basis of the strata title legislation in many other countries, including Canada (Strata Titles Act 1966), Singapore (The Land Titles Act 1972), Indonesia (Strata Title Act 1985), Malaysia (Strata Titles Act 1985) and Brunei (Strata Title Law 2006). While no other country or Australian state or territory has legislation identical to that of NSW, and NSW legislation has itself undergone many changes since 1961, lessons learnt in the NSW context can be expected to have relevance for other states, territories and countries whose legislation is based upon that of NSW.

Just as other countries may learn from developments in the NSW strata system, the NSW strata title system may learn much from systems of management of multi-unit dwellings overseas, whether this be strata titled developments, condominiums or commonhold. While a full review of the relevance of such practices to the strata scheme management in NSW is beyond the scope of this project, Appendix 1 outlines some of the established and current practices regarding major repairs and maintenance in multi-unit developments overseas.

The remainder of this report focuses on NSW strata title developments. The report addresses strata schemes with three or more lots, and schemes that include residential lots. There are over 40,000 such schemes in NSW, containing over 500,000 lots (see Table 2).

Table 2: Number of strata schemes and lots in NSW in 2009

All strata schemes in NSW	No. of schemes	72,416
	No. of lots	681,716
All strata schemes in NSW with 3 or more lots⁴	No. of schemes	51,065
	No. of lots	640,082
Residential & mixed use strata schemes in NSW with 3 or more lots⁵	No. of schemes	44,234
	No. of lots	571,579

© NSW Department of Lands 2009

⁴ This figure includes all schemes registered in NSW with 3 or more lots, including those that are registered as commercial and industrial.

⁵ This figure includes all those schemes registered in NSW as residential only, mixed use, and City of Sydney County Centre. It excludes those schemes that are registered as commercial, industrial and other special uses. This figure therefore includes not only residential lots, but also some commercial lots within mixed-use schemes.

3. Research Methods

The majority of this report is based around the findings of an on-line survey of strata owners in NSW on their attitudes and knowledge of repairs liabilities and funding methods. The survey was carried out between August 2008 and April 2009.

The survey was open to any person over the age of 18 who owned a residential strata lot in NSW that was in a scheme with three or more lots. Both owner-occupiers and owner-investors participated in the survey. Tenants did not participate in the survey. The survey was advertised in a number of mediums, including the NSW Office of Fair Trading's strata schemes page, the City Futures website, Jimmy Thomson's Flat Chat column in the Sydney Morning Herald on 13th December 2008, Jimmy Thomson's Flat Chat webpage in April 2009 (<http://www.flat-chat.com.au/?p=499>), BCS Strata Management Pty Ld (Body Corporate Services') *BCS Plus* Magazine (Issue 8, Spring 2008) and the BCS Strata Management Pty Ld (Body Corporate Services) webpage (for the duration of the survey, <http://www.bcsm.com.au/>), as well as fliers distributed by the strata management agencies Hill Unit Management, Network Strata Services, North Harbour Strata Managers and Premier Strata Management Pty Ltd.

The survey included questions relating specifically to routine maintenance, major capital works, emergency major repairs and defects. Survey participants were asked about the types of repairs and maintenance that had been required in their schemes. They were asked how repairs and maintenance were funded in their schemes, whether they thought this funding was adequate, and whether they had any concerns with the way in which repairs and maintenance were funded. They were asked if they were satisfied with the way in which major repairs and maintenance had been managed in their schemes and why they were satisfied or dissatisfied in this regard. They were also asked about the nature of any problems or disputes in their schemes relating the repairs and maintenance. Appendix 2 includes a copy of the survey questions.

There were in total 247 completed surveys collected. Three did not meet all of the survey criteria (e.g. responses from interstate) and these responses were removed from the dataset prior to analysis. In all, 244 valid responses were included in the final analyses.

Our discussion of the survey responses is also accompanied by references to the relevant legislation. Information regarding NSW legislative requirements provided in this report draws largely on the *Strata Schemes Management Act 1996*, the *Strata Schemes Management Amendment Act 2004*, the *Strata Schemes Management Regulation 2005*, the *Strata Schemes Management Amendment (Sinking Funds) Regulation 2006* and the *Strata Management Legislation Amendment Act 2008*. We also reference Ilkin's (2007) book *NSW Strata and Community Schemes Management and the Law* and the *Property, Stock and Business Agents Act 2002*. As this report focuses on the management of major repairs and maintenance, legislation regarding the development of strata properties (*Strata Schemes (Freehold Development) Act 1973* and *Strata Schemes (Leasehold Development) Act 1986*) is not addressed here. There are also a range of other regulations that impact upon the development and running of a strata scheme, including those covering taxation (including, but not limited to, GST and income tax), which are also not directly addressed in this report.

The methods used in our benchmarking exercise of the data collected by strata property managers on major repairs and maintenance are outlined in Section 5 of this report.

4. Repairs, Responsibility, Management & Practice

In this section, we outline common defects and commonly required repairs, as well as current practices of major repairs funding in NSW. We link these to the attitudes and knowledge of strata owners who responded to our survey on the management of major repairs and maintenance in their schemes.

This discussion is composed of four parts. In the first part, we outline some of the common defects occurring in newer buildings and common repairs issues arising in older buildings. In the second part we address issues of legal and financial responsibility in residential strata with regards to the management of major repairs and maintenance. In the third part we discuss funding options, budget setting and administration and reporting requirements for the management of major repairs in residential strata. Finally, we discuss the difficulties that can be faced in putting those plans into action.

Before outlining the comments made by survey respondents relating to managing major repairs and maintenance, some information about the respondents is detailed below. The range of survey respondents was relatively broad, both in terms of respondents' demographics (age, sex, occupational status etc.) and in terms of their property (geographic location, market value, number of lots in the building etc.). Where respondents owned more than one strata titled property, they were asked to respond in relation to the property they had owned for the longest period of time. Of the valid survey respondents, 77% owned one strata titled property, 14% owned two strata titled properties and 9% owned three or more strata titled properties.

There was an almost equal split in the sex of respondents (53% female and 47% male). The ages of respondents were also relatively well-spread, with the exceptions of low responses in the 20-29 year age group and over 70 age group (see Table 3). Similarly, the employment status of respondents was quite diverse. Half (50%) of the respondents were working full-time, 18% were retired, 14% self-employed and 8% employed in part time or temporary work.

Table 3: Age of respondent

	Count	Percent
20-29	12	5%
30-39	49	20%
40-49	50	20%
50-59	67	27%
60-69	49	20%
70-79	8	3%
80 or more	4	2%
Do not wish to disclose	5	2%
Total	246	100%

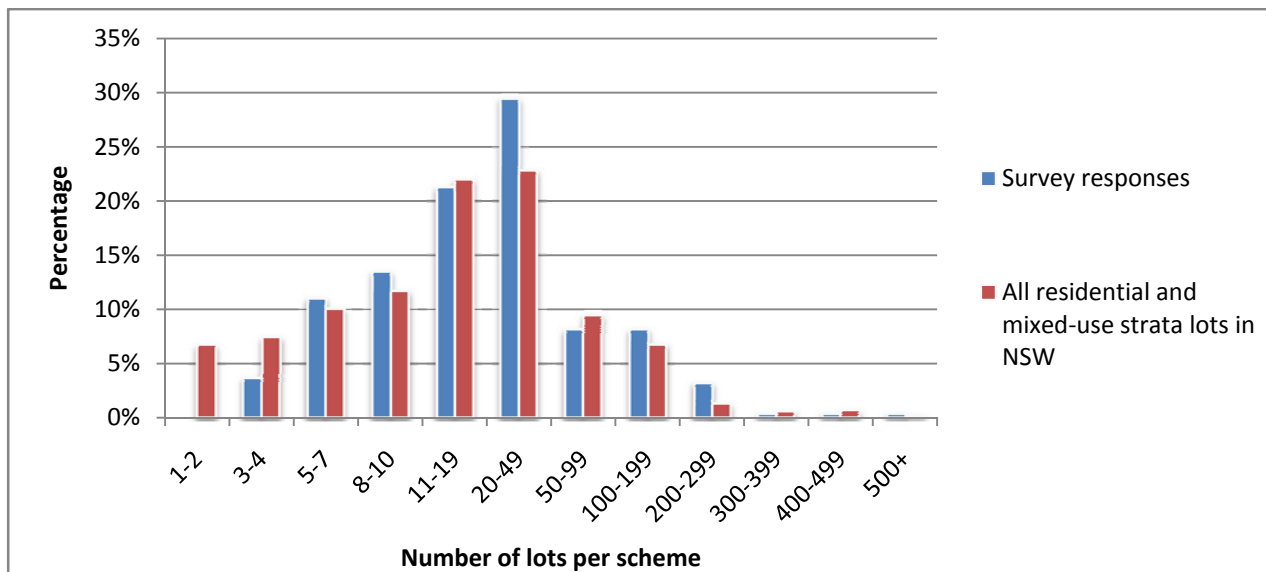
There was also variation in the types of buildings in which respondents owned a strata lot. The majority of respondents owned an apartment, either in a residential block (64%) or in a block with both residential and commercial lots (11%). Other respondents owned a townhouse, which was either attached (11%) or semi-detached (4%). There were also some respondents who owned different types of strata property, including detached units or villas (4%).

Just over half (52%) of respondents owned a property in a strata scheme made up of only one residential building. Two-fifths (39%) owned a property in a strata scheme made up of a number of residential buildings with another 6% (14 respondents) owned a property in a strata scheme that sits within a community title development.

The vast majority of respondents did not own lots in high-rise developments, with 72% owning lots in buildings with 1, 2 or 3 storeys and only 8% living in buildings of 11 or more storeys.

Despite the relatively small proportion of respondents who owned a lot in a high-rise development, 19% of respondents owned a property in a scheme with over 50 lots and 11% in a scheme with over 100 lots. The distribution of survey respondents by number of lots in their scheme compared with the distribution of all strata schemes in NSW by number of lots is outlined in Figure 1 below. While the spread of survey respondents was quite similar to the total population of strata properties in NSW (with the exception of the deliberate omission of 1-2 lot schemes amongst survey responses), the most notable difference was that the survey respondents were over-represented in the 20-49 lot schemes (30% of survey respondents' lots as opposed to 23% of all strata lots in NSW).

Figure 1: Number of lots per strata scheme by survey responses and number of lots per strata scheme for residential and mixed-use strata schemes in NSW in 2009



The information provided includes information and intellectual property provided under licence from the NSW Department of Lands, 2009.

The majority (66%) of survey respondents had purchased their property since 2001 (see Table 4). However, only 21% owned a property that had been *built* since 2001 and there was a good spread of property ages amongst survey responses.

The majority of survey respondents owned a two-bedroom property (53%), followed by three-bedroom properties (33%), one-bedroom properties (12%) and studios (2%). We estimate that these results reflect the distribution within the population of strata properties (with three or more lots), as we know from the 2006 Census data that 66% of flats, units and apartments in NSW have 2 bedrooms, 20% have three bedrooms and 9% have 1 bedroom⁶.

⁶ However, the use of the Census data must always only act as a proxy in this regard, because we are also aware that there are strata properties that are not flats unit sand apartments and that there are flats, units and apartments that are not strata properties. However, unfortunately the NSW Department of Land's strata database does not record the number of bedrooms in each property.

Table 4: Year property built (estimate) and year property purchased

	Year property built		Year property purchased	
	Count	Percent	Count	Percent
2005-present	13	5%	86	35%
2001-2004	39	16%	75	31%
1995-2000	55	23%	52	21%
1985-1994	27	11%	20	8%
1975 - 1984	36	15%	10	4%
1965 - 1974	34	14%	1	0%
1955 - 1964	10	4%	0	0%
1945 - 1954	7	3%	0	0%
1944 or before	23	9%	0	0%
Total	244	100%	244	100%

Owner occupiers made up 72% of respondents in the survey, while 25% of respondents were investor-owners (and 7% owned the property as a second or holiday home). In comparison, approximately 49% of residential strata units in NSW are investor owned, while 51% are owner occupied (based on data from the NSW Department of Lands, 2009)⁷, indicating that owner occupiers were over represented in the survey. The majority of respondents (62%) were purchasing their property with a mortgage, while 36% owned their property outright. Further, 91% (220) of the survey respondents owned properties in schemes that employed a strata managing agent.

Half (50%) of the respondents owned a property valued between \$300,000 and \$600,000, although a significant proportion (15%) owned a property valued under \$300,000 and a few owned a property valued over \$1 million (7%) (see Table 5).

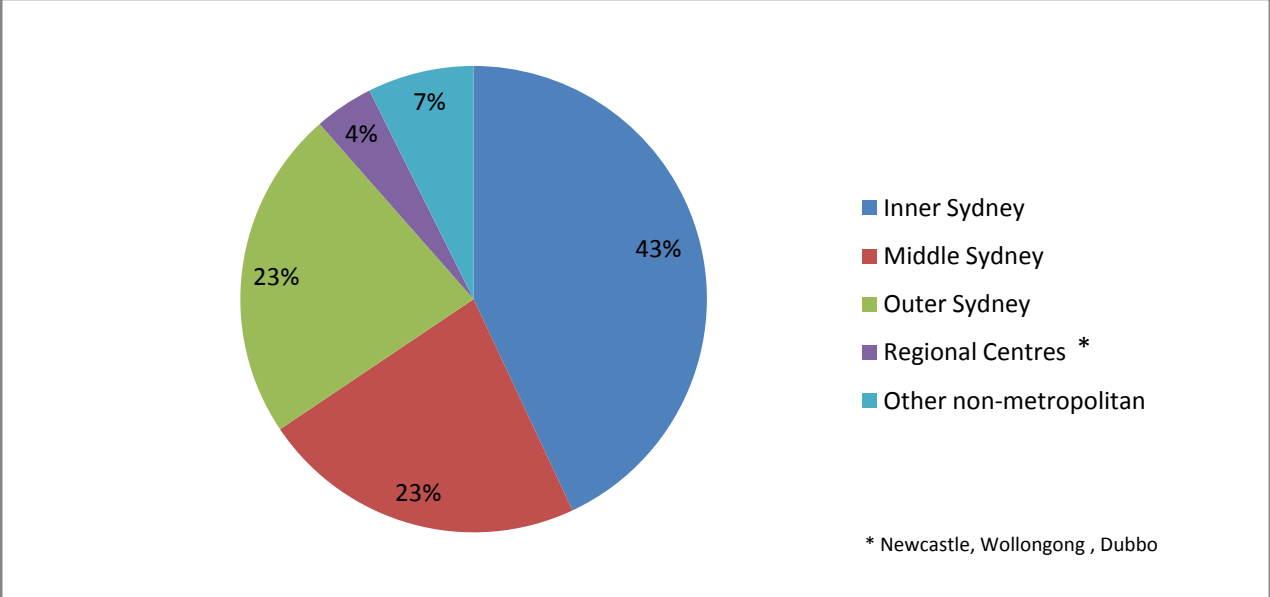
Table 5: Estimated market value of the property

	Count	Percent
Under \$300,000	37	15%
\$300,001-\$600,000	122	50%
\$600,001-\$1,000,000	49	20%
\$1,000,001-\$2,000,000	10	4%
\$2,000,001 or more	7	3%
Unsure	8	3%
Do not wish to disclose	11	5%
Total	244	100%

⁷ Figures are based on a comparison of street addresses and contact addresses for owners, kept in the NSW Department of Lands' strata database. The figures are also based on the records from those lots in schemes zoned as residential (and exclude those lots in schemes zoned as mixed-use).

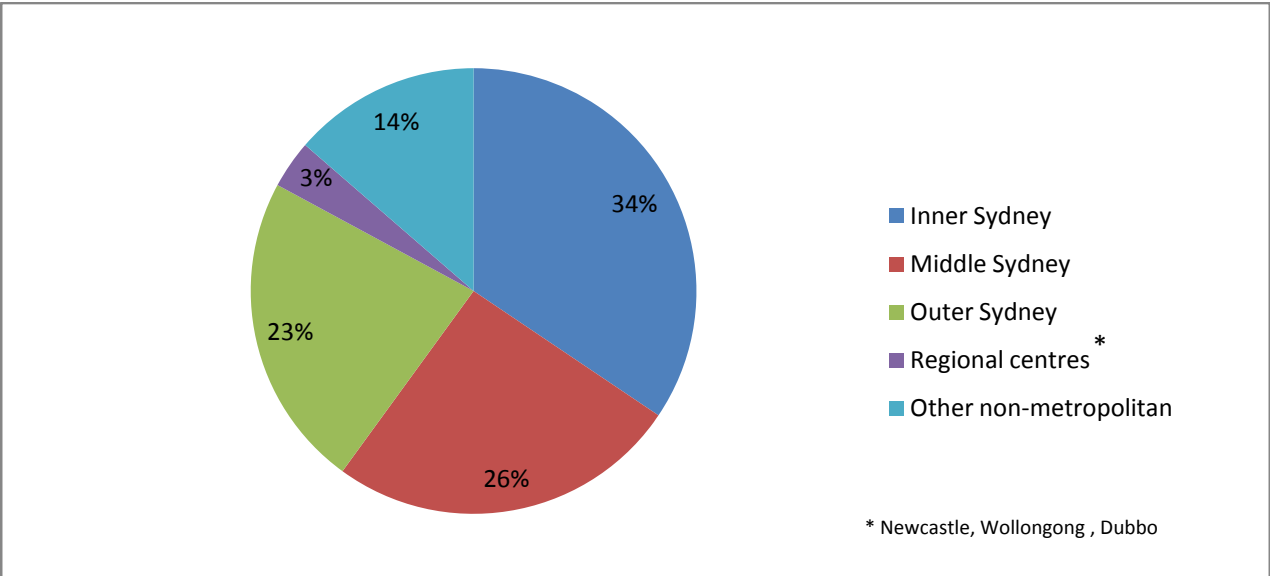
The majority of survey respondents owned a property in Sydney, with 43% owning a property in inner Sydney, 23% in middle Sydney and 23% in Outer Sydney (see Appendix 3 for a map of these zones). Ten respondents owned a strata property in Newcastle, Wollongong or Dubbo making up 4% of the respondents, while 18 owned properties in other areas of NSW, making up 7% of survey respondents (see Figure 2).

Figure 2: Survey respondents by location of their strata property



As evidenced in Figure 3, the geographical spread of survey respondents broadly reflects that of all residential and mixed use strata properties in NSW. However, owners of strata properties in inner Sydney were slightly over-represented in the survey (43% of respondents compared with 34% of all residential and mixed-use properties) and owners of strata properties in other non-metropolitan areas were under-represented (7% of respondents compared with 14% of residential and mixed-use strata properties). Owners of strata properties in middle Sydney were also slightly under-represented (23% of respondents compared with 26% of all residential and mixed-use strata properties).

Figure 3: All residential and mixed-use strata properties in NSW by location (2009)



Data © NSW Department of Lands 2009

A note on the generalisability of the survey findings

While the survey respondents came from a variety of personal backgrounds and owned a range of different types of strata properties, this survey should not be seen as a *representative* sample of the population of strata owners in NSW. This is because:

- Survey participants were self-selecting - they *chose* to participate in the survey. This is likely to affect the results. In particular, it is very important to note that 71% of the survey respondents were currently, or had been, on the executive committee of their strata scheme.
- The survey was advertised in a number of mediums (see above). However, strata owners who were not exposed to any of these mediums would not have known about the survey, and therefore would not have had the option to participate.

However, the findings presented in this report can be seen as *indicative* of the range of opinions and experiences of strata owners in NSW regarding the management of major repairs and maintenance. Hence, this report should be read as an outline of some of the issues that have arisen in NSW regarding the management of major repairs and maintenance in residential strata, rather than a quantification of the extent of such issues.

4.1 Common Repairs & Maintenance Problems

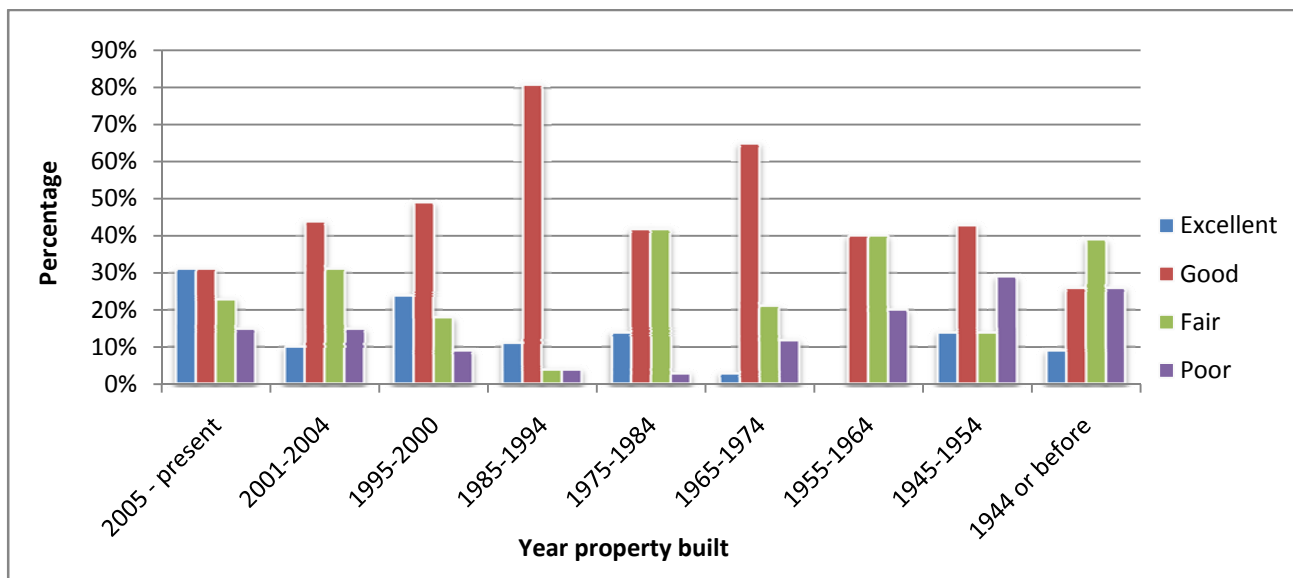
While this report focuses on the *management* of major repairs and maintenance, rather than the actual repairs and maintenance required in buildings, it is important to provide some context to this report and describe some of the most commonly occurring problems in strata buildings in NSW.

In order to get a broad overview of the extent of problems experienced by the survey respondents, each respondent was asked to rate the overall condition of their building. The results are outlined in Table 6. There were no significant differences in the responses of owners from schemes whether a strata managing agent or a building manager (or both) was employed or not. There were also no significant differences in responses when properties of different estimated market values and schemes of different sizes were compared. Further, there were no clear trends apparent when responses to this question were compared against the age of the property in question (see Figure 4). However, it is possible that the absence of any such trends is a result of the relatively small sample size (244).

Table 6: Overall condition of building

	Count	Percent
Excellent	33	14%
Good	120	49%
Fair	62	25%
Poor	29	12%
Total	244	100%

Figure 4: Overall condition of the building by year property built



Twenty-nine survey respondents said that the overall condition of their building was poor. Aside from comments regarding general lack of maintenance and problems in the management of maintenance responsibilities (covered in greater depth later in this report), the most common problems identified were non-rectified defects and structural problems (such as concrete cancer). There were also some concerns raised over issues of safety, including broken security systems, dangerous balcony railings and floorings, and fire certification. For example, when asked why they considered the condition of their building to be poor, one person responded:

All the top floors roofs leak. Cracking in walls. Extensive water problems possibly because of poor waterproofing in flower beds. Incomplete works from builders. Fire certification incomplete. (106⁸)

Another responded:

Concrete cancer throughout the building. Leaking windows. A demolition site for the past 8 years. Laundry closed down, drying court is out of action, landing has not been tiled for almost 2 years. Unsafe. Not meeting fire regulations. Pool out of action. (221)

Respondents whose property was built since (and including) 1997⁹ were also asked if they were aware of any ongoing defects in their scheme that had not yet been rectified. Amongst the 93 respondents who fit into this category, two-thirds (63%) owned a lot in a scheme with ongoing defects in the building. Of these, ten estimated that the defects would cost over \$1 million to remedy (and of these, six were in schemes with less than 50 lots, indicating a high cost per unit).

The most common defect experienced by survey respondents (24 respondents) was water ingress, or water penetration to internal spaces from outside. Other common defects were cracks in internal and external walls (11 respondents), roofing and guttering faults (10 respondents), tiling problems (7 respondents), and leaks in internal areas, such as from showers (7 respondents). Other defects included the use of inappropriate building materials, electrical faults, defective services (such as air conditioners and lifts), ill-fitting windows and doors, poor façade work on the outside of the building and poor balcony construction. The following provide some examples of survey responses:

⁸ Each survey respondent was given a response number. These numbers are published for each quotation.

⁹ 1997 was chosen as from the 1st May 1997, the Fair Trading Administration Corporation Insurance no longer governed insurance of residential building, and private insurance schemes replaced them.

Extensive water penetration in all units. Extensive water penetration in garage area to the extent that it puddles on the floor and drips on resident vehicles. Poor selection/laying of tile work - tiles disintegrating where they lay and mould building up under them (waterproofing is poor). Waterproofing of showers/bath areas very poor. Poor drainage (slopes toward building rather than away from building, flashing around windows/doors not installed properly). (237)

Major leaks in various locations: through fire doors, through walls, through roofs. Concrete cracking and breaking off, rusting hot water units, ill-fitting windows and doors, mal-functioning extraction fans, mal-functioning light fittings, mal-functioning Exit lights. (229)

Lack of waterproofing under balcony and pathway tiles. Balcony walls need tying in and an extra brick course added to bring to specified height. Internal wall and cornice cracks due to contraction of concrete slab and expansion of bricks - no proper expansion joints between slab and bricks. Leaking into underground garages due to lack of waterproofing above and cracks in the ceiling slab. Leaking shower trays requiring complete refit of several bathrooms. Various other. (46)

Also of concern to six respondents was a lack of fire safety compliance:

Lack of fire compliance including no fire dampeners, sprinklers etc. (175)

Respondents were asked to comment on any emergency major repairs that had been required in their scheme. The most common emergency repairs respondents were aware of in their buildings were those relating to plumbing – particularly burst or broken pipes, drains and tanks (over 90 occurrences mentioned). The next most common repairs were required as a result of water ingress from outside the building and roof damage (over 80 occurrences mentioned). Other emergency repairs were required as a result of internal leaks (such as those caused by faulty membranes in bathrooms), failure of services (including lifts), electrical faults, vandalism, accidental damage, storm damage and fire damage. Concern was also raised by some respondents (over 15 instances) about fire and safety issues. A few respondents (over 10 instances) had also observed concrete cancer and structural damage to their building (including sinking retaining walls).

Table 7 presents some of the most common defects in newly built properties and a list of common problems resulting from age and/or lack of maintenance occurring in strata properties in NSW. This table has been compiled with reference to the survey responses, as well as reference to Andreones Solicitors (2008) and discussions with engineers at Partridge Partners (a structural engineering company based in Sydney which specialises in forensic and remedial engineering) and architect James Dwyer of Alexander & Dwyer Group.¹⁰

¹⁰ Please note that these defects and problems are not listed in any particular order and the list is not exhaustive.

Table 7: Common building defects and building problems in residential strata properties in NSW

Common building defects	Sample survey responses	Common problems due to age and/or lack of maintenance	Sample survey responses
		<i>Concrete cancer</i> ¹¹ .	"Concrete cancer external walls" (103)
<i>Water ingress.</i> Water penetration to internal spaces from outside caused by defective membranes, defective cavities or poor installations in the building.	"Various building defects discovered by expert inspection, especially failed membranes causing water ingress" (161)	<i>Water ingress.</i> Water penetration to internal spaces from the exterior caused by inadequate maintenance (e.g. failure to re-paint external walls).	"Rotten timber windows ... causing water leak into units" (22)
<i>Water leaks in internal wet areas.</i> Such as bathrooms, showers and laundries - due to defective membranes.	"Water leakage... hence many apartments have had to have their bathrooms ripped out to repair in recent months" (147)	<i>Water leaks in internal wet areas.</i> Due to burst or broken pipes, drains or tanks.	"Leak of toilet tap causing floor boards to be damaged" (214)
<i>Defective services.</i> Such as lifts, ventilation systems and air-conditioning.	"mal-functioning extraction fans, mal-functioning light fittings, mal-functioning Exit lights" (229)	<i>Failure of services.</i> Such as lifts and air-conditioning.	"Air-conditioning fan failure" (243)
<i>Defective or inappropriate design of balconies or balcony balustrades.</i>	"Balcony walls need tying in and an extra brick course added to bring to specified height" (46)	<i>Outdated balcony balustrades</i> ¹² .	"All balconies repaired (balustrades)" (21)
<i>Guttering faults.</i> Leading to flooding.	"Overflowing guttering" (238)	<i>Blocked guttering.</i> Leading to flooding.	"Overflow of roof guttering" (173)
<i>Electrical faults.</i>	"Fire safety, roofing, structural, acoustic, electrical" (89)	<i>Electrical faults.</i>	"problems with power board causing disruption to lights and power" (75)
<i>Paint and rendering problems.</i> Such as use of inappropriate paint or powder coatings.	"major defects to render on outside of the building" (207)	<i>Painting not carried out often enough.</i> <i>Rendering not maintained</i>	"The town houses have not been painted for many years" (211)

¹¹ Concrete cancer is especially prevalent in coastal locations where the wet and salty environment has contributed to the problem and in buildings with magnecite toppings (a self-leveling material used as an insulator) where the chlorine has contributed to the problem, when it has come into contact with water. Many balconies built in the 1960s and 1970s are now failing due to concrete cancer.

¹² Many apartment buildings built before the 1970s have balustrades that do not comply with the current legislations.

Common building defects	Sample survey responses
<i>Building movement.</i>	"Settlement gaps" (238)
<i>Cracking to internal and external structures.</i>	"Foundations not done properly, resulting in cracks to all townhouses." (42)
<i>Tiling problems.</i> Such as cracking, buckling, slipperiness, staining and leaching.	"The common area tiles were laid incorrectly. They often come loose" (174)
<i>Inappropriate building materials.</i> E.g. the use of green wood, or incorrect preparation and installation of materials.	"Corroding iron work, including railings etc because it was not galvanised properly. Subsidence of the floors because green wood was used - this has caused among other things leaking bathrooms, kitchens falling off the walls and the increasing transmission of sound between apartments" (93)
<i>Fire and safety issues.</i> Such as lack of access hatches, missing or defectively installed fire dampers, missing or defective fire collars to penetrations and lack of fire separation between units.	"There was no access to fire dampers, which is a requirement for fire safety inspections" (241)

Information presented in this table is based on information gratefully received from Nick Joannides and Eamonn Madden from Partridge Partners and James Dwyer of Alexander & Dwyer Group, as well as survey responses.

Table 8 provides a summary of some of the most common types of maintenance required in residential strata titled properties in NSW.

Table 8: Common routine building maintenance required in residential strata properties in NSW

Routine inspection of fire safety equipment such as alarms and extinguishers as well as fire rated structures and paths to exits and fire control panels

Routine inspection of car park entry doors, line marking and signage

Maintenance of gardens, lawns and sprinkler systems

Maintenance and minor repairs to fencing, doors, windows and security gates

Exterior brick and gutter cleaning

Updating exterior wall finishes (paint and render)

Inspection and repair of cavity flashings and other waterproof membranes

Maintenance of roofing

Re-painting of common interior and walls, ceilings, door frames and fixtures

Cleaning and replacement of floor surfaces of internal and external passageways, including paving, tiles, floorboards and carpeting

Maintenance of ramps and stairways

Replacement of bulbs and inspection of electrical for interior and exterior common lighting

Maintenance of common air conditioning and heating systems

Maintenance of water system (and tanks)

Maintenance of electrical services including main distribution board

Upkeep of common furniture and décor

Maintenance of letterboxes and signage

Maintenance of garbage enclosures

Maintenance of common laundry area and equipment

Regular maintenance of intercom system

Mechanical maintenance and refurbishment of lifts, including replacement of carpet and lighting

Gymnasium equipment inspection and replacement

Pool and spa maintenance, including repairs, cleaning or replacement of filtration systems, tiling and fencing

Information sourced from a review of websites of companies providing building audits and sinking fund plans, and minutes of executive committees available online, as well as information gratefully received from James Dwyer of Alexander & Dwyer Group.

4.2 Responsibility

There was some confusion amongst survey respondents regarding who held the legal and financial responsibility for the management of major repairs and maintenance in their strata scheme.

There is no one taking responsibility - each is assuming someone else is responsible. (51)

It was unclear to some survey respondents whether this was the responsibility of all of the owners, the executive committee or the strata managing agent. For example, when asked how satisfied they were with their managing agent, survey respondents commonly remarked that they were dissatisfied because their managing agent had informed lot owners that the management of major repairs and maintenance was not their responsibility, but that of the owners corporation:

They [the strata management firm] are totally disinterested in providing any assistance and keep saying it's the 'Owner's Corporation's problem.' (168)

[There is a] lack of clear outline of responsibilities - who actually is responsible, OC or Managing Agent. (151)

Under the NSW legislation, the legal and financial responsibility for the maintenance and repair of common property ultimately falls upon the owners corporation¹³. The Strata Schemes Management Act (SSMA 1996) states:

An owners corporation for a strata scheme has the principal responsibility for the management of the strata scheme (SSMA 1996 s. 8(2))

and:

An owners corporation must properly maintain and keep in a state of good and serviceable repair the common property (SSMA 1996 s. 62(1))

As the owners corporation is made up of all lot owners, all owners in a scheme are, as a collective, legally and financially responsible for the maintenance and repair of the common property in their scheme. However, some of the owners corporations' duties can be delegated to an executive committee, and some can be delegated to a strata managing agent. This delegation raises further questions about the extent to which responsibility has also been delegated.

Indeed, the owners corporation of a strata scheme is required to appoint an executive committee to make decisions on their behalf. However, there are some matters that must be decided by the owners corporation as a whole. Such matters relating to the management of major repairs and maintenance are: an ordinary resolution at a general meeting (i.e. 51% or more of votes) is required to determine the moneys payable by owners to the administrative and sinking funds, as well as to make the decision to seek legal advice (Ilkin 2007:315-16). However, decisions regarding the remedy of structural defects and the maintenance and repair of common property can be made by an ordinary resolution at a committee meeting (if the owners corporation has not further limited the matters an executive committee can decide on, possible under the SSMA 1996, s. 21(2)(b)) or by a strata managing agent (if delegated this power by the owners corporation, possible under SSMA 1996 s. 28) (Ilkin 2007:317-18).

¹³ There are three exceptions to this rule. First, where an exclusive use or special privilege bylaw has been registered, delegating responsibility to one or more owners. Second, where the owners corporation has passed a special resolution resolving that a particular item will not be maintained, repaired, renewed or replaced. Third, with regards to water seepage in garages, tool sheds, sanitary compartments or the like [see paragraph 312 of Ilkin 2007].

In other words, in some cases the owners corporation will be entirely responsible for making decisions regarding major repairs and maintenance, while in other cases, this will be the responsibility of the executive committee or the strata managing agent¹⁴.

The responsibilities delegated to a managing agent are recorded in writing - this is required under s27 and s. 28 of the SSMA and s. 109 of the Agents Act (see also Ilkin 2007:151). There is no prescribed form for this written instrument of appointment and delegation, although there are some standard templates (known as agency agreements), including one recommended by the Real Estate Institute of NSW and one recommended by the Institute of Strata Title Management (Ilkin 2007:151-52). The owners corporation can choose to either completely or partially delegate its powers to a managing agent. If an owners corporation chooses complete delegation to their managing agent, there are some decisions that the strata managing agent is not authorised to make. The managing agent cannot delegate their responsibilities to another person and they cannot make a decision that must be decided by the owners corporation under the SSMA (Ilkin 2007:154) In particular, the managing agent does not have the authority to make decisions about the levies that are payable to the administrative and sinking fund.

In those situations where a managing agent holds delegated responsibility, the legislation states that:

Any act or thing done or suffered by a strata managing agent while acting in the exercise of a delegation under this section: a) has the same effect as if it had been done or suffered by the owners corporation and b) is taken to have been done or suffered by the owners corporation. (SSMA 1996 s. 29(3))

Further, even when the owners corporation has delegated its powers to a managing agent, the owners corporation can pass a resolution "overruling, rescinding or repealing the strata managing agent's decision"¹⁵ (Ilkin 2007:155). Hence, the owners corporation ultimately holds all of the power, and the responsibility, in a strata scheme.

Essentially, the strata managing agent acts as an agent for the owners corporation, and so the ultimate legal responsibility remains with the owners corporation. The owners corporation can then chose to sue the strata managing agent if they had not done what they were supposed to under the terms of their management contract. Furthermore, the strata managing agent also has a responsibility to ensure that their actions, omissions and statements do not injure or cause harm or loss to others (including the owners corporation, executive committee members, owners, tenants, prospective purchasers or any other person) (Ilkin 2007:175). If they do not uphold this responsibility they may be liable for damages as a result of giving negligent information or advice and for statements and conduct that mislead or deceive under the *Trade Practices Act 1974* and the *Fair Trading Act 1987* (NSW) (Ilkin 2007:175-76).

Similarly, executive committee members can be held personally liable for their actions (or omissions) if these are beyond the authority conferred to them (Ilkin 2007:107, 265). It is for this reason that offices bearers liability insurance is recommended (Ilkin 2007:107).

In summary, the owners corporation (made up of all owners) has the ultimate legal and financial responsibility for the management of major repairs and maintenance. Any financial short-fall as a result of insufficient funds for repairs and maintenance or legal action against the owners corporation must be covered by all owners (proportionate to their unit entitlements). It is then the responsibility of the owners corporation to take legal action against the strata managing agent or executive committee member, should they consider that this individual is at fault¹⁶.

The owners corporation may also employ other staff to assist them in managing and carrying out repairs and maintenance in their scheme. This may include building managers, caretakers, specialists (e.g. engineers) and contractors (e.g. builders, electricians). It is the responsibility of the owners corporation to ensure that they hire appropriate staff for these positions. In particular, it is very important that the people brought in to undertake maintenance or carry out repairs are licensed and insured. In NSW, all contractors and trades people carrying out residential building work valued at over \$1,000 (for labour and materials) must be licensed by the Office of Fair Trading, as well as all specialists working on electrical wiring, plumbing,

¹⁴ Not necessarily in all those cases where a strata managing agent is employed, but only in those cases where they have been delegated that responsibility.

¹⁵ There is one exception to this rule – where work has already been undertaken, an article has been purchased or a person has already acted based on the decision (Ilkin 2007:115).

¹⁶ It is interesting to note that under the French commonhold system, which has many similarities to the NSW strata title system, the legal responsibility lies with the managing agents in the first instance, not the owners. See Appendix 1 for a more detailed discussion.

draining, gas fitting, air conditioning and refrigeration (N.S.W Office of Fair Trading 2006; NSW Office of Fair Trading 2006, 2008). Further, if a tradesperson who is uninsured should hurt themselves while on the job, the owners corporation could be liable for the associated costs. Indeed, the *Workers Compensation Act 1987* (NSW) states:

If any person (in this section referred to as the principal) in the course of or for the purposes of the person's trade or business, contracts with any other person (in this section referred to as the contractor) for the execution by or under the contractor of the whole or any part of any work undertaken by the principal, the principal is, if the contractor does not have a policy of insurance or is not a self-insurer at the time a worker employed in the execution of the work receives an injury, liable to pay any compensation under this Act which the principal would have been liable to pay if that worker had been immediately employed by the principal.

However, in many cases, the owners corporation will be required to hold workers compensation insurance (required under the *Workers Compensation Act 1987* (NSW), the *Workplace Injury Management and Workers Compensation Act 1998* (NSW)) for workers. This includes any person who has entered into, or works under, a contract of service with an employer (the owners corporation), other than those people whose employment is for one period only and for no more than five working days (Ilkin 2007:262). This means that many people who are employed on a casual basis by an owners corporation, such as gardeners who may work one day a month are also defined as workers. While independent contractors should carry their own insurance, if this is not the case, the owners corporation will be liable for their costs. Hence, if a contractor does not have their own insurance and becomes injured, the owners corporation's insurance can be used to cover these costs, but the owners corporation may lose any no claim bonus and their premiums may increase in the future as a result.

4.3 Planning for major repairs and maintenance & management of funds

In this section, we discuss the funding options available to owners corporations, as well as budget setting and administration practices in relation to major repairs and maintenance, with reference to both our survey findings and the NSW strata title legislation. Section 4.4 of the report will discuss the challenges faced by owners corporations in practically applying such plans.

4.3.1 Funding options

As all lot owners in a strata scheme are members of the owners corporation, the costs of repairs and maintenance must be met by contributions of all owners to the administrative and sinking funds, proportionate to their unit entitlements. Where there is a shortfall in funds, this must be made up for by a contribution from each owner, usually in the form of a special levy, again proportionate to their unit entitlements. In some cases special levies can be charged in one lump sum while in others the owners corporation will ask for the levy to be paid in instalments over a certain period of time. Owners corporations may also choose to borrow money from a strata financing firm.

In some cases, owners corporations may be able to claim moneys to fund major repairs and maintenance from insurances held by the owners corporation itself, or other parties.

Further, where the owners corporation can show that a building fault is the result of a defect in the original construction or design of the building, they can claim the costs from their insurance and/or from legal action taken against a number of parties:

1. The builder, developer, architect, engineer, project manager or subcontractors, by suing them for breach of contract or negligence in the courts.
2. Home warranty insurance, where applicable (see below for more detail).
3. The local council, by suing them for approving the development with defects. However, according to Ilkin (2007:141) such cases against local councils are difficult to win.

Table 9 below outlines which of these funding sources are most commonly drawn upon for the four categories of major repair and maintenance we have identified, based on the survey responses.

Table 9: The most common sources of funds for different types of repairs and maintenance in strata schemes in NSW

Type of major repair / maintenance	Most common sources of funds
Routine maintenance	Administration fund
Major capital works	Sinking fund, special levy, borrowings
Emergency major repairs	Sinking fund, special levy, insurances, borrowings
Building defects	Sinking fund, special levy, insurances, borrowings, legal action

We asked the survey respondents to indicate which of these funding mechanisms (besides the administrative fund) existed in their scheme to the best of their knowledge. The results are presented in Table 10.

Table 10: Mechanisms currently in place in survey respondents' strata schemes¹⁷

	Count	Percent
A sinking fund into which you contribute	222	91%
Insurance which covers repairs	117	48%
A schedule of borrowing to cover repairs and/or maintenance costs	3	1%
A practice of issuing special levies to cover repairs and/or maintenance costs	73	30%
Don't know	12	5%

4.3.2 Budget setting and funding of major repairs and maintenance

The strata legislation stipulates a number of budget setting practices that must be carried out by the owners corporation of a strata scheme (Ilkin 2007:68-9, 297). All owners corporations are required to estimate the expenses for both the administrative and sinking funds at each annual general meeting. Before the meeting, a statement of estimated receipts and payments and a statement of the scheme's existing financial situation must be produced and used to inform this decision (SSMA 1996 s. 75).

Schemes that have more than 100 lots also have to meet additional conditions. Their owners corporations must:

1. Identify the amounts of money to be spent on individual items in the budget statements for the administrative fund and sinking fund
2. Get at least two quotations for any expenditure exceeding \$25,000
3. Not spend more than 10 per cent in excess of the amount approved in the budget for any particular item
4. Have financial statements audited annually (Ilkin 2007:78)

Under s 75A of the Strata Schemes Management Act 1996 (NSW), from 1st July 2009 all strata plans must have a 10-year sinking fund plan that must be taken into account when setting future sinking fund contributions at annual general meetings.

All lot owners in a strata scheme must contribute to both the administrative fund and sinking fund. The two funds are intended for different purposes. The administrative fund should be spent on maintaining the common property in good condition on a day to day basis, insurance premiums, recurrent expenses (e.g. water, electricity, cleaning, strata management fees, taxes), payments in connection with the owners corporation carrying out its powers (e.g. legal fees, engineers fees), payments to members of the executive committee (when required), and payments of surplus moneys to owners (when required) (Ilkin 2007:205-06). In short, the administrative fund is intended to cover day-to-day expenses incurred in managing and maintaining a strata scheme.

The sinking fund should be spent on the replacement or repair of common property; the renewal or replacement (but not maintenance or repair) of fixtures and fittings that are part of the common property; the painting of buildings or other structures; the acquisition, renewal or replacement of owners corporation property (e.g. a lawnmower); to meet other expenses of a capital nature (e.g. replacing roofing); and any payments of surplus moneys to the owners from their sinking fund (when required) (Ilkin 2007:208-09).

Concerns were raised by a small number of survey respondents that their executive committees and/or strata managing agents had not been using the sinking and administrative funds appropriately, and especially that inappropriate payments were being made from their sinking funds (which should have been covered by their administrative funds):

Paid a GST adjustment out of sinking fund for approx \$3,000 - Should not have been paid out of sinking fund as it was an administrative expense. Strata Manager would not change as the accounts had been presented at the AGM. (232)

¹⁷ The results presented in Table 10 are answers given by survey respondents to a multiple response question ('tick all that apply'). The percentage figures are based on the number of respondents (244), rather than the number of responses.

Owners corporation does not want to raise sufficient funds to adequately fund major repairs and maintenance so they avoid doing the required repairs and maintenance and use the sinking fund for purposes not budgeted for. (141)

However, it is important to note that under the SSMA (1996 s. 71) an owners corporation is permitted to transfer funds from its sinking fund into its administrative fund, provided that a resolution is passed to require recoupment to the sinking fund within three months (Ilkin 2007:208-10).

While the legislation stipulates that expenses for both the sinking and administrative funds must be made, the budget statements themselves (outlining actual income and expenditure) need not comply with any set form. There is also no legislated minimum amount of savings and investments that an owners corporation must maintain in each fund. In effect, this means that while the OCs of strata schemes must have sinking fund plans in place, they are not *required* to have any money in them. Further, while a budget statement of estimated receipts and payments and the existing financial situation must be prepared for the administrative fund, an owners corporation can authorise the expenditure of administrative fund savings for purposes other than those budgeted for at the previous Annual General Meeting (Ilkin 2007:206; SSMA 1996 s. 68(1)(d), s. 76(4)). There is therefore a degree of flexibility in the budgeting process for strata schemes in NSW.

The question that arises is, how do OCs go about estimating their future costs? We asked the survey respondents to identify the methods that their owners corporation and/or strata managing agent used to estimate the likely costs of future major capital works. Table 11 summarises the responses to this question. In a large proportion of cases, specialist consultants (such as quantity surveyors) were employed to undertake these estimates. However, there were some respondents who owned a lot in a scheme with over 100 lots where the building manager or the owners corporation had made the estimates. It is also worth noting the relatively high proportion of respondents who said that no estimates of future costs had been made for their scheme.

Table 11: Methods used by survey respondents' owners corporations or strata managing agents to estimate the likely costs of future major capital works¹⁸

	Count	Percent
Specialist consultants are employed by the owners corporation or strata managing agent	90	37%
Strata managing agent or building manager undertakes the estimate	68	29%
The owners corporation undertake the estimate themselves	44	19%
No estimates have been made	27	11%
Total	244	100%

A range of specialist consultants can be employed by owners corporations to provide advice on the funds required to adequately maintain and repair their buildings. We outline two of the most common here – the building audit and the preparation of a building maintenance program in conjunction with a sinking fund forecast.

Building audits can be undertaken by a qualified professional such as trained building certifiers, quantity surveyors and building consultants. This professional produces a report on the present condition of the building and advises on any necessary repairs or defects that require attention. These may include structural defects, exposed asbestos and illegal building works. A building audit may be used to inform the sinking fund assessment as well as assisting the owners corporation in bringing defects to the attention of the builder and making any necessary insurance claims.

Sinking fund assessments can be undertaken by quantity surveyors and other suitably qualified professionals. These assessments provide an estimate of future expenditure over a ten-year period (and should be reviewed every five years). Sinking fund forecast reports (produced by the assessor) should

¹⁸ This was a multiple response question. 'Other' and 'don't know' responses have been excluded from this table.

identify common property likely to need maintenance or replacement, estimate the timeframe and cost for required maintenance and advise on appropriate sinking fund levies to meet these costs, considering also the potential of unexpected events and factors such as interest, tax and GST. The owners corporation or strata managing agent can then use these reports to produce a preventative maintenance program to prevent deterioration to the common property. Indeed, when those survey respondents who said they had no concerns regarding the management of routine maintenance and major capital works were asked why this was the case, many mentioned that having received expert advice and audits had made them feel confident that appropriate planning had been undertaken in their schemes:

Maintenance review carried out by third party on behalf of Strata Manager. Long term plan with budgeting of cost included. (67)

An independent report was undertaken on the sinking fund in line with the expected building works required in the future and budgets set to ensure all major capital works can be catered for. (37)

4.3.3 Attitudes towards the funding of major repairs and maintenance

We now turn to the survey findings to discuss the survey respondents' attitudes towards the funding of routine maintenance, major capital works, emergency major repairs and defects in their schemes. We specifically asked the survey respondents to indicate to what extent they were satisfied with the way in which funds were collected in their strata scheme (see Table 12). Reported levels of dissatisfaction with funds collection were quite high, at 34%. However, as previously noted, this may be a result of the self-selecting nature of the survey.

Table 12: Overall satisfaction of survey respondents with the way funds are collected for major repairs and maintenance

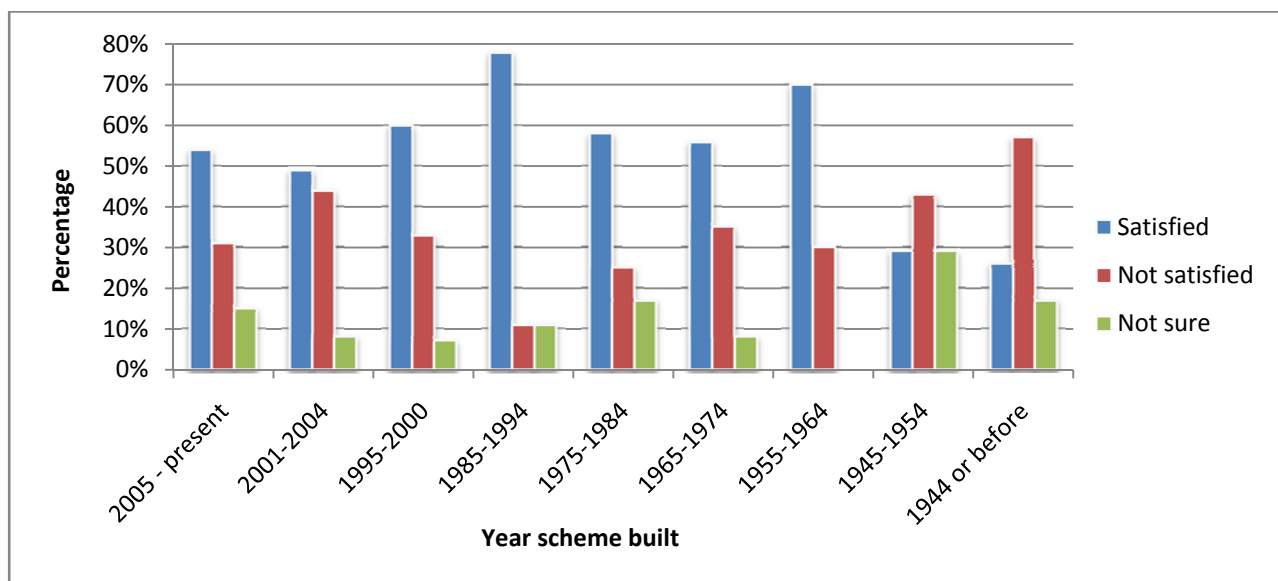
	Count	Percent
Satisfied	135	55%
Not satisfied	82	34%
Not sure	27	11%
Total	244	100%

Levels of satisfaction varied between respondents who owned a strata lot in schemes of different ages, with satisfaction relatively higher in those schemes built between 1975 and 1994, and dissatisfaction higher in both older and newer schemes (see Table 13 and Figure 5), although a larger survey sample may produce different results.

Table 13: Satisfaction of survey respondents with the way funds are collected for major repairs and maintenance by age of scheme

Year scheme built	Satisfied	Not satisfied	Not sure	Total
2005 - present	7	4	2	13
2001-2004	19	17	3	39
1995-2000	33	18	4	55
1985-1994	21	3	3	27
1975-1984	21	9	6	36
1965-1974	19	12	3	34
1955-1964	7	3	0	10
1945-1954	2	3	2	7
1944 or before	6	13	4	23
Total	135	82	27	244

Figure 5: Satisfaction of survey respondents with the way funds are collected for major repairs and maintenance by age of scheme

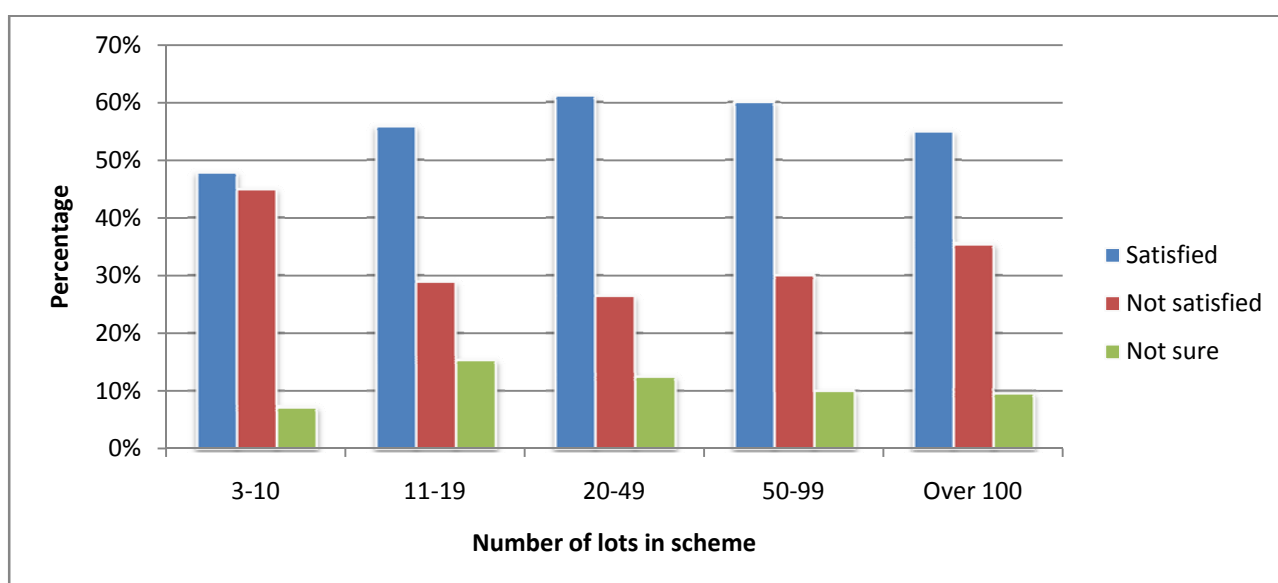


Levels of satisfaction with the way in which funds were collected for the major repairs and maintenance differed for respondents in schemes of different sizes. As can be seen in Table 14 and Figure 6, respondents who owned a strata lot in schemes with between 11 and 99 lots were more likely to be satisfied than those in both smaller (3-10 lot) or larger (over 100 lot) schemes.

Table 14: Satisfaction of survey respondents with the way funds are collected for major repairs and maintenance by number of lots in the scheme (count)

Number of lots in scheme	Satisfied	Not satisfied	Not sure	Total
3-10	33	31	5	69
11-19	29	15	8	52
20-49	44	19	9	72
50-99	12	6	2	20
Over 100	17	11	3	31

Figure 6: Satisfaction of survey respondents with the way funds are collected for major repairs and maintenance by number of lots in the scheme (percentage)



We asked those respondents who indicated that they were dissatisfied (82) to explain why this was the case. The most common responses were that owners in their schemes were not willing to pay higher levies (13 responses), that there were insufficient funds to pay for required maintenance and repairs (12 responses) and that special levies had been called (11 responses).

Not enough regularly collected for sinking fund and resistance to special levies. The minimum is always collected so it's a constant battle for every item of repair or maintenance which should be done routinely and the list just gets longer. (75)

The same argument is always put - keep levies low, trust that the building is in sound condition etc - we know we have significant defects now yet the argument persists. (161)

[The] Owners corporation does not want to raise sufficient funds to adequately fund major repairs and maintenance so they avoid doing the required repairs and maintenance and use the sinking fund for purposes not budgeted for. (141)

Despite known problems with the building, nothing is done until the problem is very bad and then they get a quote and strike a special levy and owners then have to come up with the money. (21)

While some owners (such as these survey respondents) may prefer to increase levies in order to allow for the costs of required maintenance and repairs, the decision to increase levies must be made by ordinary resolution at a general meeting. That is, 51% of those people entitled to vote at a general meeting must agree on the moneys payable by owners to the administrative fund and sinking fund. This means that if at least 51% of owners in a scheme want to keep the levies paid in their scheme low, then this is likely to be the outcome.

This also raises the issue of building improvements, as distinct from repairs and maintenance. A few respondents noted that building improvements and the replacement (rather than repair) of elements of common property might be a sensible option for the future of their strata scheme:

Major capital works urgently needed right now is not an issue for our block. However, although many of the units have been completely modernised inside; (new kitchens/bathrooms etc) the outside appearance of the block and the potential to upgrade the block to add greater value is becoming apparent to me. (I also own two investment units in this same block) i.e. We don't have garages but have carports and a few car spaces. These aluminium structures DO need replacing even though they are currently not in an unsafe condition. HOWEVER do we spend many thousands replacing the carports OR can we upgrade to garages? ... Also, most of the units are rented. There are a number of new unit blocks being developed in nearby areas. Will the rental value of the units in our block be diminished over coming years because of the 1960's appearance of our exterior? Should any major capital works to do with possibly upgrading our car parking with garages ... be expanded to include a more modern "re-styling" of our whole block? (1)

However, others were concerned that in some cases improvements were being undertaken “under the guise” of maintenance:

Although funds are raised under the guise of being for the sinking fund for future maintenance, significant funds are expended on 'improvements' instead of maintenance and thus misdirected with the influence of the majority of the executive committee. (96)

The SSMA makes an allowance for spending from the sinking fund for “actual or expected expenditure to replace or repair the common property” (SSMA s. 75(2)). The possibility therefore exists for the executive committee to decide to replace common property with money from the sinking fund, provided allowance has been made for this in the sinking fund budget, which must be determined at each annual general meeting (requiring an ordinary resolution¹⁹). Importantly, in large strata schemes (with over 100 lots), as previously stated, the executive committee cannot authorise expenditure (e.g. on the replacement of common property) that exceeds a budgeted amount by more than 10% (such spending would need to be authorised by the owners corporation at a general meeting). However, while *replacement* of common property in line with the sinking fund budget can be undertaken by the executive committee, under Section 65A of the SSMA, a special resolution²⁰ is required before the owners corporation or an owner of a lot can *add to* the common property, *alter* the common property or *erect a new structure* on the common property.

The next most common set of responses to the question regarding satisfaction with the collection of funds indicated that there was either no planning for funding major repairs and maintenance, or planning was poor, and that owners were unable to get any information on how funding for major repairs and maintenance was being managed in their schemes.

[There is] no provision for a preventative maintenance program. Special levies are raised as problems emerge. (118)

The existing body corporate appears to be making poor decisions which has recently resulted in having to raise a special levy to cover a \$30,000 blowout in repair bills and which was required to pay back to the sinking fund from which it was borrowed. (112)

¹⁹ i.e. 52% of votes for based on the votes of those entitled to vote at the meeting.

²⁰ i.e. 51% of votes for and no more than 25% of votes against based on unit entitlement where the total unit entitlement is based on the number of people entitled to vote at the general meeting.

Not knowing where the money is going and how they are spent and not able to raise an enquiry [because the] Strata Managing Agent only replies to members of the executive committee. Other lot owners are not properly informed. (62)

We are not told the why or wherefore. (222)

The majority of survey respondents (80%) had themselves participated in management decisions regarding the funding of major repairs and maintenance, many through current or past membership in their executive committee. When asked whether they had faced any challenges in managing finances in regards to major repairs and maintenance, the most common concern (raised in 33 of 93 responses) was the difficulty of obtaining agreement (and payment) from owners for major repairs and maintenance expenditure:

Trying to convince owners to meet the actual expected expenses, rather than set the budget to suit their financial status. (233)

Lack of agreement between owners. General apathy of most owners unless it involves raising of special levies. (72)

One respondent noted that her scheme had employed a debt collector:

Since employing a debt collector bad debts are a thing of the past. Not popular for introducing debt collection and had to push executive committee members who live in building to agree! Understandable but had to be done. (142)

Another suggested that there be more regulation regarding the amount of money that should be saved to cover the costs of major repairs and maintenance:

I think the Quantity Surveyor should have greater powers. We should abide by a registered Quantity Surveyor sinking fund estimates in order to have a compliant scheme. It is far too arbitrary at present. Most people don't want to save for a rainy day. (182)

The next most common concerns related to accurately estimating required future works and expenditure and allowing for adequate funds.

Ensuring we account for everything and considering future conditions. (37)

The main issue is forecasting future expenditure accurately whilst ensuring there is enough funds to deal with expensive emergency work. (2)

Balancing sufficient coverage with budget increases; keeping budget to reasonable levels and ensuring costs are contained. (123)

We now outline the survey respondents' comments in regards to the funding of our four main categories of major repair and maintenance: routine maintenance, major capital works, emergency major repairs and defects.

Routine maintenance

When asked how routine maintenance was funded in their strata, the majority (89%) of survey respondents replied that it was funded by strata levies, most likely through the administrative fund. However, a significant proportion (20%) said that routine maintenance was also funded through the sinking fund and a smaller number (5%) said that it was funded through special levies²¹.

We also asked survey participants to indicate whether they thought that their owners corporation or strata manager had budgeted adequately for routine maintenance. Over half (59%) agreed and a quarter (24%) disagreed. There was some difference in the responses to this question between those schemes that employed a strata managing agent (61% agreed and 23% disagreed) and those that did not (48% agreed and 33% disagreed). However, given that there were only 21 respondents in schemes without a managing agent, the variations in these results cannot be seen as significant. Unsurprisingly, those people who had been, or were currently, a member of their executive committee were more likely to agree that the owners corporation or strata managing agent had budgeted adequately (65%) than those who had not (44%); they were also less likely to disagree (21% compared with 30%).

When asked to explain why they thought the owners corporation or strata managing agent had not budgeted adequately for routine maintenance, apart from commenting on the poor standard of common areas, the most common complaint was that there was little pro-active planning for maintenance in their schemes and that their schemes operated on a 'crisis management' model:

There is not any maintenance being carried out except for emergency repairs. (113)

All decisions are made on the basis of upfront cost not long term solutions. (148)

Others commented that while maintenance was carried out, it was not routine:

The problem is that nothing is routine. We have to arrange all the routine activities and this only works when there is a committed individual in the building. (91)

Another common complaint was that when routine maintenance was carried out, the standard of work was poor.

It is hard to get good tradesmen. When employed by a real estate agent they seem to give higher quotes and know their work will probably not be checked up on. They often do not carry out all the tasks they are paid for to a satisfactory level. (156)

Other concerns included a lack of funds to pay for routine maintenance and a lack of information regarding routine maintenance provided to owners:

For years strata fees were kept low and maintenance not carried out. Now we have had to increase fees to rectify this situation. (242)

There is no schedule provided to the owners on when routine maintenance will be carried out. There is no follow up when a repair has been reported and when and if the job has been completed. (231)

²¹ This was a multiple response question.

Major capital works

When asked how major capital works were funded in their strata, the majority of survey respondents (95%) said that they were funded through levies paid into the administrative fund or sinking fund. However, 35% also said that major capital works were funded by special levies²².

While owners in some schemes may choose to keep their regular levy payments low, preferring to pay special levies when necessary, in many cases, the use of special levies to pay for major capital works indicates that budgeting for such works has been inadequate:

There was no money to pay for the works intended. So instead of evaluating all options available, including borrowing, owners were required to contribute a special levy. (180)

Survey respondents were also asked whether they thought their owners corporation or managing agent had budgeted adequately for major capital works. A third (35%) agreed while a third (36%) disagreed (the remainder responded 'don't know' or 'other'). Levels of satisfaction differed slightly in those schemes managed by a managing agent (36% satisfied, 35% dissatisfied) and self-managed schemes (29% satisfied, 38% dissatisfied). However, levels of satisfaction were much lower amongst those who said that major capital works had been funded in their scheme by special levies, with 54% of these respondents saying that they were dissatisfied with the way in which their owners corporation or managing agent had budgeted for major capital works while only 22% were satisfied.

Emergency major repairs

It is obviously not possible to plan for emergency major repairs beyond ensuring that maintenance on the property is kept up to date to reduce the likelihood of their occurrence. It is, however, possible to ensure that there are sufficient reserves in the sinking fund to cover costs of emergency major repairs if necessary and to have insurance.

We asked survey respondents a series of questions regarding sinking funds. 91% of the survey respondents said that they were aware that there was a sinking fund in place in their strata scheme.

When asked whether they considered the funds currently available in their sinking fund to be adequate to cover the major repairs and maintenance required in their strata scheme, of 80 responses to this question (a large number of respondents skipped this question), 33% considered that their sinking funds were adequate, while 39% considered that they were not (with the remainder unsure). Respondents were asked to explain their answers to this question. Unfortunately only 33 respondents provided further explanations. Amongst those who said that they considered their sinking fund to be adequate (14 responses), the majority (9) said this was because there was a good sinking fund plan in place. Of those who said that they did not consider the sinking fund to be adequate (12 people), five said that this was because there was a shortfall in the sinking fund plan, while three others pointed to a shortage of funds to deal with currently required repairs.

We also asked respondents to estimate the current reserves in their sinking funds. Sixty-four respondents answered this question and the results are detailed in Table 15. From Table 15, it can be seen that (with the exception of a few outliers), the majority of 3-19 lot schemes had between \$1,000 and \$59,999 in their sinking fund; the majority of 20-49 lot schemes had \$10,000-\$99,999 in their sinking fund; the majority of 50-99 lot schemes had \$60,000-\$199,999 in their sinking funds; and the majority of schemes with 100 or more lots had upwards of \$200,000 in their sinking funds. Too much weight should not be placed on these figures. Without knowing the overall value of the building, or the complexity of the building infrastructure, it is not possible to put these figures in context. However, they do indicate a median sinking fund amount across the responses, increasing steadily as the number of lots in each scheme increase.

²² This was a multiple response question. The percentages are calculated from number of respondents (244), rather than number of responses.

Table 15: Current reserves in sinking fund reported by survey respondents

Reserves in Sinking Fund	Number of lots in scheme				
	3-10	11-19	20-49	50-99	over 100
Less than \$100		1	1		
\$101-\$999	1				
\$1,000-\$9,999	6	1		1	
\$10,000-\$19,999	6	5	2		
\$20,000-\$39,999	3	1	4		1
\$40,000-\$59,999	2	2	1		
\$60,000-\$79,999	1		4	1	
\$80,000-\$99,999		1	3	2	1
\$100,000-\$199,999		1	1	2	
\$200,000-\$299,999			1		1
\$300,000-\$399,999					2
\$400,000-\$499,999					2
\$500,000-\$999,999					1
Over \$1 million				1	1
Don't know	2	5	6	2	2

Building defects

When asked who would cover the cost of fixing defects present in their schemes, 21% of respondents said that the costs would be covered by the owners corporation (through a special levy, or through the administration or sinking fund), 19% said that the builder or developer would cover the costs (or that the costs would be covered by home warranty insurance), 15% said the owners corporation would take the builder or developer to court, and a further 6% said that the costs would be covered by insurance held by the owners corporation. In 5 cases, respondents indicated that the defect would not be fixed.

The operations of the administrative and sinking funds have been described in detail above. Here, we provide some information about home warranty insurance taken out by the builder, other insurances held by the owners corporation that might cover repairs to common property, and legal action that can be taken by the owners corporation against other parties to cover the costs of rectifying defects in their scheme.

The legislation in NSW regarding Home Warranty Insurance is quite complicated, as the rules and regulations surrounding this insurance have changed multiple times in the last decade.

Residential building work commenced or contracted before 1 May 1997 is governed by Fair Trading Administration Corporation (FTAC) Insurance. However, after 10 years from the commencement of residential building work, the Corporation had no liability to pay any more moneys under the scheme, unless notified within the 10 years. This means that there can no longer be any more claims against this scheme.

Builders undertaking residential building work that commenced or contracted between 1st May 1997 and 30th June 2002, with a value over \$5,000 had to ensure their building work with a private insurer for a period of seven years from completion of the work, or end of the building contract (whichever is later) under the *Home Building Act 1989* (NSW). This was a first resort insurance scheme, meaning that should a defect be discovered in a building within the seven-year period, the costs of rectifying that defect could be claimed from the insurer irrespective of whether the builder was still operating. This method of insurance was

changed after the liquidation of the HIH Insurance group and its subsidiaries (including FAI) on the 15th March 2001. The Government responded with the *Insurance (Policy Holders Protection) Legislation Amendment Act 2001* (NSW) which established the Building Insurer's Guarantee Fund, administered by the Building Insurers' Guarantee Corporation (BigCorp). BigCorp provided previous customers for HIH and FAI with insurance coverage.

After the collapse of HIH, the legislation regarding home warranty insurance changed again. For certificates issued between 1st July 2002 and 30th December 2003, builders had to hold private insurance for work and material of more than \$12,000 in value. The period of cover differed for different types of defects:

- Within 6 years from completion of works for structural defects
- Within 2 years from completion of works for general defects
- And for not less than 12 months after the failure to complete the work for non-completion of building works. (Ilkin 2007:278)

However, perhaps the biggest change was that insurance under this legislation became last resort insurance. That is, the insurance could only be called upon if the contractor (i.e. the builder) disappeared, became insolvent or died.

The legislation changed again on 31st December 2003. From this date, a home owners warranty certificate of insurance is no longer required for the construction (but is still required for the refurbishment or repairs) of a multi-story building of four or more storeys containing at least 2 separate dwellings. *This means that buildings with four or more storeys built since 2004, home warranty insurance is no longer required.* According to Ilkin (2007:279), the reasoning behind this change in the legislation is that houses can be built to three levels and because "the government concluded that builders who build more than three levels are typically builders with a proven track record of experience".

On the 19th May 2009, another change was made to the legislation with the introduction of the *Home Building Amendment (Insurance) Act 2009* (NSW). This change was in response to a Supreme Court decision (*Strata Plan 57504 v Building Insurers Guarantee Corporation* – decision no. 1022) made in late 2008, which found that "while s103B of the HBA [Home building Act] specified a minimum period of insurance cover, there was no limit on when a claim could be made, so long as the loss was incurred during a period of insurance" (Casey et al. 2009). This meant that insurance providers were left without a clear limit on their liability for claims, leading to fears that insurers may withdraw from the home warranty insurance market. This also caused concern regarding the support provided to homeowners insured by the insolvent HIH and FAI (Casey et al. 2009). The Amending Act makes it clear that a home warranty insurance contract does not provide open-ended coverage and clearly sets out the period of cover under insurance contracts. Despite this, in mid-2009, insurer CGU announced that they would no longer be providing home warranty insurance to new clients from 17th July 2009 and that they would not issue policies to existing clients after 30th November 2009 (CGU Insurance Limited 2009). Similarly, insurance group Lumley General also announced that it would aim to withdraw from the home warranty insurance market by 31st December 2009 (NSW Office of Fair Trading 2009).

If it is not possible for an owners corporation to have the cost of defects covered by home warranty insurance, the owners corporation may choose to take one of a number of parties to court and sue them for breach of contract or negligence. The builder, developer, architect, engineer, project manager, subcontractors or local government council may be sued by an owners corporation. Before seeking legal advice or taking legal action, Section 80D of the SSMA requires an ordinary resolution (51% of votes) to be passed at a general meeting (Ilkin 2007:212). One survey respondent indicated that this had not been the case in their scheme:

The executive committee has chosen to sue the builder and did not obtain owners authorisation for the legal expenses. (241)

There are a number of factors to take into consideration when deciding whether to take legal action against one of these parties. In particular, it is important to recognise that owners can be liable for the costs associated with the owners corporation taking legal action against another party. The following quote from the survey indicates the potential extent of such costs:

A claim against a developer (and its insurers) for defects identified soon after occupation went as follows... \$800k worth of legals spent to determine claim; \$300k spent on QS [quantity surveyor] assessing extent of defects QS provided range (in 2002 or so) that estimate of defects range between \$2.5m and \$4.5m to rectify. Unsure if inflation considered... Defendants demanded that all lot owners

be combined with the owners corporation so that only one claim is made. Owners corporation so obtained through power of attorney's etc. Executive Committee settled out of court on behalf of the owners corporation and all lot owners for \$2.2m in total. Meaning after costs already incurred, net \$1.15m to rectify QS estimated \$2.2m to \$4.5m (considerable shortfall). Presumably advised to settle by lawyers (based on risk that more could be spent on legals surpassing potential court awarded sum). (181)

The owners corporation may also choose to draw upon its own insurances to cover the costs of rectifying defects in their strata scheme. For example, an owners corporation may be able to draw upon their owners corporation damage policy. All owners corporations in NSW must insure their building and maintain insurance for the building under a damage policy with an approved insurer (Ilkin 2007:257, SSMA s. 83(1)). This damage policy can be either a full-replacement policy (where the insurer is required to pay the cost for rectifying the problem, or even re-building an as-new building) or an indemnity policy (where the insurer pays up to the amount of money specified on the certificate of insurance) (Ilkin 2007:259). Damage policies can also be extended to cover landscaping, changes in local council zoning restrictions or building regulations on reconstruction, accommodation of owners during reconstruction, and loss of rent by landlords (Ilkin 2007:260).

In summary, at present those who own a strata unit that was built in 2003 or before will either no longer be covered by their home warranty insurance or be very close to the end of the claims period. Those who own a strata unit that was built since 2004, which is in a building with up to three storeys can claim the costs of rectifying defects from their home warranty insurance where the builder has died, disappeared, or become insolvent. Otherwise, they may claim the costs from the builder or developer themselves or from their owners corporation damage policy. Those who own a strata unit that was built since 2004, which is in a building with four or more storeys will not have compulsory home warranty insurance, but can still claim costs from the builder or developer or their owners corporation damage policy.

4.4 Putting the planning into practice

The previous section provided a taste of some of the issues that were raised by survey respondents regarding challenges in the management of major repairs and maintenance in residential strata schemes in NSW. In this section, we unpack these issues further and outline some of the nuances surrounding the ways in which plans for the management of major repairs and maintenance are (or are not) put into practice in residential strata schemes.

This section is split into two parts. In the first, we organise our analyses around the four different categories of repairs and maintenance addressed in the survey. We present the survey respondents' satisfaction with, and experiences of, the management of routine maintenance, major capital works and emergency major repairs. Building defects are not specifically addressed in this section. In the second section, we focus on some of the main stakeholder groups involved in the management of major repairs and maintenance in residential strata. In particular, this pertains to the survey respondents' opinions regarding the role of the builder and/or developer of their scheme, the strata managing agent (where applicable), the building manager (where applicable), the executive committee and other owners.

4.4.1 Part 1: Dealing with maintenance and repairs

Dealing with routine maintenance

When asked whether they had any concerns about whether routine maintenance was being carried out often enough, or to a high enough standard, in their scheme, there was an almost 50/50 split in responses (46% said yes and 49% said no). Those people who owned lots in self-managed schemes (without a strata managing agent) were more likely to say that they did not have any concerns (62%), although there were only 21 respondents from self-managed schemes and so these differences should not be given too much importance. The responses to this question did not differ significantly for those schemes that had a building manager and those that did not.

The most common causes of concern regarding routine maintenance was a lack of planning, including a lack of pro-active leaders to carry out this planning and a practice of crisis management (only addressing something when it breaks) (over 30 responses).

The EC has not the time, skills or motivation. (90)

All decisions are made on the basis of upfront cost not long term solutions. (148)

The next most common cause for concern was the visibly poor standard of common areas (more than 25 responses).

Same rubbish still laying around since we moved in, almost 12 months ago. Playground [is a] mess and needs some fences around it. Undercover area timber decking rotten some pieces missing. Rising Damp. Nothing ever been done [I've been] told [by] others. (186)

Roof leaking, guttering leaking, [I've been] trying for years to have these and other things fixed. Please Help. (217)

We were without a gardener for months; I've never seen the gutters cleaned; electrical work was not being done satisfactorily, although electrician told me that they had quoted on various problems reported. They had allowed one owner to run the complex, and never challenged her ... It was a far too incestuous arrangement. Now she's gone, they've been reluctant to co-operate with existing owners to ensure that adequate maintenance etc. is done. (220)

Another common concern was the poor standard of work that had been completed, including concerns about the lack of quality control (over 25 responses).

Many tradesmen are poor and unreliable. Strata is seen as a soft touch because of the poor managers and ignorance of the owners. These multistorey buildings have a great deal of technology and the tradesmen are struggling, manuals are few and far between, builders are allowed to depart without imparting necessary information. The law in general is clear, but enforcement in a practical way is impossible. (94)

Other causes for concern included infrequent maintenance being carried out in schemes, insufficient funds to pay for this maintenance and a lack of information available to owners regarding the maintenance of their scheme:

Routine maintenance is becoming expensive because of the age of the block and the 10 years of under-investing. The standard of repairs is not in question the issue is the length of time and effort it takes to get the commitment from the owners. (154)

We also asked those survey respondents who said they were satisfied with the way in which routine maintenance was carried out in their schemes to explain why they were satisfied. Beyond noting that the general state of their strata scheme was good and the fact that they were themselves personally involved in the management of routine maintenance, common responses to this question included the existence of an active executive committee, a contactable and responsive strata managing agent and/or building manager, a regular maintenance schedule, good financial planning and the availability of funds for maintenance, good reporting practices and the availability of information regarding regular maintenance and good contractors.

We have a strong executive committee who are proactive and work with the Agent and Site Manager to ensure problems are identified and repairs before they become a bigger problem. (37)

Unlike many buildings, we have a plan of annual general maintenance, plus we survey the building on a routine basis and carry out repairs against the budget. (83)

Since we had a new building manager (two years ago), we have been creating an asset register, contracting suppliers and a [preparing a] building operations manual. Whilst we are still finding a few surprises, our planning, budgeting and carrying out routine maintenance is considered adequate (for our accepted cost/benefit/risk profile). (243)

[A] maintenance review [is] carried out by third party on behalf of Strata Manager. Long term plan with budgeting of cost included. Maintenance will be covered by raising strata fees as opposed to special levies. Regular maintenance of the interior and exterior has been carried out during the last 8 years that I have owned my unit. (67)

Dealing with major capital works

When asked whether they had any concerns about the way in which major capital works are managed in their strata scheme, almost half of all survey respondents (49%) said yes (see Table 16). Responses did not differ significantly for those respondents in a scheme with a strata managing agent and those in self-managed schemes.

Table 16: Concern of survey respondents regarding the frequency & standard of major capital works

	Count	Percent
Have concerns	119	49%
Do not have concerns	91	37%
Don't know	34	14%
Total	244	100%

Besides stating that major capital works were required in their schemes (and were outstanding), the most common (15 or more responses each) reasons given by survey respondents for their dissatisfaction with the way in which major capital works have been dealt with in their schemes were inadequate assessment of the works required in their scheme and the costs of those works, insufficient funds being available to undertake those works and a poor standard of work being undertaken where works were completed:

No plan, no budget, no scope of works, work was carried out without the local Council's approval ... The work was not put out for an open tender. (221)

The regular levies do not cover this cost so current owners must now bear the cost of degradation of the building due to long term neglect. (215)

It has been identified that the roof requires replacement and the owners refuse to acknowledge this. My unit is suffering from major water leaks and they engaged an unlicensed contractor to repair the roof and it was found that they only painted it. (212)

Other concerns included insufficient consultation with owners; failing to get sufficient quotes or providing a transparent tendering process; the continued involvement of the original owner leading to minimum works being undertaken; and poor record keeping and a failure to follow procedures set out in the legislation (5 or more responses each).

These major works are not communicated to the owners. When they are discussed at the meetings and noted in the minutes, there is nothing after the fact. I never know if these works have been carried out or not. (231)

External guttering and downpipes and garage doors painted several years ago. This done without proper procedures being followed - i.e. meeting, agenda item, discussion re contracts, prices, colours etc...the old girl who "runs" it did a "ring around". I found out when it was actually happening, metal work not scraped back and primed properly, rust appeared within a couple of months. No willingness for proper exploration of options from professionals, no full report prepared for consideration of all owners. (134)

Major capital works are subject to the influence of the original owner who is strident in his position that levies must always be low. My view is that he wants the warranty to expire to avoid any works that are legal defects and leave those to the owners. (161)

The OC and managing agents go into denial until impossible to ignore any more. Ongoing complaints over the years are not minuted, so no record is available to ordinary owner/investors who rely on these for information. (220)

Those respondents who said that they did not have any concerns about whether major capital works were being carried out often enough and to a high enough standard were asked to further clarify their responses. A number of respondents said that their personal involvement with the management of capital works led them to respond that they were not concerned. Other respondents said that effective budget planning had ensured that there were sufficient funds available to pay for major capital works. Beyond this, a common reason (over 20 responses) for a lack of concern were the existence of an active executive committee, who in many cases had a good relationship with an active strata managing agent, and in some cases also with a building manager (or building management team).

We have an active executive committee who work closely with the strata manager and the on-site manager. (89)

Crucial is an adequate budget to fund major capital works, combined with an actively involved and functional owners corporation, a helpful and informed strata manager who knows strata law in relation to common property issues, a cooperative caretaker and good communication and goodwill between all these parties. (80)

Another important reason (over 10 responses) for being satisfied with the management of major capital works was having sought, and acted upon, expert advice (for example, from a quantity surveyor) regarding current and future major capital works needs:

An independent report was undertaken on the sinking fund in line with the expected building works required in the future and budgets set to ensure all major capital works can be catered for. (37)

Dealing with emergency major repairs

While emergency major repairs themselves cannot be planned for, the extent to which routine maintenance and major capital works have been carried out successfully will influence the number of emergency major repairs a particular scheme will need to deal with. Also, those schemes with adequate sinking funds and good management structures are more likely to be able to deal with emergency major repairs satisfactorily. It is for these reasons that a discussion of emergency major repairs is included in this section.

When asked how satisfied they were with the way in which emergency major repairs had been dealt with in their strata scheme, 37% said they were satisfied and 35% dissatisfied. Levels of satisfaction appeared to be higher for self-managed schemes (48%) than schemes managed by a strata managing agent (36%). However, as the number of respondents owning lots in self-managed schemes was relatively low (21), this figure should not be seen as definitive.

The most common reasons for dissatisfaction with the way in which emergency major repairs were dealt with was that repairs either were not made at all, or took a very long time to be repaired:

Roof still leaking and guttering still leaking and other problems too been trying for years to have them fixed. (217)

Reported in June and works not completed by Christmas! (97)

Respondents were also displeased with the information provided to owners and the lack of consultation with owners regarding emergency major repairs:

There is no communication from the Agent as to when the repairs will be carried out nor is there follow-up afterwards to ensure that the job carried out is satisfactory. It takes a couple of days before the repairs can be assessed in most instances. (231)

Repairs have been undertaken without transparency in this scheme, sometimes by the original owner himself who then charges the owners corporation for his time. I find this quite unacceptable. (161)

Concern was also raised regarding the effectiveness of both the strata managing agent and the executive committee in managing emergency repairs:

The insurance company allocated \$800,000 per unit for major repairs to floors etc. Under mismanagement of funds, costly and unneeded changes to scope of works accepted by the insurance company [which were made] by the body corporate, short cuts have had to be taken resulting in shoddy work. (109)

As the owner of the unit I had to organise the work myself. The strata title people visited twice and only under duress. (52)

Other concerns included a poor standard of work being undertaken and a lack of monitoring of, or follow-up on, the works undertaken:

Exec committee messed around going for cheaper option that didn't work and needed to spend more money to fix. (64)

I believe that many of the defects repaired by the builder are minimal solutions that will not stand the test of time. Indeed several of the repairs have already failed including one concrete edge section of a balcony that has dislodged and fallen to the ground for a second time due to poor adherence to the concrete section behind. (209)

The money paid is gob-smacking, however the work is not checked. (224)

No follow-up of emergency work is undertaken by Strata Management. (202)

Finally, receiving payment from the owners for the costs of the emergency major repair was seen as a problem in some cases:

There was always long delay in major repair and most of the owners / Executive Committee members who do not [get] affect[ed] by the emergency problem always try to ignore the problem. (22)

They [emergency repairs] take too long and are too expensive. None of them involve my unit, but they drain the sinking fund and therefore necessary capital works and maintenance (which would benefit my unit) need to be delayed year after year. (156)

4.4.2 Part 2: Different stakeholders

It is clear from the above discussions that there are a number of stakeholders involved in the management of major repairs and maintenance in residential strata title properties in NSW. Such stakeholders include (but are not limited to): builders; developers; real estate agents; (resident and investor) owners; the owners corporation and its executive committee; tenants; strata managing agents; (resident and non-resident) building managers and caretakers; contractors; and professional consultants (such as quantity surveyors, engineers, lawyers). We will now focus on comments made in the surveys regarding the involvement of some of these stakeholders in the management of major repairs and maintenance in strata schemes. These are the developer and/or builder of the strata scheme, the strata managing agent, executive committee members, and owners who are not members of the executive committee.

Original owner

While the survey did not ask specifically about any continued involvement of the builder or developer in the strata scheme, besides asking about building defects, some survey respondents referred to the continued involvement of the builder or developer in their scheme in answer to a number of the survey questions. In particular, some survey respondents were concerned that the builder or developer held control of their strata scheme through maintaining ownership of lots and did not act in the best interests of other owners:

The builder/developer still owns 50% of the units and has blocked putting a claim in for home warranty...Builder lives on the property and is a bully. [He has] taken over the common storage area and harasses any tradesmen or the cleaners. (106)

The developer still owns most of the strata entitlements, and therefore controls the owners corporation, and therefore controls the strata management company. It's in the interests of the developer (i.e. the owners corporation) to pay as little in strata fees as possible, resulting in little effort from the strata management company. This results in under-management. (13)

We have a current home warranty insurance policy but the developer/builders blocks everything we try to do to make a claim. He wants his mates to come and give a structural report and do in-house examinations for defects. We are going to the OFT and then the CTTT. (106)

After many years, the developer still has majority voting rights and control so we are continually 'fighting' to get things done properly or for the right price - quotes seem overpriced (with his mates) but we cannot out-vote. (121)

The individual owners are happy to pay more to enhance the value of their properties. The majority owner (the developer) isn't keen to pay anymore, and underfunds the strata management agent. (13)

Concern was also raised that those responsible for managing strata schemes were working in the interests of the builder/developer, rather than the interests of the other lot owners:

The executive is 'controlled' by nominees of the developer and sets the agenda, and generally overrules concerns about repairs or upgrades performed by the Developer under warranty. (17)

I believe the agent has not been looking after the property which involves getting the developer to fix major problems because he has three other properties with the developer and is looking after his interests. (73)

The strata managers were appointed by the developer (original owner) and we do not have enough voting rights to change strata managers, although we have tried at several AGMs. (121)

Similar concerns were identified in the Governmental discussion paper *Improving the NSW Planning System* (NSW Department of Planning 2007). Some of the recommendations made in this paper were subsequently addressed in the *Strata Management Legislation Amendment Act 2008* (NSW). In particular, this act states that an original owner or somebody connected with the original owner cannot cast a vote by means of a proxy or power of attorney that was obtained as a term of the sale contract for a property (schedule 2, 7AA). It also states that any person who is connected with either the original owner or caretaker (as defined by the Act, and including a building manager or resident manager) of a strata scheme is not eligible to be elected as a member of an executive committee unless they disclose that connection at an owners corporation meeting at which the executive committee is to be elected and before the election takes place (schedule 3, 3A). There are also regulations covering the procedure to be followed if a person who is connected with the original owner or caretaker wishes to act in the place of an executive committee member, and if a person

becomes connected with the original owner or caretaker after having been appointed as a member of the executive committee.

Further, if a motion is proposed to determine if a person should vacate their office on the executive committee, the legislation has been amended so that the original owner has only one vote for every three lots they are entitled to vote in respect to, unless the original owner owns less than half of the lots. Also, the original owner cannot use any proxies to vote on this motion (schedule 3, clause 4(4)). In effect, this means that if the original owner owns six lots in a scheme of nine lots, they only have two votes, while each of the remaining three lot owners have one vote each, making it much easier for owners in a scheme in the majority ownership of the original owner, to vote the original owner (or a company nominee) off the executive committee.

Finally, the 2008 Act also allows for individual owners to request that an inspector from the Office of Fair Trading enter and inspect the common property in their scheme, without having to go through the owners corporation (as was the case previously). This means that if the original owner does hold control of the executive committee and/or the owners corporation, they are no longer able to block owners from notifying the Office of Fair Trading of a dispute regarding the rectification of defects, for example, and an Office of Fair Trading inspector can inspect the common property at the request of one lot owner.

The comments from survey respondents reproduced above provide evidence that such changes in the legislation were certainly necessary and timely. Hopefully these changes in the NSW legislation will go some way towards addressing the concerns of strata lot owners, such as those identified above. However, one survey respondent indicated at least one situation where these legislative amendments have been circumvented:

Many owners are not satisfied that the developer is collecting and ensuring the money is used correctly, prices are correct, quotes are fair etc. After 5 years still being under original owner control we are at wits end (note: the original owner was the trustee of a trust. By changing the trustee - although the beneficiary is the same person the original owner restrictions on voting no longer apply). (121)

Strata managing agent

Of those people who owned a property in a scheme with a strata managing agent, almost half (47%) were dissatisfied with their manager's treatment of major repairs and maintenance issues. By far the most common complaint about strata managing agents in regards to the management of major repairs and maintenance was that the manager did not provide the executive committee and/or the owners with sufficient information and that they did not respond to requests from owners and/or the executive committee for that information.

We have had little help, assistance or sound advice [from the strata managing agent]. (192)

The managing agent seems to have total control of all body corporate activities and is very slow to act on carrying out repairs and maintenance. Owners and executive are continually shut out of the process by the managing agent. (232)

Strata management agent does not take time to explain and listen to what the owners of the unit would like to do. Manipulates executive board members and shows favouritism towards some owners. (245)

As noted above, concern was also raised by a number of respondents about the managing agent's relationships with the developer or builder of the scheme. In addition, concern was raised about the relationships of strata managing agents with service providers and with particular owners in the scheme, which were seen to influence their management decisions.

[There is] no apparent tendering for major repairs and maintenance works by [the] strata manager [and] no apparent arms length between [the] Strata Manager and major repairs and maintenance works service providers. (202)

The strata manager acts to support those owners who brought the business to them. (34)

In those schemes that had a strata managing agent, where it appeared that the managing agent was taking on the responsibility for the management of major repairs and maintenance, a common complaint related to the time it took them to organise repairs or the fact that they did not make required repairs at all.

Urgent maintenance issues drag on and on, with no real commitment to getting repairs done, in breach I'm sure, of duty of disclosure to [the] insurance company. They would not re-insure with slippery stairs etc. (220)

However, a few respondents noted that the ability of the managing agent to effectively act on major repairs and maintenance issues can be constrained by others:

While I would like to see quicker responses to repairs, some of the problem lies with the slow action of executive committee. (136)

There is nothing they can do to force the owners to vote for works to be undertaken. (173)

Other respondents had had positive experiences with their managing agent:

Any fault will be reported and fixed right away. Managing agent will respond to residents' enquiry as soon as possible and that makes me feel that they do really care and put our interest and concern on first hand. (68)

Executive committee

Levels of satisfaction and dissatisfaction with the owners corporation's treatment of major repairs and maintenance issues were very similar, with 44% being satisfied and 42% dissatisfied (with the remaining 14% being neither satisfied nor dissatisfied). However, it is important to keep in mind that a large proportion of survey respondents had been, or were currently, on the executive committee of their owners corporations. People who had been, or were currently, members of their executive committee were more likely to answer that they were satisfied with the treatment of major repairs and maintenance (49%) than those who were not (30%). However, levels of dissatisfaction were similar between the two groups (39% and 44% respectively); with more non-executive committee members answering that they were neither satisfied nor dissatisfied (21%).

Ninety-four survey respondents said that they were dissatisfied with their owners corporation's treatment of major repairs and maintenance issues. The most common complaint was that it took the owners corporation too long to attend to agreed or required repairs and maintenance:

The time taken in responding to the need for work and the inconsistency in prioritising work. (177)

Another common concern was with the lack of communication between the executive committee and other owners and a lack of transparency in the actions of the executive committee:

Basically no communication as a policy. We found out about the painting when the painters climbed onto our balcony and [were] looking into our bedroom. We found out about the clothes line paving when we went to hang our clothes, and couldn't. (71)

Complete lack of ongoing information on status of [the] budget to owners. (166)

Executive committee runs the show and dictates the priority of repairs. There is no consultation with the owners, no due process...the owners are sheep. (180)

Individual Owners have very little say in regards to major repairs, often prepared in complex documents, the nature of it and the significance was not explained to owners. The decision was made most often by members of the executive committee. (62)

In some more extreme cases, people complained of harassment either by the committee as a whole, or by an individual:

Real safety issues were ignored/deferred and there seems to be an appalling understanding of duty of care. Intimidation of any challengers to their attitude. Total lack of understanding of urgent repairs. (220)

One owner has taken control of all maintenance issues, arbitrarily and vindictively approves or rejects legitimate maintenance requests and harasses tenants and managing agents. (148)

Other concerns regarded inappropriate spending. Some owners complained that money was being spent on non-essential upgrades to the property:

The owners corporation ... embarked on a major project without working out a budget, [or] a scope of works 8 years ago. They are overcapitalising on the building by buying extremely expensive tiles, fittings for instance. (221)

Others complained that not enough quotes were received for work, or that the executive committee had entered into arrangements with contractors in which costs were not previously specified:

[Executive committee has an] open ended do and charge arrangement without a contract or scheduled rates. (153)

In addition, six respondents noted that the original owner still held control over their development and that major repairs and maintenance issues were not being dealt with appropriately as a result:

The builder/developer still owns 50% of the units and has blocked putting a claim in for home warranty. Builder unlicensed/uninsured. Builder lives on the property and is a bully. (106)

Disputes between owners

The survey also asked whether respondents were aware of any problems or disputes between any owners and the owners corporation related to the management of major repairs and maintenance.

Table 17: Existence of problems or disputes between individual owners and the owners corporation related to management of major repairs and maintenance

	Count	Percent
Yes	115	47%
No	129	53%
Total	244	100%

As can be seen from Table 17, almost half of the survey respondents answered yes to this question. The figures were very similar for those respondents who owned a lot in a scheme with a strata managing agent (48%) and those in schemes managed by the owners corporation itself (43%). There was no obvious trend towards owners in larger schemes being more or less likely to note disputes, with the figures varying between 44% and 55% of respondents noting that there was a disputes in schemes with different numbers of lots, with the exception of 50-99 lot schemes (where the figure was 35%²³). Those respondents who said that they were aware of disputes were asked to describe the nature of these disputes. These disputes can be divided into three main categories: problems with the conduct of the executive committee; problems with the conduct of individual owners; and disagreement with regards to appropriate standards (and costs) of repairs and maintenance. These will be addressed in turn.

Problems with conduct of EC

Several respondents were aware of disputes between owners and the executive committee as a result of the executive committee not meeting its obligations, including not having correct documentation, failing to inform owners, and failing to get sufficient quotes for works to be undertaken.

Several owners are in dispute with execute committee also the managing agent regarding lack of repairs and funding, poor maintenance and executive not being aware of their obligations. (113)

My Strata Plan is run internally, but the Secretary and Treasurer have no idea of the Strata rules. When one Villa owner wanted to buy a small part of common property, The Secretary sent around a note with a "Tick a Box" asking owners to tick if they wanted to sell the small part of common property. A general meeting was called and I pointed out the procedures that had to be followed. A Committee is elected, but Committee meeting are never held. All we have is an Annual General Meeting. If we ask questions, we are considered trouble makers. (196)

The executive committee is suing the builder without lot owner authorisation. I have filed a complaint with the tribunal. (241)

The executive committee will not publish how it arrives at its 10 Year plan/sinking fund estimates...a lot of owners are in the dark...so they hand over proxies to the executive committee. (180)

External painting of the building is needed and strata management has only organised one quotation for a major expenditure which is unacceptable.²⁴ (245)

Other disputes were of a more personal nature, with four respondents complaining of favouritism and harassment on the part of the executive committee:

²³ However, there were only 20 respondents in this group.

²⁴ This respondent owns a lot in a scheme of only 7 lots, so this is not contrary to legislative requirements.

Executive committee control [the] owners corporation, and 'look after' their own. (238)

Executive committee and strata agent do not understand their responsibilities/requirements of legislation/meeting processes - so management is by bossiness, period of residence etc. And short of an individual suing an executive committee or strata agent, this is unlikely to change. (59)

Problems with conduct of owners:

Problems were also identified with the conduct of particular owners, especially owners interfering with the work of builders on site, and owners attempting to claim moneys from the owners corporation for improvements to individual lots:

Contract for remedial building works in existence between remedial building company and owners corporation specifically states that individual owners may not give orders to the builders as to how the work be carried out or scheduled. Two owners have breached this. Formal action has not been taken by the builders at this stage but their patience with difficult and demanding owners is wearing thin. (46)

Recently a resident owner found out the treasurer had work completed in their unit for \$2k. It was obviously an improvement and not a repair and did not go through the executive committee for approval. This person is now no longer the treasurer. (9)

Some respondents owned lots in schemes where owners were taking (or threatening to take) legal action against each other and/or against the owners corporation:

One owner threatening to sue the owners corporation if balcony works not carried out. Another owner threatening to sue [the] owners corporation if further balcony works are not carried out. Another owner suing me (Chairperson) for defamation. (150)

Malicious and vexatious letters and e-mails being sent to owners to slander those endeavouring to improve building - to the extent of legal action. Non resident owners are confused and do not know what to believe. (173)

As well as concern for the conduct of owners, concern was also raised about the *lack* of action on the part of owners:

Most people seem to be oblivious of the requirements to maintain any property especially units, they don't like to plan and they often don't like to be involved in actions or decision making. Plus they don't like to contribute. (83)

There are three residential towers a commercial and local government area that are part of the development. The building management committee meets irregularly and lines of communication between the building management committee and executive committees are poor. There is a general reluctance of owners to become involved in management, exacerbated by linguistic and cultural differences and in the case of the building defects claim the executive committee of one residential tower refuses to be involved in the claim and will not respond to requests, communications or attend meetings. (58)

Disagreements regarding appropriate costs and appropriate standards

Thirty-two respondents noted disagreements in their schemes regarding whether particular major repairs and/or maintenance needed to be undertaken:

I had to take legal action to undertake repairs to common property. They still have not been rectified satisfactorily. This has been ongoing for many years. (212)

In some cases, inaction while such arguments were taking place led to further damage to property:

Arguments about a roof repair, which in the meantime damaged owner contents. Owner was forced to claim on personal contents insurance. (214)

Another recurrent (28 cases) concern was disagreements between owners and the executive committee regarding appropriate costs and standards for major repairs and maintenance.

An owner (now departed after selling his townhouse) gathered a number of owners and vetoed any attempt to raise levies to attend to major works. There was shouting and bullying at meetings. (211)

Indeed, when asked to comment on the attitudes of other owners in their strata scheme in regards to contributing funds to major repairs and maintenance, a common response was that there were different types of owners in strata schemes, who often had conflicting attitudes regarding appropriate costs and standards of major repairs and maintenance.

Guilding *et al.* (2003) have discussed this situation in the context of tourism-based developments in Queensland, noting that investor owners are more likely to want to keep their payments down than owner occupiers, who enjoy the amenity provided in their scheme first hand. Some of our survey respondents made the same point:

The investment owner is very much against putting up the levies - the other investment owner doesn't even come to the meetings, the resident owners are much more focused. (51)

Currently 50% live on Strata - this was just below 30% a few years ago. Investors tell Agent to keep costs down. (103)

Other survey respondents noted that the willingness to pay higher levies may depend on the length of time owners are expecting to hold onto their properties, indicating that speculative investors or owner occupiers intending to sell and move to another property in the short-term will be less likely to want to pay higher levies for repairs and maintenance that may not occur for many years:

Funds for future major repairs and maintenance are collected from current owners. Some current owners don't intend to hold the property for the long-term, so are reluctant to invest now for something they may never see the benefit of. (168)

People who intend to stay in the building longer term are more likely to see the need for contribution of funds towards possible future repairs. (168)

Other respondents pointed to differences between newer (and younger) owners within a scheme being happier to contribute towards the costs of major repairs and maintenance than those owners who had been in the scheme for many years:

Some new owners are more happy to make contribution to address the problems. Those owners live in the complex for over 15 years always disagree with increasing levy / special levy. (22)

[Other owners are] extremely reluctant. [I] always assumed that people would act with rational self-interest in these matters. Turns out there's a lot of self-interest but not a lot of rationality. Older residents (who were not so long ago paying \$100 a quarter in strata fees) have reacted very angrily to the need to raise money for essential repairs such as remedying sagging roofs, repairing cracked concrete on driveway, installing childproof fences (near water) etc. Most seem not to understand that there is not a money tree at the bottom of the garden. (128)

5. Availability & Comparability of Repairs and Maintenance Data

The executive committees of strata schemes in NSW maintain a number of records. They are required under the legislation to keep their receipts (consecutively numbered), a passbook, a deposit book or a statement of deposits and withdrawals in chronological order; a cash record, and a levy register (Ilkin 2007:248). They may also keep other records pertaining to repairs and maintenance costs, such as an assets register and depreciation schedules (Raff 2009:111). The difficulty is that while these records should be kept by all executive committees in NSW, they are not necessarily kept in the same format and there is no central repository of this information. Furthermore, even within one scheme or when two schemes keep their records in the same format, the recording of detailed repairs and maintenance cost data may vary depending on the individuals keeping those records. Where one person might schedule works and label these 'concrete cancer rectification', another might label these 'structural repairs' for example.

Short of requesting or requiring executive committees to register their actual and expected expenditures on major repairs and maintenance in a central database using a standardised pro-forma, there appears to be no way to access a complete sample of major repairs and maintenance costs and budgeting practices.

However, it may not be necessary to have such a universal database if the aim is to provide some 'typical' costs of major repairs and maintenance issues. As part of this research, we examined the possibility of collecting cost data regarding major repairs and maintenance from strata management firms in order to assess the relative availability and comparability of such data from this potential source.

We contacted twenty-eight strata management firms to invite them to participate in the study. We wished to ask them about the types of information they keep on maintenance and major repairs, the form in which this information is recorded and how easily the data can be accessed electronically. Three companies were able to provide us with such detailed data in confidence on major repairs and maintenance at the block level (as well as copies of their accounting codes). It was difficult for strata management companies to provide us with this data as in most cases permission had to be sought from the individual owners corporations to release this detailed data.

While this small data set is insufficient to determine any trends in major repairs and maintenance costing, it did prove very informative in terms of the different ways in which this data is collected and reported and allows us to make some preliminary conclusions regarding the potential for analysis of larger datasets if these were made available.

The three companies are of different sizes. Company A manages less than 100 strata schemes, Company B manages less than 1,000 strata schemes and Company C²⁵ manages more than 2,000 strata schemes. Each records their major repairs and maintenance data in different ways.

While there was some overlap, in general the accounting codes used by strata managing agents to record major repairs and maintenance costs differed for each company. For example, the accounting codes that are used for doors, windows and locks by each company are listed below in Table 18.

²⁵ The company names have been removed to preserve their anonymity.

Table 18: Comparison of accounting codes relating to doors, windows & locks between three strata management companies

Company A		Company B		Company C	
Admin fund	Sinking fund	Admin Fund	Sinking fund	Admin fund	Sinking fund
Window repairs	Windows & doors	Maintenance – locks & doors	Doors & windows	Doors & windows	<i>Data not available</i>
Doors, locks, keys				Cleaning – carpet / windows	
				Key refunds	
				Locks & keys	

Although these accounting codes are similar, the fact that they are not identical means that any comparison between these agencies' data would first require a system to retrospectively standardise the accounting codes across all strata managing agencies.

Further, each of these three strata managing agencies uses a different software package to keep their records. Indeed, there are a number of strata management software packages currently on the market (see Table 19 for a list of some of these) and some management agencies operating in NSW have also developed their own software in-house. This is important, because it may be possible to negotiate with such software developers to include a module in their software to allow people who use that software to download key information into a standardised format. However, because of the number of products on the market, this would need to be negotiated with each software company. Further, even when software programs have standard accounting codes within them, they also offer the option for the client to add additional accounting codes as they see fit, and this would also have to be allowed for in any standardisation procedure.

Table 19: List of existing Australian strata management software packages

Software name	Company / Distributor
StrataMatic	Aussie Made Software
Stratware	Mystrata Pty Ltd
GeeDee	GeeDee Realty Systems
STRATA Master	Rockend
Strata Manager	MultiArray
Westlogic Strata Management Software	Westlogic
VisionBCM	Vision Software
Axis Strata Manager - Body Corporate Management	Axis Software

In summary, the data currently available on maintenance and major repairs at the block level is difficult to access due to confidentiality concerns. Where that data can be accessed, it does appear to be detailed and comprehensive. However, there is no standardisation in reporting requirements between strata managing agencies. Furthermore, while this data is generally recorded electronically, it is recorded in a number of different formats using different software packages. This means that automated comparisons between the data held by different strata managing agents is impracticable, at least without extensive retrospective re-

coding of accounting codes. In short, there are three major challenges to the comparison of repairs and maintenance financial data between schemes managed by different managing agents:

1. Access to data itself is difficult as consent is required from each owners corporation.
2. There is no standardisation in the accounting codes between different strata management companies.
3. Different strata management companies use different software to manage their maintenance and repairs data.

However, this is not the only possible source of information on major repairs and maintenance costs in strata properties. There are a number of other sources of data on these issues – executive committees of individual schemes, building managers, as well as companies providing building audits, sinking fund plans and remedial works to residential strata properties. For example, Partridge Partners, a Sydney-base firm of structural engineers, provided us with some examples of typical costs that could be collected (see Table 20).

Table 20: Estimated costs of repair or rectification of different types in hypothetical situations around the greater Sydney region (based on data from Partridge Partners)

Repair type	Age of building	Size of building	Location of building	Cost breakdown	Total cost
Replacing a defective roof membrane	Newly built	8 storeys, 50 apartments	Inner Western Sydney	Assuming 6 units per floor & 100sqm per unit = 600sqm roof @ \$200 per sqm, plus concrete cancer & flashings repair @ \$30,000	\$150,000
Replacing glass balustrades (due to inappropriate design)	Newly built	10 storeys, with 50 apartments	Northern Beaches, Sydney	Assuming 1 balcony per apartment = 50 balconies @ \$3,000 each (or \$5,000 for cantilevered glass)	\$150,000 or \$250,000 for cantilevered glass
Re-tiling all bathroom due to buckling of original tiles	3 years old	3 storeys, 10 apartments	Eastern Suburbs, Sydney	Assuming 15 bathrooms @ \$4,000 each, plus \$15,000 remedial make good	\$75,000
Fixing a number of cracks to external wall	6 years old	5 storeys, 20 apartments	Northern Suburbs, Sydney	Setup, access scaffold & partial re-built	\$100,000
Replacing 2 lifts	15 years old	20 storeys, 150 apartments	Sydney City	2 lifts @ \$150,000 each	\$300,000
Waterproofing of a building experiencing water penetration from the exterior walls as a result of failure to re-paint walls	Over 20 years old	2 storeys, 6 apartments	Western Suburbs, Sydney	External recoating of façade & make good	\$60,000
Remedying concrete cancer	Over 40 years old	8 storeys, 50 units	Northern Beaches, Sydney	Assume 10 badly damaged @ \$30,000 & remainder strip magnecrete & re-level 40 @ \$8,000	\$600,000

Information presented in this table was gratefully received from Nick Joannides at Partridge Partners

In the light of this, we propose three possible avenues for further consideration for the collection and collation of repairs and maintenance data.

1. One solution is to identify a series of property 'types' by age, size and location using the strata database held by the NSW Department of Lands. Companies that undertake building audits and sinking fund forecasts could then be approached and asked to provide information about typical components within each property type (e.g. existing components in the building and types of material likely to have been used in construction). Typical costs for the associated repairs and maintenance of these items for different property types could then be provided, through advice provided by these same companies supplemented by reference to construction cost reference books such as *Rawlinson's Australian Construction Handbook (2009)*. Typical costs for repairs and maintenance could then be attributed to these property types. This would provide valuable information to owners, building managers and strata managing agents about the types of problems their building might experience, and how much they should expect to pay to rectify these problems (and whether they are being charged a reasonable rate). It would also provide a very valuable database to the NSW government to enable policy decisions to be made around the need for policies to address particular issues of concern. At the same time, this would not raise any privacy issues relating to the use of information pertaining to any particular property, as the property types would be hypothetical. Further, this process would not jeopardise the businesses of sinking fund forecasters and auditors, as many individual schemes would still choose to obtain estimations tailored to their particular scheme. Examples of businesses and organisations that might be approached to assist with this process are ArchiCentre (the building advisory service of the Australian Institute of Architects), companies specialising in providing building audits and sinking fund forecasts, companies operating in residential facilities management, and architecture and structural engineering companies specialising in this area.
2. A second option is to approach strata management software companies to assist in the collation of cost data from those agents who use their software (as discussed above). However, there are confidentiality issues that would need to be addressed here as the data obtained would relate to particular properties (rather than being indicative costs as the option above suggests). It is expected that the NSW government would need to act as a broker for arranging access to this information to ensure confidentiality concerns were addressed adequately. This process would provide more accurate data on repair and maintenance types than the first option, and would allow for more detailed analysis to be undertaken beyond a handful of typical housing types. Further, once this system was set up, it would be automated, allowing for this data to be collected automatically for a number of years. However, the process of setting up such a system would be very time consuming, not least because of the need of standardisation across at least eight commercially available strata management packages as well as an unknown number of in-house packages and information collection in other forms such as on paper or in Excel spreadsheets. Further, this method would not take into account data from those schemes that do not have a strata managing agent. Anecdotal evidence suggests that self-managed scheme make up a significant proportion of all strata schemes.
3. The most expensive and time consuming option, but also the most accurate option, for the collection of repairs and maintenance data would be to provide the executive committees of all strata schemes with standardised forms (pro-forma) in which to keep their records. Actual costs, future estimations and budgets could then be stored in a central database, which could be held by a government department. The benefits of this system would be that this would provide a complete database of repairs and maintenance issues and costs across the state. However, there would be a number of challenges to consider in implementing such a system. First, funding this exercise would be very expensive not least because of the staffing hours that would be required to provide support in filling in these pro-forma. Further, if one standard system were brought in, then the software currently used to record this information would have to be adapted (including commercially available strata management systems, in-house systems and paper-only systems). One option might be to make this process opt-in, rather than mandatory. However, the authors would caution against this approach as it is foreseeable that this would lead to a greater number of pro-active and better managed schemes choosing to participate, thereby potentially concealing the problems of those schemes with poorer management.

6. Discussion

This section discusses some concerns that are beyond the scope of this research, but which will require further consideration in any coordinated approach aimed at improving the condition of the strata stock in the longer-term. While the need for major repairs is strongly related to the level of maintenance, repairs and capital works that a building has received throughout its life, it is also related to the design and construction process of a building. This issue was made apparent by the comments of survey respondents regarding defects in their buildings that had existed since the time of construction. There are a number of factors that can contribute to defects in a building. These include certification of component parts, training and management of contractors and subcontractors and the potential knock-on effects of cost-cutting imperatives during development.

In NSW, building work must be certified to ensure that the works carried out comply with councils' conditions of consent and building standards (including the Building Code of Australia (BCA), and the Home Building Act). Certifiers can be the Minister for Planning, a local council or an accredited surveyor (a private practitioner accredited by the building Professionals Board under the *Building Professionals Act 2005*). A principle certifying authority (PCA) will inspect the building during construction and issue an occupation certificate, required before people can move into the building. One survey respondent indicated that despite these regulations, the certification system can still be susceptible to problems:

Fire safety precautions appear inadequate, with fire doors too light & flimsy to close properly - providing no seal in the event of a fire. However independent certifiers ... issued an Interim Occupancy Certificate certifying fire precautions were adequate. (12)

While the PCA may certify the building (and would normally be expected to check for fire safety), often they will not certify the component parts of the building. In many cases, work is self-certified by subcontractors and the PCA relies on these certifications for his certification of the building. Furthermore, manufacturers of building components provide their own certifications and may not always clearly list the limitations of the application and capacity of the product. Also, while imported components will have to comply with Australian Standards (as outlined in the BCA), builders and sub-contractors are relying on overseas product data sheets for many components. An example of this is the use of glass balustrades in new properties. Balustrades are often seen as building components or design components rather than as a responsibility of the engineer (who would be responsible for ensuring that they were structurally adequate under the AS1170 loading specifications, particularly regarding wind loads and impact loads, which are referenced in the BCA). Also, glass and glazing work is usually passed from the builder onto subcontractors, who may then pass it on to a glazing contractor (who provides their own certification). Problems occur when products that would work well on the 5th story of a building are used on the 25th story without checks being made as to whether they can cope with the increased loading due to differences in wind strength. Problems with balustrades are not often discovered, however, until they break or fail (Nick Joannides and Eamonn Madden, Partridge Partners). The potential consequences of this can be extremely serious.

Indeed, the appropriate use of materials by contractors is an important concern. In many cases it is important for contractors to understand the right procedure to follow when using materials together (for example, the specific coatings that should be used for specific materials). There are also new materials coming onto the market in Australia and it is essential that contractors working with these are trained properly in the way in which they should be used.

Another issue raised by Karim *et al* (2006: 28, 31-32) increasing the potential for defects is a disregard by some subcontractors for the effects of their actions on subsequent other trades engaged in construction. Many of these subcontractors are small firms with few staff and resources, limiting their capacity or desire for innovative practices, and the reliance of contractors on a range of these trades makes management complex. As a result, defects that occur as work is passed between subcontractors can have a significant cumulative effect (Karim *et al*. 2006: 30-31). In a study of seven building projects over six months, Josephson and Hammarlund (1999: 686) identified a list of causes of common defects in construction. Lack of knowledge and motivation and the presence of risk featured strongly, and root causes included changes in project organisation causing instability, delayed decision making and input on the part of clients and users, time and cost pressure, disjointed work between groups, and a lack of support and motivation-building activities.

Marosszeky *et al* (2005) outline two mechanisms that have been trialled in an attempt to mitigate such problems. These are handover checklists – where subcontractors would be required to report on defects before handing work over to other trades - and defect incidence records – where specific defects and the

circumstances under which they occurred are recorded. However, Marosszky *et al* (2005) found that their effectiveness was limited, largely due to elements of trade culture, such as leadership and management style, resistance to change and a perceived resistance to acknowledging errors made. Language difficulties with the many contractors from non English-speaking backgrounds, and resentment toward compiling paperwork, especially where doubling up occurred, was also an issue. Other reasons included the unrealistic implications of such instruments where a long chain of different subcontractors were involved, and a general difficulty in identifying the root causes of defects from recorded information (Marosszky *et al*. 2005: 507-509). It is possible that these problems will increase in the future. With the downturn in the building industry, builders may chose to employ cheaper subcontractors (as happened during the 1970s downturn) and problems with defects in newly built properties may become more apparent (Nick Joannides, Partridge Partners).

Furthermore, where builders and developers are concerned to cut costs, this can potentially lead to compromises in the quality of buildings. If builders are forced to build too quickly, this can have a negative impact on building quality, not least because of the time it takes some materials to settle before further work can be undertaken (e.g. time for adhesives to bind, or time taken for floor boards to adjust to the new environment before they are installed). Cost cutting could also lead to a reduction in the involvement of architects and engineers in the building process, thereby reducing opportunities for quality checks by professionals. Not only is this of concern for the quality of new buildings, but it may also lead to increased costs for the builder or developer in the long-run. Marosszky *et al* (2005: 507, 509) explain that a simple problem with waterproofing in apartment bathrooms could cost up to 50 or 100 times more to rectify at the user occupancy stage, rather than during construction.

A document of interest in regards to these issues is the *Guide to Standards and Tolerances* (2007), produced by the Victorian Building Commission, the NSW Office of Fair Trading and the Tasmanian and ACT governments with the assistance of representatives from the building industry, professional associations and consumer groups. This guide provides advice on reasonable standards of construction and workmanship in residential buildings, based on experience dealing with domestic building disputes and research commissioned by the Victorian Building commission in 2005, which investigated the number and type of disputes and their causes arising from building contracts in Victoria.

The scope of this report does not allow for these issues to be addressed in more detail. However, these are issues that require further exploration when considering the best ways to improve the standard of the residential strata stock across NSW.

7. Conclusion

Urban consolidation policies and higher density housing development have become major drivers of urban change in Australia. The realisation of these policies relies heavily on the provision of strata titled dwellings. There is thus a need to explore the complex rights and responsibilities for the multiple stakeholders involved. It is these stakeholders who are expected to deliver a functioning and sustainable urban environment for many years to come. This is especially true in the case of the management of repairs and maintenance of the common areas within strata schemes. Owners corporations are currently making vital decisions regarding the management of at least a quarter of all residential properties in NSW. They are also making decisions about the maintenance of billions of dollars' worth of property and infrastructure.

The implications of the management of strata title for both social cohesion and the maintenance of the built environment are profound. For the first time in this country's history, large numbers of Australian property owners find themselves in a legally binding relationship with their neighbours for the communal upkeep and maintenance of their property. The governance structures that have evolved to mediate this community-based property ownership represent a new form of civic relationship and a new form of urban governance at the local level, with (by-)law making, taxation and enforcement powers. We have argued elsewhere that owners corporations (and their strata managing agents and building managers) therefore represent a largely unrecognised and almost completely unheralded fourth tier of urban governance (Easthope and Randolph 2009).

Indeed, owners corporations are making vital decisions regarding the management and maintenance of tens of thousands of residential properties, and billions of dollars of property and infrastructure around Australia. The standard of the management of major repairs and maintenance in residential strata in NSW influences tens of thousands of people living and investing in strata and underpins the success of the NSW Government's urban consolidation strategy. It is therefore important to understand what is actually going on in terms of the interpersonal and organisational relationships that influence current practices, attitudes and knowledge regarding planning for major repairs and maintenance. It is also important to know what the condition of the strata stock is across the state and to get an idea of the typical costs associated with maintaining and repairing particular types of strata properties. This paper has provided an overview of some of the major issues currently identified by strata lot owners in NSW regarding these interpersonal and organisational relationships as well as the availability of data on the stock of strata properties in the state.

This report has outlined current practices in respect to funding major repairs and maintenance in residential strata developments and explored the attitudes towards, and knowledge of, planning for major repairs and maintenance through a survey of strata owners. We have shown that the range of stakeholders involved in the management of strata and the complex relations between them influence the ways in which strata schemes are run. While many strata schemes run very smoothly, in others, competing interests of different stakeholders can be problematic.

Further, it appears that one of the major issues confronting the sector is a lack of clarity regarding who holds the responsibility for the management of major repairs and maintenance. Indeed, with the best strata managing agent in the world, if the owners will not agree to his good recommendations, it is unlikely that major repairs or maintenance will be managed efficiently. Similarly, with the most dedicated and knowledgeable executive committee members, if the other owners in the scheme cannot come to a majority agreement to provide sufficient funds, repairs and maintenance in the scheme will not be properly managed.

The survey responses indicate that common causes of concern regarding the management of major repairs and maintenance in residential strata in NSW are:

1. Ongoing building defects since construction.
2. Lack of planning and of pro-active leaders.
3. Inadequate assessments of required works and associated costs leading to budget shortfalls.
4. A poor standard of work and of quality control where works are undertaken.

The survey responses indicate that the following conditions were important for satisfaction amongst owners regarding the management of major repairs and maintenance in their schemes:

1. An acknowledgement by all owners of their responsibilities as members of an owners corporations, and as joint owners of common property.
2. An active and responsive executive committee and strata managing agent (where applicable).
3. A good relationship (and flow of information) between the executive committee, managing agent (where applicable), building manager (where applicable), owners and tenants regarding plans for major repairs and maintenance.
4. A regular maintenance schedule and a plan for major capital works, based on expert advice.
5. Effective budget planning resulting in sufficient funds to fund required works.

6. Repairs and maintenance works that are undertaken are properly funded and multiple quotes are received for works before a contractor is chosen.

The report has demonstrated that the effective management of a strata scheme is strongly influenced by the relationships between owners, between owners and the executive committee, the original owner (the builder or developer) and strata managing agents and building managers. However, there are also many other stakeholders involved in the effective management of strata schemes, that were also mentioned by survey respondents. These included building contractors and workmen, specialist building consultants, gardeners and cleaners, tenants, real estate agents, the Office of Fair Trading and the Consumer Trader and Tenancy Tribunal and the executive committees of other strata schemes within the same community title scheme. The roles of each of these stakeholder groups will also need to be taken into account when considering ways in which to improve the quality of residential strata stock in NSW.

Further, while the legislation covering the sector is incredibly important in governing the actions of all those involved in the management of major repairs and maintenance in residential strata buildings, our findings suggest that in practice, there are gaps in owners understanding of the implications of the existing legislation. There are also large discrepancies between owners in terms of their knowledge regarding best practice in the sector (such as the importance of receiving professional advice, hiring licensed contractors and drawing up regular maintenance schedules), as well as their willingness to act in response to this advice. Part of the solution will be to improve the information available to strata owners. Much information is already available on best practice in this area. NSW Office of Fair Trading, the Owners Corporation Network and the Institute of Strata Title Managers are some of the agencies that provide such information. However, more detailed information, such as a dataset of typical costs for different property types, would be beneficial in helping owners to make informed decisions about budgeting for major repairs and maintenance. Three possible avenues for further consideration for the collection of such information are suggested in section 5 of the report.

The other part of the solution will be to provide information to those owners who are not actively seeking it, so that owners have this information *before* a problem occurs. For example, consideration could be given to the development of a toolkit compulsorily distributed to every strata owner at the time of purchase which clearly outlines their rights and responsibilities regarding the upkeep of the common property in their scheme. Deliberation on how best to inform owners of their rights and responsibilities regarding the management of major repairs and maintenance will need to be ongoing and will of course be dependent on the resources available to those agencies who will provide such services. However, it is essential that this issue remain at the forefront of government consideration as poor management of major repairs and maintenance in strata properties has implications for the quality of life of tens of thousands of people in NSW and billions of dollars worth of assets.

References

- Andreones Solicitors (2008), 'Building Defects Claims', *presentation given at the Victorian Manager Forum* (Spring Street Conference Centre, Melbourne).
- Casey, Barry, Chew, Andrew, and Hennessy, Marie (2009), 'Home Building Amendment (Insurance) Act 2009 (NSW)'. <<http://www.mallesons.com/publications/2009/Jun/9930614w.htm>>, accessed 09.07.09.
- CGU Insurance Limited 'Home warranty Insurance', <<https://www.cgu.com.au/cgu/cgu/linkAuthContent.do?contentId=%2FOurProducts%2FHomeWarranty>>, accessed 29th July 2009.
- Chen, Simon and Webster, Chris (2005), 'Homeowners Associations, Collective Action and the Costs of Private Governance', *Housing Studies*, 20 (2), 205-20.
- Chi-wing Ho, Daniel, et al. (2006), 'Effects of building management regimes of private apartment buildings in Hong Kong', *Property Management*, 24 (3), 309-21.
- Dyson, Henry (2003), 'Chapter 15: La copropriété', *French property and inheritance law: principles and practice* (New York: Oxford University Press), 126-46.
- Easthope, Hazel and Randolph, Bill (2009), 'Governing the Compact City: The challenges of apartment living in Sydney, Australia', *Housing Studies*, 24 (2), 243-59.
- Everton-Moore, Kimberly, et al. (2006), 'The Law of Strata Title in Australia: A jurisdictional stocktake', *Australian Property Law Journal*, 13 (1), 1-35.
- Forster, Clive and Hamnett, Stephen (2008), 'The State of Australian Cities', *Built Environment*, 34 (3), 241-54.
- Guilding, Chris, Warnken, Jan, and Fredline, Liz (2003), 'An Agency Theory Perspective on the Owner / Manager Relationship in Tourism-based Condominiums', *Tourism Management*, 26 (3), 409-20.
- Ilkin, Alex (2007), *NSW Strata and Community Schemes Management and the Law* (4th edn.; Sydney: Thomson Lawbook Co.).
- Josephson, P. and Hammarlund, Y. (1999), 'The causes and costs of defects in construction: A study of seven building projects', *Automation in Construction*, 8 (6), 681-87.
- Karim, K., Marosszeky, M., and Davis, S. (2006), 'Managing subcontractor supply chain for quality in construction', *Engineering, Construction and Architectural Management*, 13 (1), 27-42.
- Marlow, Spencer and Rivers, Sue (1992a), 'The management of commonhold properties in Australia, France and the USA: Part II', *Property Management*, 10 (4), 361-68.
- (1992b), 'The management of commonhold properties in Australia, France and the USA: Part I', *Property Management*, 10 (3), 257-78.
- Marosszeky, M., et al. (2005), 'Improving Work Flow Reliability Through Quality Control Mechanisms', in Russel Kenley (ed.), *13th Conference of the International Group for Lean Construction* (Sydney).
- NSW Office of Fair Trading 'Selecting a tradesperson or builder', <http://www.fairtrading.nsw.gov.au/Tenants_and_home_owners/Home_building_and_renovating/Selecting_a_tradesperson_or_builder.html#Choosing_a_builder_or_tradesperson>, accessed 23 June 2009.
- NSW Department of Planning (2007), 'Improving the NSW Planning System: Discussion paper', in Department of Planning (ed.), (Sydney: NSW Department of Planning).

- NSW Office of Fair Trading 'Selecting a tradesperson or builder',
<http://www.fairtrading.nsw.gov.au/Tenants_and_home_owners/Home_building_and_renovating/Selecting_a_tradesperson_or_builder.html#Choosing_a_builder_or_tradesperson>, accessed 23 June 2009.
- (2008), 'Strata living: What you should know about residential, commercial and other strata schemes', in Department of Commerce (ed.).
- 'Insurers Home Warranty Market',
<http://www.fairtrading.nsw.gov.au/About_us/News_and_events/Whats_new/Insurers_leave_home_warranty_market.html>, accessed 29th July 2009.
- Paulsson, Jenny (2007), '3D Property Rights: An analysis of key factors based on international experience', (Royal Institute of Technology (KTH)).
- Raff, Stephen (2009), *The Body Corporate Handbook: A Guide to Buying, Owning and Living in a Strata Scheme or Owners Corporation in Australia* (Milton, Queensland: Wrightbooks).
- Randolph, Bill (2006), 'Delivering the Compact City in Australia: Current trends and future implications', *Urban Policy and Research*, 24 (4), 18.
- Rawlinsons (2009), *Australian Construction Handbook* (Perth: Rawlinsons Publishing).
- Tracht, Marshall (2000), 'Co-ownership and Condominium', in Boudewijn Bouckaert and Gerrit De Geest (eds.), *Encyclopedia of Law and Economics* (Volume II: Civil Law and Economics.; Cheltenham: Edward Elgar), 62-89.
- U.S. Census Bureau (2008), 'American Housing Survey for the United States: 2007', (Current Housing Reports, Series H150/07, H150/07; Washington DC: U.S. Government Printing Office).
- United States Census Bureau (1994), 'Statistical Brief: Condominiums. '.
- Victorian Building Commission, et al. (2007), *Guide to Standards & Tolerances* (Melbourne: Victorian Building Commission).
- Walters, Megan and Kent, Paul (2000), 'Institutional economics and property strata title - a survey and case study', *Journal of Property Research*, 17 (3), 221-40.
- Webster, Chris (2005), 'The Public Assignment of Development Rights', *Economic Affairs*, 25 (4), 44-47.
- Webster, Chris and le Goix, Renaud (2005), 'Planning by Commonhold', *Economic Affairs*, 25 (4), 19-23.
- Yip, Ngai-ming and Forrest, Ray (2002), 'Property Owning Democracies? Home owner corporations in Hong Kong', *Housing Studies*, 17 (5), 703-10.
- Yip, Ngai-ming, Chang, Chin-oh, and Hung, Tzu-ying (2007), 'Modes of condominium management: a principal-agent perspective', *Facilities*, 25 (5/6), 215-26.

Appendix 1: NSW Strata title in an international context

As noted in section 2 of the report, the NSW strata title legislation was the forerunner to legislation in other states and territories in Australia (for an overview of strata law around Australia see Everton-Moore et al. 2006). There are also similar forms of multi-unit property ownership and management in place in countries around the world. In this discussion, we focus only on those systems in place in which the owner owns their own lot and holds joint ownership and management responsibilities of the common property with a collective body of owners (as is the case in the NSW strata system). There are, of course, other forms of multi-unit property ownership and management, such as arrangements whereby tenants share joint ownership of private companies that own and hence govern the buildings and ground (such as Company Title in Australia), arrangements where residents buy a long-term lease to live in a property within a multi-unit development and responsibility for the maintenance of the common areas lies with the owner of the property (such as Leasehold in the UK), and arrangements where unit owners own not only the interior of their lots, but also the exterior, and other common parts of the development are run by an association (such as can be the case for townhouses under Community Title legislation in NSW).

As noted in section 2 of the report, strata title systems are in place in a number of countries around the world and the *NSW Conveyancing (Strata Titles) Act* (1961) formed the basis of the strata title legislation in many countries, including Canada (*Strata Titles Act* 1966), Singapore (*The Land Titles Act* 1972), Indonesia (*Strata Title Act* 1985), Malaysia (*Strata Titles Act* 1985) and Brunei (*Strata Title Law* 2006). However, there are also other forms of management that do not fall under the banner of 'strata title'. We discuss two of these here – condominiums and commonhold - and outline some of the ways in which these have been implemented in the USA, UK, France, Hong Kong and Taiwan. Our focus is on the implications for the management of major repairs and maintenance and on drawing comparisons between these systems and the NSW strata title system.

Condominiums

Condominiums have typically been the most common form of co-ownership in the USA (Marlow and Rivers 1992b:270) and have recently grown considerably in popularity. The number of condominiums, which range from townhouses to units in multi-storey apartment buildings, doubled during the 1980s, totaling almost five million in 1990 (United States Census Bureau 1994). Although development slowed after 1990, the American Housing Survey reported that in 2007 condominiums numbered 6,413,000, or 5.8% of all occupied dwellings, 67% of which (4,276,000) were owner-occupied (U.S. Census Bureau 2008).

In the USA, condominiums are generally governed by property owners' associations (POAs), which are similar to NSW's owners corporations. POAs collect levies from owners and provide collective facilities and services. When a condominium is established, by-laws are determined, as is a which outlines the rights, obligations, procedures and mechanisms that will characterize the particular governance structure of the scheme. Typically, maintenance costs are shared by all of the owners, while the developer retains some control over maintenance expenditure until a particular quota of units is sold (Tracht 2000:73, 77-78, 84), as is also the case in NSW. Once a POA is autonomous, decisions regarding the amount of investment in maintenance, rules of behaviour and dispute resolution mechanisms are dealt with by vote. Voting regimes may centre on majority or unanimity or other methods, such as weighted voting by unit allocation. Voted by-laws are generally the means for making major decisions (Tracht 2000:78-9). Most community associations in the USA employ professional managers, however smaller developments are often self-managed (Marlow and Rivers 1992b:272, 274).

Condominiums also exist in Taiwan. The *Condominium Management Law* 1995 requires that all condominium and co-ownership communities establish, by contract and election, a Home Owners Association (HOA) to govern on behalf of the owners (just as in NSW an executive committee must be elected in each strata scheme). In any newly constructed property, a HOA must be developed as soon as two-thirds of the common property-owning units have been constructed. Developers are required to help residents to establish HOAs, including providing initial funding for the running of the scheme in the community's first year. Some home owners associations may also choose to employ private property managers (Chen and Webster 2005:212, 214-15).

Taiwanese HOAs operate according to a democratic model of governance where, on an annual basis, sharing owners vote and can be elected to a board or management committee headed by a president and vice president. The greater the share an owner has in the common property, the more voting power they have (similar to the unit entitlements system in NSW). Non-homeowners (i.e. tenants) are able to vote, participate in owners' meetings and sit on the board. This is quite unusual in co-ownership models and is seldom, if at all, the case in the NSW system. However, Chen and Webster (2005) note that the divergent

interests of owners and tenants often cause non-owner governance to produce conflict, stalemate on important decisions, large costs emerging from disputes and owner reluctance to pursue certain issues. In principle, the board is accountable to owners, who can dismiss the members and regain control if necessary (Chen and Webster 2005:212-13; Ngai-ming Yip et al. 2007:218).

Board officials are responsible for organising meetings, collecting information on management, enforcing the HOA constitution, mediating conflicts between owners, maintaining common areas, managing funds and allocating resources, and for collecting monthly and special levies for the management of common property. Member fees are channeled into a fund that is used to finance outsourced management services and facilities maintenance (Chen and Webster 2005:211-13, 216).

Important decisions regarding construction and repairs are made at owners' meetings. For decisions to be valid, two-thirds of all sharing owners must be present, and three-quarters of those in attendance must agree on an outcome. The potential for a "tyranny of the majority" has been mitigated by enabling minorities to challenge HOA decisions through the legal system (Chen and Webster 2005). Presidents ultimately bear the legal responsibilities of HOAs in Taiwan and would represent them in the case of a lawsuit (Chen and Webster 2005:212, 216).

Obligatory HOAs have provided an opportunity for immense growth in the private property management sector in Taiwan. The services offered by property management companies have also diversified, extending beyond conventional security and physical maintenance services. Companies now fiercely compete with regard to cost and innovation, offering many personal, community and communications services. The specialized knowledge of these companies is beneficial to HOAs, which often struggle to attract board members and suffer from the passive, self-interested attitude of many of their owners (Chen and Webster 2005:205-7, 214). Due to the scale and cost of management, larger communities are more likely to be managed by a private manager rather than the owners themselves (Ngai-ming Yip et al. 2007:219).

Condominiums also exist in Hong Kong. As is the case in Taiwan and the USA, owners they are obliged to manage and finance the management of the common property. Their rights, obligations and capacity to employ a strata manager are specified in a land contract called a Deed of Mutual Covenants, which is drafted by the developer and signed by all buyers, becoming binding when registered with the Lands Registry. However, many of these agreements are ambiguous in wording and favour the rights of developers over unit owners, and thus actually hinder effective building management (Chi-wing Ho et al. 2006; Walters and Kent 2000:223; Ngai-ming Yip and Forrest 2002:708).

Unlike Taiwan, in Hong Kong, collaborative self-management to help maintain properties is not obligatory, although the government does encourage such collaboration in order to better address issues which were previously much neglected, particularly fire safety. The government allows for the establishment of incorporated owners (IOs) which is a statutory entity representing all owners of a development under the Building Management Ordinance (BMO). IOs have legal rights to run meetings, manage funds, resolve owner disputes, and monitor and terminate property management services. They are also legally liable. All these functions must be carried out in accordance with the provisions of the BMO (Chi-wing Ho et al. 2006; Walters and Kent 2000:222).

Mutual aid committees and owners' committees perform similar functions but do not have the same legal status or power. Mutual aid committees are less formal organisations accountable to a District Officer that carry out basic management via resident negotiation. They are not representative of all owners, and therefore have variable power. Owners' committees are focused on communication between owners and monitoring the quality of outsourced property management, and are considered representative (Chi-wing Ho et al. 2006).

Owners corporations are business-like in nature, while also democratic in regard to the annual election of office bearers at general meetings by share owners. At these meetings, the budget is approved and any external agents appointed (Ngai-ming Yip and Forrest 2002:712). Owners corporations hold regular meetings at which owners can express complaints and participate in decision making and management. In cases where property management agents are employed, owners' associations liaise between the agent and the owners (Chi-wing Ho et al. 2006).

Hong Kong has a higher proportion of condominiums managed by a third party than Taiwan. Larger and more expensive flats are more likely to outsource decision-making and management, rather than entirely self-managing or directly employing labour. A property managing agent can be appointed to any building, regardless of its management system or lack thereof. The services offered by agents differ from building to building, and sometimes include general management duties over and above conventional upkeep measures (Ngai-ming Yip and Forrest 2002:704-05, 712; Ngai-ming Yip et al. 2007:218-19, 222).

As the three examples above (USA, Taiwan and Hong Kong) indicate, there are many similarities between the condominium and strata title systems. However, important differences can exist between different

countries, such as whether the development of home owners associations is mandatory or optional, the involvement of tenants in the decision-making and management process, and the extent to which professional managers are employed.

Commonhold

Commonhold (*copropriété*) has a long history in France, where it is a very common and historically entrenched form of tenure in residential, commercial and professional contexts. Lot owners hold a share in common property, and are required to participate in an association of co-owners, or *syndicat de copropriété*, (equivalent to the body corporate in New South Wales), which entitles them to (proportionate to their share of the property) voting rights and obliges them to pay service charges for the upkeep of the property. This association has a representative board or executive committee (*conseil syndical*), which is appointed by majority vote. Although a managing agent, or *syndic*, appointed and overseen by the board holds the primary responsibility for the management of the property, the balance of power is strongly in favour of the co-owners, due to a strict legislative framework designed to prevent malpractice (Dyson 2003:130-45; Marlow and Rivers 1992b:258; 1992a:361-64).

The *syndic* is appointed by the majority vote of the association at a general assembly (similar to a general meeting in the NSW strata system), with a tenure limited to three years, after which he/she must be reappointed to continue. The *syndic* can be either a professional (qualified, certified by the government and insured) or a non-professional, should the majority of co-owners vote to self-manage, as often occurs in smaller blocks or with younger, lower-income owners who cannot afford to pay a professional. The *syndic* is totally responsible, both financially and legally, for managing major repairs and maintenance, as well as the finances and accounting, insurance, and facilities of the property (Dyson 2003:132, 142; Marlow and Rivers 1992a:362-64). This is in contrast to the NSW strata system in which the financial and legal responsibility falls with the owners corporation in the first instance.

The management of the common property is funded by owner contributions. The fees paid by co-owners can be divided into two types: those used to pay for utilities such as garbage disposal, cable television and lifts, which owners who benefit from the expenditure are required to pay (others who do not benefit may be exempt); and those directed towards general maintenance and upkeep, including insurance payments and *syndic* fees. Owners are charged according to the proportion of property they possess (similar to unit entitlements in the NSW strata system), and these lot proportions are determined very early on in development and cannot be altered except by unanimous vote of the flat owners, or two thirds of their vote if the building is to increase in height (Dyson 2003:130-34).

The *syndic* is also responsible for enforcing by-laws and other laws in daily decisions, and for organising and running general meetings of the residents' association at least once a year. Legislation requires a high standard of recording and reporting with regard to these procedures. At these meetings, which must take place no later than six months after the end of the financial year, the budget is considered and is subject to majority vote. The general assembly is also responsible for approving the hiring of sub-contractors and deciding on the scope of the *syndic's* responsibilities. Typically, approval of the general assembly of co-owners is required for any decision outside of routine maintenance and contracting or urgent repairs, though in the latter case a general assembly must be called to inform co-owners of action taken. The *syndic* must implement the decisions of the board and assembly with no recourse apart from resignation, even if orders are unwise (Dyson 2003:134-35; Marlow and Rivers 1992a:362).

In the UK, commonhold is a much newer phenomena than in France, and leasehold has typically been the most common form of management for multi-unit dwellings. However, the inefficiencies of leasehold in the UK have led to recent legislative changes to establish a new form of tenure. Introduced under the *Commonhold and Leasehold Reform Act 2002*, commonhold is intended to improve the governance of shared facilities in co-ownership arrangements (Webster and le Goix 2005:19-20).

Commonholders jointly possess infrastructure and services as well as owning the freehold of private units in a property. All freeholders automatically belong to a democratic commonhold association, which is responsible for managing the common resources according to a set of provisions and standards set out in the legislation, including a Memorandum of Association and Commonhold Community Statement. These documents set out the rules and procedures pertaining to voting, fee collection, setting aside funds and appointments to the association board, which is responsible for day-to-day decisions (Marlow and Rivers 1992b; Webster 2005:257-58).

The share of membership held by a particular owner is determined by the relative size of their freehold (as is the case in the NSW strata system with unit entitlements). Repairs, maintenance and other undertakings are financed by freeholder contributions, known as assessments (similar to levies under the NSW strata legislation) (Webster 2005:46-7).

Commonhold in the UK is modeled on the strata title system (especially that in place New South Wales, Queensland and South Australia), community associations (especially those in the USA) and the French *Copropriété* system (Marlow and Rivers 1992b, 1992a; Webster and le Goix 2005; Webster 2005).

Summary

As evident from the above discussion, the NSW strata title system holds many commonalities with systems for the management of multi-unit dwellings around the world. This is true not only in those countries which have a strata title system based in part on the NSW legislation, but also in a number of countries that have condominium and commonhold systems. This has two important implications. First, an improved understanding of the issues facing the NSW strata system, including issues surrounding the management of major repairs, is likely to be of interest to many other jurisdictions worldwide. Second, there may be many important lessons to be learnt in NSW by further examining innovations in those systems in place overseas.

Indeed, in looking to further improve the NSW strata title system, it will be important to consider the experiences of other jurisdictions and other countries where systems of multi-unit management not dissimilar from the NSW strata title system²⁶. This will include those countries that have strata title systems in place, but also those where commonhold and condominium systems are in place. This should include areas where such management systems are well-established (such as the USA and France) and countries where new systems have only recently been implemented (such as the UK and Hong Kong). Of course, in looking to the experiences of other areas, policy makers and practitioners will need to take into account the differing legal systems, social, cultural, economic and environmental factors influencing the management of multi-unit developments.

²⁶ Those who are interested in reading a more detailed comparative study of 3D property rights in Sweden, Germany, New South Wales (Australia) and Victoria (Australia) may wish to read the doctoral thesis of Jenny Paulsson, '3d Property Rights: An Analysis of Key Factors Based on International Experience', (Royal Institute of Technology (KTH), 2007). Available at: <http://kth.diva-portal.org/smash/record.jsf?pid=diva2:12580>.

Appendix 2: Managing Strata Repairs Survey Questions

ABOUT YOUR PROPERTY

Q1. How many properties do you own that are under strata title and used for residential purposes? (i.e. properties in which you or someone else lives.)

- One
- Two
- Three
- Four
- Five or more

If you own more than one strata property, don't worry, we don't need to hear about all of them. Please answer the remaining questions just for the property that you have owned for the longest period of time.

Q2. In what type of building is your property located?

- A block of apartments only
- A block of apartments with offices or shops
- A detached unit or villa
- A semi-detached townhouse
- An attached townhouse or row house
- Other (please specify) _____

Q3. Is this property ...

- Your primary place of residence
- An investment property
- A holiday home or second home
- Other (please specify) _____

Q4. When did you purchase your property?

- 2007 - present
- 2005 - 2006
- 2003 - 2004
- 2001 - 2002
- 1999 - 2000
- 1997 - 1998
- 1995 - 1996
- 1984 - 1994
- 1975 - 1984
- 1974 or earlier

Q5. Do you own the property outright, or are you purchasing the property with a mortgage?

- I own the property outright
- I am purchasing the property with a mortgage
- Other (please specify)_____

Q6. How do you own the property?

- Solely (i.e. as an individual)
- Jointly with a partner or spouse
- Jointly with another relative
- Jointly with a friend or friends
- As a principle or partner in a company or trust
- Other (please specify)_____

Q7. How many bedrooms are there in your property?

- Studio
- One bedroom
- Two bedrooms
- Three bedrooms
- Four or more bedrooms

Q8. How many parking spaces come with your individual property?

- None
- 1
- 2
- 3
- 4 or more

Q9. What postcode is the property in?

Postcode: _____

Q10. Do you have any intentions to sell your property in the next five years?

- Yes, definitely
- Yes, possibly
- No
- Not sure
- Don't know

ABOUT YOUR BUILDING

Q11. When was your property built (estimate if necessary)?

- 2007 - present
- 2005-2006
- 2003-2004
- 2001-2002
- 1999-2000
- 1997-1998
- 1995-1996(Please go to Q13)
- 1985-1994(Please go to Q13)
- 1975-1984(Please go to Q13)
- 1965-1974(Please go to Q13)
- 1955-1964(Please go to Q13)
- 1945-1964(Please go to Q13)
- 1944 or before(Please go to Q13)

Q12. Is the building currently under builder's warranty?

- Yes, it is still under warranty
- No, it is not under warranty
- Don't know
- Other (please specify)

Q13. How many lots (e.g. apartments) are there in your strata scheme in total (estimate if necessary)?

Number of lots: _____

14. How many floors are there in the building, including the ground floor and excluding any basements or parking areas?

Number of floors: _____

Q15. Is the building ...

- A strata scheme made up of one residential building only
- A strata scheme made up of a number of residential buildings
- A strata scheme within a community title development
- Other (please specify) _____

Q16. How would you rate the overall condition of the building at the present time?

- Excellent.....(Please go to Q18)
- Good.....(Please go to Q18)
- Fair.....(Please go to Q18)
- Poor

Q17. Please explain why you consider the overall condition of the building to be poor.

Q18. How satisfied are you with your owners' corporation's treatment of major repairs and maintenance issues?

- Very satisfied.....(Please go to Q20)
- Satisfied.....(Please go to Q20)
- Neither satisfied nor dissatisfied.....(Please go to Q20)
- Dissatisfied
- Very dissatisfied
- Don't know.....(Please go to Q20)

Q19. Please explain why you are dissatisfied with your owners' corporation's treatment of major repairs and maintenance issues.

Q20. Is your strata scheme managed by a professional strata managing agent on behalf of the owners' corporation?

- Yes, it is managed by a professional strata managing agent
- No, it is managed by the owners' corporation themselves
- Don't know
- Other (please specify) _____

Q21. How satisfied are you with your strata managing agent's treatment of major repairs and maintenance issues?

- Very satisfied
- Fairly satisfied
- Neither satisfied nor dissatisfied
- Slightly dissatisfied
- Very dissatisfied
- I am not sure what the strata managing agent does regarding major repairs and maintenance

Q22. Please explain why you are dissatisfied with your strata managing agent's treatment of major repairs and maintenance issues.

Q23. Does your building have a building manager?

- Yes, there is a building manager who lives on-site
- Yes, there is a building manager who comes to work at the property
- The strata manager holds all of the building management responsibilities
- There is no building manager
- Don't know
- Other (please specify) _____

Q24. How satisfied are you with your building manager's treatment of major repairs and maintenance issues?

- Very satisfied
- Fairly satisfied
- Neither satisfied nor dissatisfied
- Slightly dissatisfied
- Very dissatisfied
- I am not sure what the building manager does regarding major repairs and maintenance

Q25. Please explain why you are not satisfied with your building manager's treatment of major repairs and maintenance issues.

ABOUT MAJOR REPAIRS AND MAINTENANCE

When we ask about major repairs and maintenance, we are interested in the common parts of the strata. For our purposes, this comprises 4 main areas:

1. Routine maintenance (e.g. clearing gutters, gardening)
2. Major capital works (e.g. replacing carpets, up-grading lifts)
3. Emergency major repairs (e.g. repairing damage caused by a storm or burst water pipes)
4. Building defects (i.e. defects in the original construction of the building).

The following questions will ask about each of these areas in turn.

Q26. How is routine maintenance (e.g. clearing gutters, gardening etc.) funded in your strata? (Tick all that apply.)

- Regular strata levies collected from all owners
- Special levies
- Sinking fund
- Money borrowed by the executive committee from a strata finance company
- Other (please specify) _____

Q27. Do you think that the owners' corporation or the strata managing agent (on their behalf) has budgeted adequately for routine maintenance?

- Yes.....(Please go to Q29)
- No
- Don't know..... (Please go to Q29)
- Other (please specify).....(Please go to Q29)

Q28. Please explain why you do not think that the owners' corporation or the strata managing agent has budgeted adequately for routine maintenance.

Q29. Do you have any concerns about whether routine maintenance is being carried out often enough and to a high enough standard?

- Yes
- No.....(Please go to Q31)
- Don't know.....(Please go to Q32)

Q30. Please outline your concerns regarding whether routine maintenance is being carried out often enough and to a high enough standard.

(Please go to Q32)

Q31. Please outline what it is that gives you confidence that routine maintenance is being carried out adequately.

Q32. How are major capital works (e.g. replacement of carpets, upgrade of lifts etc.) funded in your strata? (Tick all that apply.)

- Regular strata levies collected from all owners
- Special levies
- Sinking fund
- Money borrowed by the executive committee
- Other (please specify)_____

Q33. Do you think that the owners' corporation or the strata managing agent (on their behalf) has budgeted adequately for major capital works?

- Yes
- No
- Don't know
- Other (please specify) _____

Q34. Do you have any concerns about whether major capital works are being carried out often enough and to a high enough standard?

- Yes, I have concerns
- No, I do not have any concerns _____(Please go to Q36)
- Don't know _____(Please go to Q37)

Q35. Please outline your concerns about major capital works.

(Please go to Q37)

Q36. Please outline what it is that gives you confidence that major capital works are being carried out adequately.

Q37. Please list any emergency major repairs (e.g. due to damage caused by a storm, burst water pipes etc.) you are aware of in your strata over the last 5 years or since you have owned your property. Examples might include fixing burst pipes, a leaking roof, damage caused to entry gates or car parks etc.

- If there have been more than 5 emergency major repairs, please select the 5 you consider the most serious.
- If there was a special levy, please state how much you were required to pay in the comments section.
- Please estimate figures if necessary.

	What was the nature of the repair (e.g. burst water pipe)?	How long did the repair take to complete from the time the problem was identified?	What was the total cost of the repair?	How was the repair funded (e.g. special levy, sinking fund, insurance)?	Comments
Repair 1					

Repair 2					
Repair 3					
Repair 4					
Repair 5					

Q38. How satisfied are you with the way in which emergency major repairs have been dealt with in your strata?

- Very satisfied.....(Please go to Q40)
- Fairly satisfied.....(Please go to Q40)
- Neither satisfied nor dissatisfied..... (Please go to Q40)
- Slightly dissatisfied
- Very dissatisfied
- I am not aware of any emergency major repairs in my strata.....(Please go to Q40)

Q39. Please explain why you are not satisfied with the way in which emergency major repairs have been dealt with.

Q40. Are you aware of any ongoing defects in your building that have existed since the building was first built and have not yet been remedied?

- Yes
- No.....(Please go to Q44)

Q41. Please describe these defects.

Q42. Do you know how much it will cost to fix these defects? (If there are multiple defects, please combine these costs in your estimate.)

- \$1-\$1,000
- \$1,001-\$10,000
- \$10,001-\$20,000
- \$20,001-\$50,000
- \$50,001-\$100,000
- \$100,001-\$200,000
- \$200,001-\$500,000
- \$500,001-\$1,000,000
- More than \$1,000,000
- Don't know
- Other (please specify) _____

Q43. Do you know who will cover the costs of fixing these defects? (Tick all that apply.)

- The builder or developer will cover the cost under warranty
- The owners' corporation will take the builder or developer to court for the costs
- The owners will cover the cost through a special levy
- The owners will cover the cost out of the sinking fund
- The owners will cover the cost out of the administrative fund
- The costs will be covered by the owners corporation's insurance
- The defect will not be fixed
- The decision on how to cover the costs has not been made
- Don't know
- Other (please specify) _____

ABOUT FUNDING ARRANGEMENTS

Q44. What methods does your owners' corporation or strata managing agent use to estimate the likely costs of future major capital works? (Tick all that apply.)

- Strata managing agent or building manager undertakes the estimate
- The owners' corporation undertake the estimate themselves
- Specialist consultants are employed by the owners' corporation or strata managing agent
- No estimates have been made
- Don't know
- Other (please specify) _____

Q45. Are you aware of whether a 10 year sinking fund plan is required in your strata?

- Yes, it is required
- No, it is not required
- Don't know
- Other (please specify)_____

Q46. Does your strata have a 10 year sinking fund plan in place?

- Yes
- No
- Don't know
- Other (please specify)_____

Q47. To your knowledge, which of the following is currently in place in your strata? (Tick all that apply.)

- A sinking fund into which you contribute
- Insurance which covers repairs
- A schedule of borrowing to cover repairs and/or maintenance costs
- A practice of issuing special levies to cover repairs and/or maintenance costs
- Don't know
- Other (please specify)_____

Q48. When was the sinking fund introduced in your strata?

- In the last year
- 1-2 years ago
- 2-3 years ago
- 3-4 years ago
- 4-5 years ago
- 6-10 years ago
- More than 10 years ago
- Don't know
- Our strata does not have a sinking fund.....(Please go to Q51)

Q49. What are the current reserves in your strata's sinking fund (estimate if necessary)?

- Less than \$100
- \$101-\$999
- \$1,000-\$9,999
- \$10,000-\$19,999
- \$20,000-\$39,999
- \$40,000-\$59,999
- \$60,000-\$79,999
- \$80,000-\$99,999
- \$100,000-\$199,999
- \$200,000-\$299,999
- \$300,000-\$399,999
- \$400,000-\$499,999
- \$500,000-\$999,999
- Over \$1 million
- Don't know

Q50. Do you consider the sinking funds currently available in your strata to be adequate to cover the major repairs and maintenance required?

- Yes
- No
- Not sure

Please explain your answer: _____

Q51. Overall, are you satisfied with the way funds are collected for major repairs and maintenance?

- Yes.....(Please go to Q53)
- No
- Not sure.....(Please go to Q53)

Q52. Please explain why you are not satisfied with the way funds are collected for major repairs and maintenance.

Q53. Are you aware of any problems or disputes between any owners and the owners' corporation related to the management of major repairs and maintenance?

- Yes
- No.....(Please go to Q55)

Q54. Please describe the nature of these problems or disputes if possible.

Q55. Have you participated in any management decisions in your strata regarding major repairs or maintenance?

- Yes
- No.....(Please go to Q57)

Q56. Please provide details on your participation in these decisions regarding major repairs or maintenance.

(Please go to Q59)

Q57. Do you feel that you have been excluded from participating in decisions regarding major repairs and maintenance?

- Yes
- No
- Other (please specify)_____

Q58. Please explain why you felt excluded from participating in these decisions.

Q59. How would you describe the attitudes of the other owners in your strata with regards to contributing funds towards repairs and maintenance?

Q60. Are you now, or have you been, a member of the executive committee of the owners' corporation of this property?

- Yes
- No

Q61. Have you had any experience with the management and administration of sinking funds, or other mechanisms for funding major repairs and maintenance such as scheduled borrowing at this property?

- No.....(Please go to Q63)
- Yes, sinking funds
- Yes, scheduled borrowing
- Yes, other (please specify)_____

Q62. Can you describe any challenges you have faced in managing and administering these funds?

ABOUT FINANCES

Q63. What is the current estimated market value of your property?

- \$150,000 or less
- \$150,000-\$200,000
- \$200,001-\$300,000
- \$300,001-\$400,000
- \$400,001-\$600,000
- \$600,001-\$800,000
- \$800,001-\$1,000,000
- \$1,000,001-\$1,200,000
- \$1,200,001-\$1,400,000
- \$1,400,001-\$1,600,000
- \$1,600,001-\$1,800,000
- \$1,800,001-\$2,000,000
- \$2,000,001 or more
- Unsure
- Do not wish to disclose

Q64. Is this value higher than the value at which you purchased your property?

- Yes, it is higher
- No, it is lower
- Don't know
- Do not wish to disclose

Q65. [Please answer this question only if you answered 'investment property' at Q7.]

In the 2007-08 financial year, was your investment in this property delivering a positive or negative total yield on a rental income basis only (i.e. are outgoings including fees, charges and repayments more than rent gained?)

- Positive total yield
- Negative total yield
- Don't know
- Other (please specify) _____

Q66. In the 2007-08 financial year, what were the total annual strata fees for this property (estimate if necessary)?

Annual strata fees in A\$ _____

Q67. Do you consider the level of strata fees to be appropriate for the level of service you receive?

- Yes
- No, the fees are too high
- No, the fees are too low
- Don't know
- Other (please specify) _____

Q68. In the 2007-08 financial year, can you estimate your total gross income for your household within the following income bands? That is, your total household income, including any government payments, before tax and other deductions?

- No income
- Less than \$25,000
- \$25,000 - \$49,999
- \$50,000 - \$74,999
- \$75,000 - \$99,999
- \$100,000 - \$124,999
- \$125,000 - \$149,000
- \$150,000 - \$199,999
- Over \$200,000
- Do not wish to disclose

Q69. *[Please answer this question only if you own more than one residential strata property.]* **What is the estimated gross value of your property investments in strata titled properties (excluding your primary place of residence)?**

- Less than \$249,000
- \$250,000-\$499,000
- \$500,000-\$999,999
- \$1,000,000-\$1,499,999
- \$1,500,000-\$1,999,999
- \$2,000,000-\$4,999,999
- More than \$5,000,000
- Do not wish to disclose

ABOUT YOU

Q70. Are you

- Male
- Female

Q71. How old are you?

Your age: _____

Q72. What is your main occupation status?

- Full time employee
- Part-time or temporary (including casual and contract) employee
- Self employed or run own business
- Seeking work
- Student
- At home / not seeking work
- Long term sick / disabled
- Retired
- Other

Q73. Do you work in the property sector? (E.g. real estate, property management, property development, building, trades)

- No
- Yes (please specify) _____

Q74. Where is your primary place of residence?

- New South Wales
- Another State or Territory in Australia
- Elsewhere

Q75. What is your region of birth?

- Australia
- Other Australasia and Oceania
- North-East Asia
- South-East Asia
- Southern & Central Asia
- Africa
- Americas
- Northern & Western Europe
- Southern & Eastern Europe
- Other

Appendix 3: Map of Sydney Zones (produced by Andrew Tice, City Futures Research Centre)

