

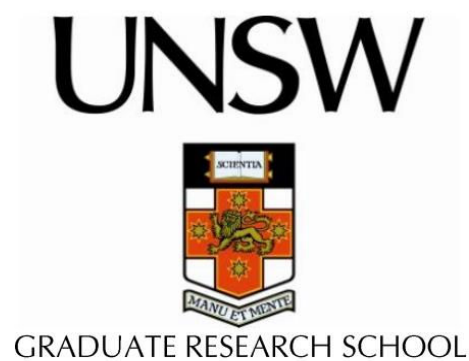
Measuring the Interzonal Price Differential of Land under Varying Landuse Controls

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MEASURING THE INTERZONAL PRICE DIFFERENTIAL OF LAND UNDER VARYING LANDUSE CONTROLS

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**A thesis in fulfilment of the requirements for the degree of
Doctor of Philosophy**



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ORIGINALITY STATEMENT

'I hereby declare that this submission is my own work and to the best of my knowledge it contains no materials previously published or written by another person, or substantial proportions of material which have been accepted for the award of any other degree or diploma at UNSW or any other educational institution, except where due acknowledgement is made in the thesis. Any contribution made to the research by others, with whom I have worked at UNSW or elsewhere, is explicitly acknowledged in the thesis. I also declare that the intellectual content of this thesis is the product of my own work, except to the extent that assistance from others in the project's design and conception or in style, presentation and linguistic expression is acknowledged.'

Signed

Date

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List of Judicial Authorities and Court Cases

The following represents the court cases referenced and used throughout this thesis and the appendices:

Village of Euclid, Ohio v. Ambler Realty Co., 272 U.S. 365 (1926)
London CC v Marks & Spencer Ltd (1951-52) 2 P. & C.R. 257
Hadacheck v. Sebastian, 239 US 394 (1915)
Reinman v. City of Little Rock 237 US 171 (1915)
Byrne v. Maryland Realty Co., 129 Md. 202, 210-11 (1916)
Beery v. Houghton, 164 Minn. 146 (1926)
Zahn v. Board of Public Works, 274 US 325 (1927)
Eaton v. Sweeney, 257 N.Y 176, 183 (1931)
Pumpelly v. Green Bay, 80 US 13 (1871)
Penn Central Transportation Company v. City of New York, 438 US 104 (1978)
Kaiser Aetna v. US, 444 US 206 (1979)
Lucas v. South Carolina Coastal Council 304 SC 376 (1992)
Bevan v. Township of Brandon, 438 Mich. 385 [1991]
Eaton v. B. C. & M. R. R. Co., 51 NH 504 (1872)
Pennsylvania Coal Company v Mahon 260 US 393 (1922)
Nollan v. California Coastal Commission 483 US 825 (1987)
Dolan v. City of Tigard, 512 US 374 (1994)
Village of Belle Terre v. Boraas, 416 US 1 (1974)
Arlington Heights v. Metropolitan Housing Development Corp, 429 US 252 (1977)
Southern Burlington County N.A.A.C.P. v. Mount Laurel, 119 NJ Super. 164 (1972)
Warth v. Seldin, 419 US 823 (1974)
City of Eastlake v. Forest City Enterprises Inc., 96 S. Ct. 2358 (1976)
Goldblatt v. Town of Hempstead, N. Y., 82 S. Ct. 987 (1962)
Penn Central Transport v. City of New York, 438 US 104 (1978)
Hall & Co. Ltd. v Shorham-by-Sea U.D.C [1964] 1 All ER 1
Pyx Granite Co. Ltd. v Ministry of Housing & Local Government
Fawcett Properties Ltd. v Buckingham County Council [1961] AC 636 at 684
Sir Edward Coke - *Reports, Semaynes' Case*, (1604) vol. 3. pt. 5, p.185

Grace Bros Pty Ltd v The Commonwealth (1946) 72 CLR 269.

Minister of State for the Army v Dalziel (1944)

Baker v Cumberland County Council (1956) 1 LGRA 321

Newcrest Mining v Commonwealth and the Director of National Parks and Wildlife (1997) 190 CLR 513

Tasmanian Dam Case (Commonwealth v Tasmania (1983) 158 CLR 1

John Brown Lenton & Co Pty Ltd v Minister for Urban affairs and Planning [1999] NSW LEC 213

Meriton Apartments Pty Ltd v Minister for Urban Affairs and Planning (2000) NSWLEC 20

Associated Provincial Picture Houses Ltd v Wednesbury Corp [1948] 1 KB 223

Eaton & Sons Pty Ltd v Warringah Shire Council (1972) 129 CLR 270.

SEQ Properties Pty Ltd v Maroochy Shire Council [1999] QPELR 36

Royal Sydney Golf Club v Federal Commissioner of Taxation (1957) 97 CLR 379

Pringle v The Minister (1967) 14 LGRA 280 at 283

Edinburgh Pty Ltd v The Minister (1962) 8 LGRA 45

Minister of Environment v Petroccia (1982) 30 SASR 333 at 344

BGP Properties Pty Limited v Lake Macquarie City Council [2004] NSWLEC 399.

Vacuum Oil Company Pty Ltd v Ashfield Municipal Council (1956) 2 LGRA 8

Dunstan v King [1948] VLR. 269.

Dunstan v King [1948] VLR. 269, 272-273]

Haddon v Lynch [1911 VLR. 5, at p. 9]

Coty Pty Ltd v Sydney City Council [(1957) 2 LGRA. 117, 124-126].

Spencer v The Commonwealth of Australia (1907) 5 CLR 418

Leichhardt Council v Roads and Traffic Authority (NSW) [2006; NSWCA 35]

NSW Housing Commission v Falconer [1981] 1 NSWLR 547

San Sebastian Pty Ltd v Housing Commission (NSW) (1977) 37 LGRA 191

Notes on Language

Disclaimer

- All the information used throughout this thesis consists of public information, the author's personal experiences and intellectual property.
- Land owner consent has not been sought in the majority of cases but the names of streets and locations and specific site details have been omitted from the text.
- The information is granted with permission from EG Property Group - a leading NSW rezoning company.

Language

1. There are no commas after years e.g. 1970s.
2. There are no dots for acronyms – e.g. UK, USA, SEPP.
3. The expression landuse is represented as one word where it occurs as an adjective e.g. landuse planning; but as two separate words when used as a noun or nouns e.g. continuing land use.
4. Nett is spelt throughout with thesis with a double “t” when denoting the adjective meaning value remaining after deduction of costs, contributions and taxes.
5. Throughout this thesis the term value-change is expressed as a hyphenated expression including where it is used as an adjective e.g. Effecting value-change and nouns e.g. where value-change occurs.
6. The term “land value” is hyphenated when used as an adjective e.g. land-value change and as separate words when used as nouns e.g. creation of land value.
7. No apostrophes are used after acronym plurals e.g. GARs or NPVs.
8. “Highest-and-Best-Use” is represented throughout the thesis as a hyphenated expression.
9. There is use of the English spelling of words throughout the thesis e.g. formalised, utilised, recognised, decentralisation, urbanisation, theorisation.
10. When nouns are used as adjectives, they are hyphenated e.g. straight-line relationships, traditionally-cheaper land.
11. Bid rent is not hyphenated e.g. bid rent curve.
12. The word programme is spelt with a double “mme” as opposed to the sometimes common way of using one “m” only i.e. program.

List of Abbreviations and Acronyms Used

m ²	Square Metres.
sqm	Square Metres.
km	kilometres.
ANEF	Australian Noise Exposure Forecast.
ANT	Actor Network Theorem.
AP	Appendix.
ATM	Automated Teller Machine.
AUD	Australian Dollars.
BRW	Business Review Weekly.
CANZEUS	Canada, Australia, New Zealand, England and the United States.
CBD	Central Business District.
CIV	Capital Investment Value.
CLR	Commonwealth Law Reports.
DA	Development Application or Development Approval.
DCP	Development Control Plan.
DG	Director General.
DGRs	Director General's Requirements.
DoP	Department of Planning.
DP&I	Department of Planning and Infrastructure.
EA	Environmental Assessment.
EEC	Endangered Ecological Community.
EIS	Environmental Impact Statement.
EPA	Environmental Protection Authority.
EP&A Act	Environmental Planning & Assessment Act 1979 (NSW).
ESBS	Eastern Suburbs Banksia Scrub.
EPI	Environmental Planning Instrument.
FSR	Floor Space Ratio.
GAR	Gross Annual Return.
GCC	Growth Centres Commission.
GDP	Gross Domestic Product.
GFA	Gross Floor Area.
GFC	Global Financial Crisis.

GM	General Motors.
GSP	Gross State Product.
HIA	Housing Institute of Australia.
HCA	Heritage Conservation Area.
IN	Industrial.
JRPP	Joint Regional Planning Panel.
KB	King's Bench.
LEC	Land & Environment Court.
LEP	Local Environmental Plan.
LES	Local Environment Study.
LGA	Local Government Area.
LGRA	Local Government Reports of Australia.
MP	Masterplan.
NAR	Nett Annual Return.
NPV	Nett Present Value.
NSW	New South Wales.
NSWCA	New South Wales Court of Appeal.
NRHCA	North Randwick Heritage Conservation Area.
NRHCADCP	North Randwick Heritage Conservation Area Development Control Plan.
NSWLR	New South Wales Law Reports.
OEH	Office of Environmental and Heritage.
PAC	Planning Assessment Commission.
PEA	Preliminary Environmental Assessment.
Psqm	Per Square Metre.
PC	Parliamentary Counsel.
PP	Planning Proposal.
QPELR	Queensland Planning & Environmental Law Reports.
Ra	Arithmetic Mean Return.
RAP	Remediation Action Plan.
Rg	Geometric Mean Return.
REP	Regional Environmental Plan
RPA	Relevant Planning Authority.
RMS	Roads and Maritime Services.
RTA	Roads and Traffic Authority.

SACL	Sydney Airport Corporation Limited.
SASR	South Australian State Reports.
SC	Supreme Court.
SCSLR	South Coast Sensitive Lands Review.
SEL	Sports and Entertainment Learning.
SEPP	State Environmental Planning Policy.
SEPP (MD)	State Environmental Planning Policy (Major Development).
SEPP (MP)	State Environmental Planning Policy (Major Projects).
SSS	State Significant Site.
TAFE	Technical and Further Education.
TMAP	Transport Management Accessibility Plan.
Tn	Time as measured in years and decimal fractions of years.
TOD	Transit-Oriented Development.
UGB	Urban Growth Boundary.
UK	United Kingdom.
US	United States.
USA	United States of America.
UTS	University of Technology, Sydney.
WKHCA	West Kensington Heritage Conservation Area.
WKHCADCP	West Kensington Heritage Conservation Area Development Control Plan.
VLR	Victorian Law Reports.
Vo	Initial Market Value (Purchase Price as measured in nominal, unadjusted dollars).
V _t	Market Value at a moment in time (as measured in nominal, unadjusted dollars).
ΔMV	Change in Market Value (as computed from sales transactions).

Acknowledgements

This thesis was inspired by my constant dealings with land zoning and value during my professional work. I therefore felt obligated to devote some time to document this beneficial knowledge which I had gained in the planning field.

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Chapter 1: Introduction

Prelude: The Eternal Question

I am the basis of all wealth, the heritage of the wise, the thrifty and prudent.

I am the poor man's joy and comfort, the rich man's prize, the right hand of capital, the silent partner of many thousands of successful men.

I am the solace of the widow, the comfort of old age, the cornerstone of security against misfortune and want. I am handed down to children, through generations, as a thing of greatest worth.

I am the choicest fruit of toil. Credit respects me. Yet I am humble. I stand before every man, bidding him know me for what I am and possess me.

I grow and increase in value through countless days. Though I seem dormant, my worth increases, never failing, never ceasing, time is my aid and population heaps up my gain. Fire and the elements I defy, for they cannot destroy me.

My possessors learn to believe in me; invariably they become envied. While all things wither and decay, I survive. The centuries find me younger, increasing with strength.

The thriftless speak ill of me. The charlatans of finance attack me. I am trustworthy. I am sound. Unfailingly I triumph and detractors are disproved.

Minerals and oils come from me. I am producer of food, the basis for ships and factories, the foundation of banks.

Yet I am so common that thousands, unthinking and unknowingly, pass by me.

I am land.

Anonymous

1.0 - Main Objectives of Thesis

The main aims of this thesis are to explore those relationships that may exist between landuse zoning and land value, including the effects of any manifestations of zoning such as heritage conservation overlays, on the value of land. The core research question is whether the zoning of land affects its value; and if it does then how this might occur. When a land parcel changes its zoning, does its value change? Should its market value adjust due to zoning and planning processes²? If so, then how might this change be described and quantified theoretically and empirically? These questions are germane to the core research themes of this thesis, which look at the way land value, zoning and planning are interconnected within the auspices of the New South Wales planning system including the rezoning³ and development approval processes that deliver marketable outcomes.

This thesis sets out to investigate through empirical research the sometimes-complex relationship that exists between the market value of land and its zoning, including instruments of zoning such as development control⁴. The main aims of the thesis are to ascertain for a given parcel of land, when it undergoes zoning or planning change, whether this produces a commensurate adjustment in its market value and the quantum of such a change. The main body of research, including results and analyses are set out in Chapter 5 of the thesis, which contains the empirical research on zoning and planning value change. Another aim of this thesis is to investigate the effects of heritage conservation, a restriction empowered through zoning, on property values and are detailed in Chapter 6 of this thesis. The research and case study examples used, are all based in Sydney.

² A planning process is one where an outcome is gained through an approval such as a development consent under an existing zone that generally permits the intended use, without a formal change in the land's zoning.

³ The rezoning of a land parcel is one where its zoning is formally changed from one landuse zone to another.

⁴ Development control, often in the form of a Development Control Plan (DCP), is an instrument of zoning in that it gives the more detailed controls that might relate to the zone and its objectives. Its provisions are empowered through zoning as set out by a Local environmental Plan (LEP) and have the effect of creating the development outcome within a zone.

The “zoning value-change effect” will first be considered theoretically, using the many “rent gap” models such as those proposed by Jack Harvey (1981, 1996) and Neil Smith (1987) which describe the difference in theoretical rent that a parcel is able to generate, compared with its ultimate rent under its “Highest-and-Best Use” value. There are also the “bid rent” theorems as put forward by Evans (1985). These theoretical models though useful conceptually, are all incapable of properly describing the change in value experienced by a parcel under varying landuse controls or importantly quantifying such an effect. They also frequently over-simplify the value-change that a land parcel might undergo through planning or zoning and are restricted to a land-rent outcome which is often not the basis for the value transformation at all. This is the primary reason for the empirical research contained in this thesis.

The theoretical models and formulae were also deemed important in the value discussion as a preamble to the empirical research presented in Chapters 5 and 6. Through formulae that build the theoretical and deductive rationale for what is designated as the “rezoning effect” and then, using new empirical data, it is hoped that both theory and research can culminate into a new equation that can describe and quantify this effect, as one main outcome of the thesis. In constructing this outcome, the objective will be to use the data contained and derived from the 20 empirical case study examples documented, to properly explore and model value-change by quantifying the movement in the market value of land and relating the quantum and direction of this value-change to either zoning or planning processes.

Thus the thesis will review the effects of planning regulation on the price of landed realty in New South Wales. These are empirically modelled, quantified and qualified through detailed market transactional data. The examples have all undergone both an observable zoning (or planning) change, as well as a value change.

The other question posed and answered within this thesis is: whether Heritage Conservation Area (HCA) restrictions, as a part of the operation of zoning, impact residential land (and house) prices? This thesis details the research findings of two empirical case studies relating to capital growth comparisons of residential property governed by such heritage planning controls. The study incorporates two HCAs in

Sydney's Eastern Suburbs, namely the North Randwick Heritage Conservation Area (NRHCA) and the West Kensington Heritage Conservation Area (WKHCA).

The reason for the second research question on the impact of heritage conservation overlays on the market price of residential property, was an adjunct to the primary question, as heritage conservation overlays may be seen as a manifestation of zoning⁵. More specifically the aim of this empirical study was to more closely examine how land (including house) prices inside HCAs might compare with those outside these areas, in the same localities. Thus, the gross sale prices of a statistically-significant number of residential properties inside each HCA, was nominally compared with property sale prices outside each HCA over time and the results calculated, quantified, collated and compared.

The subject topic of this thesis, as stated at the outset of this chapter, is that of "Measuring the Interzonal⁶ Price Differential of Land under Varying Landuse Controls", using market value analyses and comparisons in the state of NSW. The main aim of this thesis, is thus to explore the relationship that might exist between zoning and land value, including the effects of zoning and planning and such manifestations of zoning as heritage conservation overlays, on the value of detached housing and hence land.

The research contained in this thesis has found that a definite relationship exists between land value and zoning. It reaches this conclusion both through theoretical and quantitative pathways. It does so both qualitatively and empirically, through the development of an equation: the Empirical Value Change Equation that interconnects zoning change with land value. This allows in turn for the quantification of the "rezoning effect" on land value.

⁵ Heritage overlays do not change a zone per se but rather impose a new layer of control through the zoning that further restricts landuse, in the same way that the main provisions of the zone do. They are thus manifestations of zoning controls rather than explicit components of the zone.

⁶ The word "interzonal" is used throughout this thesis to mean "between zones" as the word "international" might mean between nations. The thesis aims to explain what happens to land value as one zone transforms to another and the land value change that might result, if any, from such a process.

1.1 - Specific Objectives of Opening Chapter

This chapter begins by introducing and defining the subject topics of zoning and rezoning, both central concepts of this thesis. Rezoning and spot rezoning are also defined as they are significant terms, used throughout the thesis. The chapter also includes an initial discussion of the rationale for zoning land. The chapter concludes by highlighting and summarising the salient concepts encapsulated in each of the seven chapters of the thesis.

Rezoning land in NSW can only occur through the statutory mechanisms and processes contained in the Environmental Planning and Assessment Act 1979 (NSW) and its associated and delegated legislation. The process of land use change in New South Wales after three decades under the current planning system, remains a highly-complex process and has been criticised for its inability to properly respond to the changing needs of cities, such as Sydney and others (Hibner 2002; Wiggins 1991; Brugmann 2008).

To that end as of 2012, the newly-elected state government has begun a wide-ranging review of the Planning Act, in an attempt to make it more responsive and improve its efficiency. Draft legislation in the form of a Green Paper⁷ titled “A New Planning System for NSW” (NSW Government, 2012) was put out in July 2012 for discussion. The aims of the reforms are to transform the planning system by making it simpler and more focussed so as to better contribute to growth but retain community involvement.

1.2 - Legislative Planning Reform

The new legislation focuses on five broad categories: community participation; strategic planning; streamlined approvals; provision of infrastructure; and delivery culture. In reforming the community participation process the new legislation aims to better engage the public at the plan-making stage in order to give a clearer hierarchy of plans and

⁷ A Green Paper is a generic term used to describe the first draft of a specific policy aimed at reaching a general consensus before drafting the official policy document, the White Paper.

reporting of time frames. Under the new vision will be greater strategic planning as well, with an aim to replacing all the State Environmental Planning Policies (SEPPs) and s. 117 Ministerial Directions⁸ currently operating, with new NSW Planning Policies. New Regional Growth Plans, Subregional Delivery Plans and Local Delivery Plans are all at the heart of the new planning reforms.

The new government also aims to monitor the performance of the reformed system using new key performance indicators. There is also a move to the delivery of better strategic planning through regional and subregional planning, rather than case-by-case assessments. This is aimed at producing better environmental outcomes and a more effective protection of productive agricultural land. In the Development Assessment area, the new reforms concentrate on maximising code-complying development and better matching assessment criteria with levels of project impact.

In order to depoliticise decision-making, it is envisaged that all development applications (DAs) that are of state or regional significance be assessed by the Planning Assessment Commission (PAC), with smaller DAs going to one of several Joint Regional Planning Panels (JRPPs) and local councils. Both expert panel bodies are currently in operation in NSW. The next phase of the reform will be for the current Green Paper to be converted to a White Paper⁹ for public consultation and then to become legislation.

1.3 - Land: An Important Asset Class

This opening chapter also highlights the importance of land as an asset class and the financial imperatives involved in its zoning. In a rudimentary and abstracted vein, land is arguably still the world's most significant asset class. For centuries land represented

⁸ s. 117 Ministerial Directions are directions issued by the Minister for Planning under s. 117 of the EP&A Act 1979.

⁹ A White Paper is the final policy document following the consultation process initiated by the publication of a Green Paper. Following final comments, a White Paper forms the brief for policy and legislation that is considered by Parliament.

the only true wealth of people: the crown, nobility and the landed gentry all derived their near-plenary power from land ownership, from what they could sow, reap, extract and harness (Frug, 1980). There were also the primary assets of livestock, cultivated crops, serfs and soldiers, all requiring land availability, in its various productive forms (Stilwell, 2006).

It can be simplistically posited that landed estates have generated through their siting, form, size and capacity to produce, feed and house, unrivalled income and influence for their owners. Thus the long-established economic capacity of land to generate wealth and power is not only historic, it is logical (Frug, 1980).

For centuries, property represented the only means of production in kingdoms and territories and colonies for the oligarchic elite who owned the established and conquered realms and all upon them. People were born on the land, worked on the land, grew up on the land and died on the land but did not ever get to own any part of the asset (Florida, 2002).

It was not until the late 1700s that land became a tradeable commodity in Britain, Europe and the colonies and somewhat accessible to ordinary citizens (Florida, 2002). It was arguably the commercialisation of the steam engine and the advent of the railway that began to break the inextricable bond between people's place of employment and landed property. As factories located away from the traditional estates, began to produce goods and satisfy demand distally of the land, so too did a large number of workers have to travel to work for the first time (Florida, 2002).

Cities not only grew but were subdivided into new areas with commercial districts, housing for the factory workers and housing sections for the capitalists and managers. Social life had come to organise itself around the emergence and clash of new economic classes, segregated into new special zones mostly related to function or based on historical needs (Florida, 2002).

With the inevitable development of towns and cities, came further landuse change and new urban wealth. New settlement patterns of workers were inevitable due to the waves

of rural dwellers who had come to reside nearer their employment, in new dormitory settings at the outskirts of burgeoning towns and cities (Stilwell, 2006). At the base of much historical wealth therefore, whether industrial, feudal, regal or colonial, remained the primary tangible ingredient: the land itself, which was fundamentally different to other economic drivers because its supply was and remains inherently limited (Stilwell, 2006).

Though the above chronology is generalised, abstracted and simplified, it nonetheless embodies some important introductory concepts regarding land and its historical evolution into the value debate. Land's limited supply and ability to produce both income and capital for its owners is relevant to how it might be affected and treated in the modern zoning context. The notion is that land holds value as a direct consequence of its use. This is central to the topic of this thesis.

Translating this to the specifics of the Australian landscape, Sandercock writes about the historical origins of Australian cities and the importance of plentiful land in realising the English country cottage idyll as a dwelling type, culminating in the creation of the well-known suburban districts that have dominated the Australian urban landscape since the 1860s, marking the first great period of city building around the new Australian colonial nation (Sandercock, 1975).

So too with Sydney's urban upsurge, starting in the 1960s, whence the emphasis on renewal culminated into projects covering extensive tracts of land for redevelopment and a larger focus on denser, taller inner city redevelopment (Freestone, 2007). In Sydney, the urban form grew higher, culminating in such buildings as the NSW Housing Commission's 30-storey Endeavour units at Waterloo. Newer development also resulted in the rearrangement of cities like Sydney by spurring a boom in private apartments, office towers and inner-city freeways, including redefining the edges of the Central Business District (CBD).

This view is endorsed by Murphy who suggests that due to the shortage of land in inner city areas, a major task in metropolitan planning is to identify areas for future urban development at the edge of a city and to manage processes that will bring land so

identified, into an urban state. This becomes increasingly necessary both because many people now prefer to live in new housing at the edge of the city and because housing demand often cannot readily be accommodated in a city, nor can new office and entertainment precincts (Murphy, 2007).

In his appraisal of the effects of urban renewal and landuse zoning Bailey (1959) concludes that urban renewal projects require additional emphases by governments. He argued that urban renewal under restrictive zoning has the effect of constraining the total available supply of many types of housing, thereby holding up prices and rents. Interestingly, Bailey considered the dichotomous effects of urban renewal and zoning on civic urban outcomes concluding that urban renewal projects could only be effective if cities were ready to accept their urban failures and embrace change.

This is perhaps true for all cities, in both the developed and developing worlds, all of which seek to encourage projects that add value economically, while simultaneously reinforcing ethical values (Landry, 2006). As Australian cities such as Sydney grow, the question of accommodating change, functionally and sustainably, takes on ever-challenging proportions. Within the complex labyrinth of designable possibilities, for decades many city planners have attempted to create more liveable cities. Everything has been attempted from decentralisation, multi-centralisation to consolidation and rebuilding, all of which have had some measure of success and failure (Forster, 2004).

Physically, the centre of a CBD as well as areas at the edge of a city, have to be redefined and calibrated against changing needs and circumstances in demographics, employment and housing. This is not a simple challenge (Randolph, Bunker and Holloway, 2005). Inner city gentrification¹⁰ is also linked in many cases to the migration trends and the propensity of new migrants to want to live more proximally to the main urban and city centres (Landry, 2000). A study by the Milken Institute in 2000 identified immigration as one of the two most powerful demographic trends reshaping American cities, highlighting again the importance of immigration numbers and patterns

¹⁰ Gentrification refers to the renewal of inner urban areas by young professional people, artists, etc., who find it convenient to live in them (The Australian Macquarie Dictionary, Second Edition 1991).

to the urban settlement patterns of the USA's changing civic landscape (Florida, 2002). This was also true for Australian cities (Forster, 2004).

According to Neutze (1978) however, space might be lacking in inner areas of large cities for many solutions to be effective. Access to employment, retail facilities, medical services and public transport are all essential but become difficult to be retrofitted due to gentrification and urban consolidation outcomes. Neutze argues nonetheless that consolidation is still far better than sprawl in planning terms, because such urban settlement patterns would reduce reliance on motor cars and better support public transport such as trains and buses.

1.5 - Landuse Zoning and Rezoning Defined

So what precisely is landuse zoning? How might zoning be defined and how did it acquire its current universality as a form of landuse control? Why has segregational zoning (frequently referred to as Euclidean zoning as described in ensuing section) become an effective and enduring landuse model for growing cities?

It is of paramount importance in a zoning-related thesis such as this one, to properly define what is being described by the term "zoning" and to more fully understand its function, typologies and delineations, as well as its applications and effects as a landuse mechanism. There is a multiplicity of zoning types practised around the world but the predominant type used in Australia is "segregational" zoning, used to separate uses in order to maintain the character of an area and guard against adverse externalities, as is the case in most US cities (Mark and Goldberg, 1986).

According to Richardson et al., "zoning is the division of a city or town by legislative regulation into districts and the prescription and application in each district of regulations having to do with structural and architectural designs of buildings and of regulations prescribing use to which buildings within designated districts may be put" (2002, p. 3). Richardson et al. believe that zoning controls, as we know them, began "when New York City enacted the first comprehensive zoning ordinance in the United States in 1916, the ordinance classified uses and created mapped zones for all uses with

provisions for height, area and setback controls” (2002, p. 3). Sibley (1995) argued that zoning controls “introduced sociospatial boundaries of exclusion and inclusion, codified in law” (Gleeson and Low, 2000, p.107). Zoning, according to Skosey (2006), can be broadly defined as the authority of government to enforce land uses and to control built-form at specific locations. According to US academics Rosen and Katz (1981), zoning functions through the allocation of areas to particular land uses and operates through the rationale of spatially separating incompatible land uses for the purpose of mitigating negative effects or nuisances supposedly associated with the impacts of land uses on each other. The other primary asserted purpose of zoning, according to Rosen and Katz, which has been especially important in the San Francisco Bay Area for example, is the preservation of neighbourhood character.

Zoning is therefore the division of a city or town by legislative regulation into districts and the prescription and application in each district of regulations having to do with structural and architectural designs of buildings and of regulations prescribing use to which buildings within designated districts may be put (Richardson et al. 2002).

The dominant type of zoning practiced in Australia today is often referred to as “Euclidean” zoning, derived from the name of the town where it was legally formalised. In 1926, the United States Supreme Court upheld the constitutionality of traditional comprehensive zoning ordinances in the landmark case of *Village of Euclid v. Ambler Realty Co.* [272 U.S. 365, 47 S. Ct. 114, 71 L. Ed. 303 (1926)]. This case established beyond doubt that municipalities were able to zone areas of their cities under certain designations, in the public interest. Shortly thereafter following the US Supreme Court’s 1926 ruling in *Euclid v. Ambler* (refer to Appendix I - Section 2.6), all but five of the then forty-eight states, passed legislation that allowed their municipalities to enact zoning ordinances (Revell, 1999).

Thus, in broad terms zoning has been created for the minimisation of impacts of incompatible uses on one another through segregation (Pogodzinski and Sass, 1991) and in order to reduce negative impacts where possible by restricting the location of conflicting land uses. Zoning laws embody the theme that existing residents must be protected from harmful neighbouring activities. Thus, commerce and industry are

excluded from residential zones, because they are deemed harmful to housing. This “exclusionary” concept remains foreign to competing notions of mixed-use and transport integration, with zoning ordinances typically allowing only certain prescribed uses in each district, prohibiting others, and allowing some uses only by special exception. Generally, any use not listed as “permitted” is prohibited.

The term “rezoning” is frequently used throughout this thesis. In simple terms, this is an amendment to a zoning ordinance. Certain rezonings apply to specific parcels or certain lots, often referred to as spot rezonings (see Section 1.5.2), whilst others are effected through a formal alteration of entire areas as prescribed in comprehensive zoning plans, usually undertaken by local government bodies. The rezoning of Barangaroo, as discussed below, constitutes an example of a large-scale rezoning. Comprehensive rezoning involves study of an entire municipality and a reworking of the whole zoning ordinance for that local government area.

Perhaps it is pertinent at this point to question whether rezonings are necessary in the land process at all. The answer lies, as Munneke (2005) points out, in the fact that the value of a parcel in an alternative landuse classification rises relative to the value or price in its current classification if land is rezoned to a more lucrative use than its present zoning (also called a “Higher-and-Better-Use”), such as rural land rezoning to a residential zone for example. Conversely, when land otherwise suitable for development, is zoned for a less financially- profitable use (“downzoned”), the value of the land is usually ipso facto decreased. This is because the exchange value of the land is what defines its value, according to the “degree of its exploitation” (Stein, 2008).

Even when land has not been zoned for an urban purpose, land holders particularly on the fringes of urban areas, often benefit from the expectation of forward planning through zoning. They typically achieve higher land values based on the speculative expectation that future planning changes will permit the land to be used for urban growth (Gurran, 2007).

There currently appears to be little substantive research in Australia that describes the notion of how the rezoning of land may impact its market value¹¹. Perhaps due to its difficulty of implementation and long timeframes, there is a dearth of literature covering the concept of zoning change creating land value. This is clearly an area that warrants much consideration especially knowing that the value-change due to zoning, is frequently shown to be such a large and significant multiplier of the land's original land value. The overall effect of rezoning land on profitability is often very substantial, as this thesis will demonstrate. Zoning manifestations such as heritage overlays are also covered in this thesis and are yet another way in which zoning interacts with land value. Similarly, it appears that little formal research using market transactional data has been formally conducted in this area in Australia. Accordingly, this thesis looks at the effect of two manifestations of planning regulation on land value, namely rezoning effects and heritage conservation controls.

1.5.1- Statutory and Jurisprudential Definition of Zoning

The legal basis of zoning as a planning technique in New South Wales lies in the statutory provisions of the Environmental Planning and Assessment Act, 1979 (NSW). Section 26(1)(b) provides that an environmental planning instrument may make provisions with respect to a number of matters, including "controlling ... development". Moreover sections 30 and 31 provide, that consents as given out by the use of any environmental planning instrument empowered by the Act, can specify those uses which are prohibited. As Whitehouse (2012, p.107) notes:

"The EPA Act also sets up the legal mechanism for a system of zoning by providing that an EPI may include provisions that development may be:

- carried out without the need for consent under the EPA Act being obtained
- *carried out only with consent under the EPA Act being obtained, or*
- *absolutely prohibited."*

¹¹ As defined in Spencer (see Spencer v The Commonwealth of Australia (1907) 5 CLR 418; also refer to API 5.1 Principle XII).

Inherent in the above categorisations is that these three responses to development require a segregation of the development into those three categories and this conventionally is achieved by the technique of zoning.

The provisions of the Environmental Planning and Assessment Act, 1979 (NSW) in this regard mirror the provisions of its predecessor in Part 12A of the Local Government Act, 1919 (the applicable planning law in NSW between 1945 and 1980) with the then s. 342G(2), providing that a prescribed planning scheme “*may contain provisions for regulating and controlling the use of land and the purposes for which land may be used.*”

Based upon these provisions the first planning scheme made in NSW, the County of Cumberland Planning Scheme Ordinance in 1951 (given statutory force by the Local Government (Amendment) Act, 1951) provided for a zoning scheme, with Living Areas, Business and Commercial Centres, Industrial, Rural Areas, Green Belt and Special Uses zones (see Whitehouse 2012 p.8 and Starke 1966 p.94). As Wilcox (1967 p.204) notes: “*The heart of any scheme is its regulation of the use and development of land. It does this in two ways – it reserves certain land for specified public purposes and it zones other land for particular private purposes.*”

Definitionally therefore, the legal basis for zoning lies in the considerable statutory power for plans to control, regulate and prohibit development within zones. Given the lack of constraints on the legislative capacities of State Parliaments in Australia, there have been no challenges to the lawfulness of zoning per se, as may be required where there are constitutional constraints on legislative powers as in the United States (see *Ambler Realty Co. V. Village of Euclid* 272 US 365 (1926)). In NSW, the Parliament has plenary powers to pass laws as provided in s.5 of the Constitution Act, 1902 (NSW).

Beyond any constitutional limitation on the power to enact laws providing for zoning, there is the question of whether a law (such as the NSW Environmental Planning and Assessment Act, 1979) which authorises a plan to control development, actually authorises a zoning system. On its plain terms a zoning scheme is one which controls development and is therefore authorised by the Act. This issue has not been extensively tested in Australia and it has therefore not necessitated a legal definition for zoning in

New South Wales. There have been only two judicial examples on this matter and these are early decisions in the Victorian courts.

The first was in the case of *Gill v. City of Prahan* [1926] VLR 410 at 411-414, where Dixon A.J. considered the provisions of the Victorian law enabling Councils to prescribe areas and within those areas to prohibit or regulate the erection or use of buildings. He held that:

“...I have come to the conclusion that the Act does not mean to require the municipality to resort to any well-known classification or any classification which accords to common understanding, but to permit the municipality to devise any system of classification which it thought fit.”

The second was in *Templar v. City of Prahan* [1934] VLR 111 at 115-117, Macfarlan J. agreed with Dixon A.J. in *Gill v. City of Prahan*.

Thus zoning is defined by statute in NSW and to a lesser degree by case law. It is also define by local government

1.5.2 - Zoning Definitions by Local Government

Zoning practices are most prevalent at the local level of government and formulated and brought about by state legislation in states like NSW. It is of value therefore to examine the description of zoning as may be proffered by government bodies. These are worth including as an adjunct to the academic references and for additional clarity. Planning New South Wales, in its guidance notes describing the Local Environmental Plan (LEP) Standard Instrument, introduced in 2006 for instance, explains that Local Environmental Plans (LEPs) are to guide planning decisions for all Local Government Areas (LGAs) but does not define the term zone. It does explain however, that it is through both zoning and development control, that councils are permitted to manage land use (Planning NSW, Accessed June 2012).

Other local government definitions are more explicit. For example, the District Council of Mount Barker in South Australia defines zoning more practically, by explaining how

land may be divided into a number of smaller areas in a Development Plan, called “zones”, which according to the Mount Barker zoning definition states that:

Zones are used as a way of grouping areas with similar characteristics such as land use together and setting outcomes for the area through policy. Zones are typically based on land uses such as residential, industrial and commercial. The way zones differentiate from one another includes defining the types of uses that are not envisaged or encouraged in the area, e.g. in a residential zone housing will be encouraged but industrial developments will not and vice versa (District Council of Mount Barker, 2008).

Another local government area Auckland City Council (2004), gives an even clearer definition of zoning. The Auckland City Council report defines zoning as “the basic technique for the control of land use in what is termed the District Plan, which groups together areas of similar character” (p. 1). Thus zoning, according to Auckland Council, also “recognises the present day pattern of activities and allows for a range of future development opportunities, in keeping with the amenity and characteristics of the area” (2004, p. 1).

Thus, there seems to be a reasonable concurrence of views by authorities on the definition of zoning and what is understood generally by the definitional practice of zoning in Australia and overseas. It is also well established, as the above definitions show that traditional zoning involves a segregation of land uses such as residential, commercial and industrial, in order to guard each from harmful externalities.

1.5.3 - Rezoning and Spot Rezoning Defined

Rezoning is a term applied to the process whereby a parcel of land changes its landuse designation or zoning. This, in turn, changes its allowable and prohibited uses as well as its density, height limits and ultimately its value. In the state of New South Wales, a rezoning would necessitate an amendment to a statutory instrument, usually a Local Environmental Plan (LEP) created under Part 3 of the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act). This method of plan-making may be

reviewed following the adoption of the Green Paper reforms currently being undertaken in the review of the Act and its efficacy.

The other way of commonly changing the ability of land to have new uses, was by ministerial decree through former Part 3A of the EP&A Act, where the Minister deemed a project to be of “state or regional planning significance” (repealed in 2011). This process did not need to change the zoning per se (though this was possible under the powers contained in Schedule 3 of SEPP (Major Development) 2005 as empowered by former Part 3A of the Act). Former Part 3A generally operated by allowing the Major Project (a project with a value greater than \$100 Million) to occur on the land, where ordinarily such uses would have been wholly prohibited. In due course, it was common for the local authority to then amend the zoning designation of such land parcels in their next comprehensive LEP review, to match what had been effectively rezoned in reality. Former Part 3A was removed from the Act by the newly-elected government in 2011, though the SEPP (Major Development) is still operational (as of September 2012), albeit without the provisions relating to a Major Project in commercial, retail or residential development.

Thus all amendments to zoning ordinances are commonly called “rezonings”, especially when applying to land parcels (Richardson et al. 2002). Rezonings that apply to specific parcels or certain lots, are usually referred to as “spot rezoning” and should be distinguished from comprehensive rezonings that are periodically performed by local government bodies to larger precincts or entire LGAs, although the statutory process is almost identical. Comprehensive rezonings typically involve a submission to the State Minister for Planning of a plan for the entire municipality and a reworking of the entire zoning ordinance, rather than documentation for one or more specific sites.

The term “spot rezoning” is perhaps the most used and least understood term in zoning parlance. A “spot rezoning” is defined as the singling out of one parcel or “spot”, for a different treatment from that accorded to similar surrounding land uses (Richardson et al., 2002). Spot rezonings have become more common in NSW in the past ten years. They generally arise where a specific land parcel has clearly outlived its original use and or where there is a compelling reason to effect landuse change that cannot await the

longer-term statutory local government processes (Mant, J. 2006). This might be a landfill site that has totally been filled, or a large industrial site ensconced in an established residential setting; or a parcel of disused rural land that over time, has gained excellent highway access and is clearly more compatible with other adjoining urban industrial uses.

1.6 - Research Question

Although property in most western countries, and also Australia, remains a highly significant asset class and commodity, the machinations of its classification, zoning and rezoning, continue to be inordinately convoluted. Land's ability to appreciate or lose value, through zoning and planning processes, is even more complex and less well-understood.

The main research question is the investigation through empirical research the sometimes-complex relationship that exists between the market value of land and its zoning, including instruments of zoning such as development control¹². The secondary aim of this thesis is to investigate the effects of heritage conservation, a restriction empowered through zoning and a special subset of development control and planning instruments, on property values. Answering these questions includes detailed empirical research as well as theoretical reasoning as to both the quantum of the value differential and its mechanics, including the quantifiable economic significance of such a change. Put simply the thesis will investigate whether zoning and planning change land value and also whether heritage controls, a special type of zoning restriction, also affect land value.

¹² Development control, often in the form of a Development Control Plan (DCP), is an instrument of zoning in that it gives the more detailed controls that might relate to the zone and its objectives. Its provisions are empowered through zoning as set out by a Local environmental Plan (LEP) and have the effect of creating the development outcome within a zone.

1.7 - Thesis Methodology and Structure

The primary *raison d'être* of this thesis is to explore the relationship that might exist between the triumvirate of land, zoning and value, especially as connected with a change in land use. It is thus premised herein, that as zoning changes for a given parcel of land from one designation to another, that this is accompanied by a commensurate adjustment in its market value. This value-change is observed to occur despite the fact that the land remains unchanged physically, locationally, geographically and topographically and has an identical area.

Could value be created and destroyed by a simple stroke of a pen permitting a change in land use? It does indeed. This thesis, in reaching its conclusions, reviews over 160 academic papers and some 30 books relating to land and its history, use, zoning, value, economics, commoditisation and tradability. These have a bias to the US, due to the sheer number of references covered by US academics but also covers British and Australian sources extensively. The literature reviewed was deemed necessary to ground the research and to properly distil a digest of the prevailing views on the main subjects relating to the topic of this thesis.

The thesis then progresses through documented examples and data derived from actual rezonings, to formulate an empirical measurement quantifying the effects of value-change due to the rezoning effect. The research and the examples used herein are all based in New South Wales, Australia, employing actual market data and transactions to postulate a theory of how zoning change creates and destroys value for landed property.

The documented examples of land parcels used in this thesis are all ones that have undergone zoning or planning change. They also traverse a number of different zones including Rural, Special Use, Retirement, Bulky Goods, Industrial and Residential, comparing their market value before and after the zoning change. Using real market data, an empirical formula is derived to connote the mechanism for value-change of land in New South Wales. This potentially has direct applicability to other Australian states and other countries, where Euclidean or segregational zoning is used as a means of landuse control.

Thus this thesis reviews, in essence, the effects of planning regulation on land price as measured through empirical examples. Academic literature covering such effects have included those of Marshall (1961); Ley (1986); Mischynski (1978); Maser et al. (1977); Monk and Whitehead (1999); Nelson (2000); Ohls and Weisberg (1974); Bailey (1959); Cheshire and Sheppard (1989); Adams et al. (1968); Wachter and Cho (1991); Courant (1976); Speyrer (1989) and Crecine et al. (1967) amongst others.

The literature critiqued in Chapter 2 and Chapter 3 of the thesis not only covers the effects of planning regulation on value but also includes a detailed review of the published academic literature on the commoditisation of land and its economics (Smith, 1979). It also contains an overview of the main landuse models relating to the economics of land and its productive value, including the various “Rent Gap” and land rent models of Alonso (1960); J. Harvey (1981, 1996); Evans (1985); and E. Clark (1985). In many respects these models describe the rezoning effect, where land changes its productive capacity permanently.

The literature reviewed was deliberately selected to traverse a breadth of views, considered important in providing a thorough account of research publications that offer insights into the concept of value in the land rezoning process. The literature builds towards identifying and explaining how the demand for living and working space in urban areas is connected to civic zoning patterns as seen in cities like Sydney today (Troy 1995; Forster 2004; Gurran 2007; Neutze 1978).

Directionally the review attempts at establishing a historical setting for both planning and zoning through the documented views of a large number of experts. Zoning’s role is explained, in the first instance, through both the evolution of its regulatory function in managing civic growth and its ability to produce urban and civic transformation (Westerman 1998; Zehner and Marshall 2007; Wiggins 1991; Thompson 2007; Stein 2008).

The literature groups firstly the views of the many experts and academics who support the role of zoning as the central tool for planning and administering landuse in cities. This was considered important in establishing zoning’s popularity as a system of land

use and its likely enduring connection with land in the urban landscape. It then moves to summarise the views of zoning's many critics.

There is also within the reviewed literature, a full summary of the history of planning in New South Wales, its legal basis as well as its derivation of power from statutory law, as presented by the expert views of those such as Williams (2007) and Ryan (1988).

Deemed important due to its nexus with the empirical evidence contained later in the thesis, the views of academics such as Starke (1966); Freestone (2007) and Orchard (1999) are canvassed to elucidate the historical evolution of planning in the state of NSW. These include its planning, design, economic, social, statutory and functional criticisms. This is accompanied by a considerable discussion on the density debate, growth management systems and the current and related question of urban sprawl. These were considered important in establishing a connection between the spheres of zoning; density, floorspace and value, aiming at elucidating on zoning's success (Arendt 1992; Babcock 1966; Nelson 1977; Delano 1931).

This is followed by the literature on the types of zoning, the rationale for planning and zoning as well as its limitations. Opinions canvassed include the views of Garrett (1987); Jacobs (1961); Mant (2006); Karkkainen (1994); Godschalk (2007); J. Harvey (1996); and Skosey (2006).

On zoning's possible connection with value, other expert opinions such as those of Healey (2006); Knapp (1985); and Ruming (2007), are also thoroughly reviewed. These all serve as a necessary prelude to the empirical research conclusions on landuse and value of Chapter 5 of this thesis. There is also an evaluation of the literature specific to the heritage research contained in Chapter 6 such as the work of Armitage and Irons (2005); Quigley (1987); and Schaeffer and Millerick (1991).

The thesis covers the statutory aspects of zoning in Chapter 4, concentrating considerable attention on the New South Wales Environmental Planning and Assessment Act 1979 (NSW), particularly those parts that relate to the rezoning and approval processes of the case studies and the empirical research contained in Chapter

5. New South Wales is where all the empirical research of the thesis is based. Also in Chapter 5, the thesis establishes an empirical model to explain both the mechanism and quantum of change in land value, as measured by market observations through sales data. This transactional value was deemed an accurate measure of value, namely the price at which land has been exchanged by a willing buyer and a willing seller in an open market process (see definition of Market Value above). Where a transaction was not actually effected, valuations, as booked in formal records and highest offers that indicate market demand, were used as a proxy for Market Value.

The literature reviewed throughout Chapters 2 and 3 of the thesis, affords appreciable attention to the role of zoning in value generation. As explained throughout all the chapters but particularly Chapters 2, 3, 5 and also Chapter 6, zoning, its value impacts, history and function are discussed in explaining how zoning comes to govern the use of land and how it might invest it with new value. This is used to derive the Empirical Value Change Equation (Chapter 5), and explain the impact of heritage overlays on land value.

There are two sets of data used in the formulation of the results and conclusions of the thesis. The first is the data collated through the 20 separate rezoning case-study empirical examples (Chapter 5). These were detailed rezoning studies of sites that had all undergone a value transformation through planning or zoning. The detailed qualitative and quantitative references used to document each, were sourced from the author's experience and from information on the public record. The case studies are all different: there are parcels that were rezoned from rural to retirement uses, or tourism to industrial or special uses to residential. Some did not change zoning at all but benefited from development approvals through DAs or masterplans. They were specifically selected to traverse a breadth of landuse issues and all have complex and unique journeys. The rezonings and planning transformations of all the case studies have also necessarily involved intricate negotiations with private and public bodies, within the pressured context of value-creation. What is significant about these "negotiated outcomes" is that value was created for each via the planning system upon rezoning and was confirmed by the market in most cases.

The second set of results were collected by the author for land (including houses) in and around two Heritage Conservation Areas (HCAs) in Sydney's eastern suburbs, at Randwick and Kensington.

The work conducted for the heritage conservation research involved over 500 actual house sales. The aim was to establish the effect if any, of heritage conservation overlays on the price of residential land. This was done by calculating the average annualised unadjusted capital gain of detached dwellings inside the two separate HCAs and comparing these with properties outside the two HCAs namely: North Randwick and West Kensington, both located in Sydney's eastern suburbs. The HCA research documents the average capital gain over a 35-year period, comparing properties inside and outside both HCAs (refer Chapter 6). The results are both numerically and graphically tabulated, drawing definitive conclusions on the effect of each HCA on home prices and land values over time. It also presents original research on how heritage conservation, an extension of zoning, affects the capital values of houses (with their land parcels) over time.

Empirical data for both the rezoning case study examples and the two HCAs has been used in the research, in order to establish what nexus might exist between zoning and other planning processes such as development approvals, on land value. The HCA research was an extension of this postulation, where values of land (and the dwellings upon them) inside the HCAs were compared with those immediately outside them. This was primarily to establish if such zoning manifestations as HCAs had an effect on land value (refer Chapter 6).

1.8 - Rationale for Zoning and Landuse Segregation

As currently practised in Australia, zoning by its intrinsic nature, limits land both as to its use and the intensity of that use. Individual state planning systems, such as those practiced in NSW, all treat zoning in their regulatory regimes a little differently but the statutory intention is always the same: creating better amenity through the segregation of land uses, although many zones do allow for the co-location of some land uses, as well as separation. In the state of Victoria for instance, landuse zones are combined

with planning overlays such as HCAs to account for the multiplicity of factors that impact on desirable urban outcomes in different locations (Heritage Victoria, 2001).

Revell (1999) postulated that zoning, at its most basic origin, derived its legitimacy from its association with the traditional police-power goals of abating disease and preventing fires. This is despite the fact that the zoning debate today is considerably removed from zoning's original but essential connection with public health. Nonetheless, at least for the initial acceptance and formal legitimisation of zoning, the nexus between public amenity and the intentional segregation of land uses, was "necessarily inextricable" (p. 136).

Healey (2006) had a different perspective, believing that modern planning is derived from a curious mixture of evangelism, formal institutional practice, scientific knowledge and academia. Healey believed that the Germans were first, using a type of zoning as early as the nineteenth century, to regulate urban growth, by relating it to infrastructure provision.

As is readily observable today, landuse regulations typically specify, for each defined zone, those activities that are permitted as a matter of right, as well as those which are "prohibited" under the zone. If listed as a permitted use, the landowner may only engage in this use with a development approval, usually issued by a local authority. Generally, any use not listed as "permitted", is "prohibited" under the planning scheme. An ordinance specifically prohibits particular uses in a zoning, or specifically prohibits a particular use in a district, so as to avoid landuse conflicts in the district.

A still-common example of this is the restriction of heavy industrial uses in low-density residential zones. Spurred on by early planning concerns with health and amenity, industrial and residential zones have land uses that are clearly incompatible. Industrial users often demand and need unfettered 24/7 truck access to their properties for maximum industrial efficiency, whilst residential users value quietude, particularly in the night hours and week-ends. This is why segregating land uses is still deemed by many as essential in delivering good planning and effective zoning today. Notwithstanding, and in more recent times, much of the industrial activity has become

cleaner and quieter in nature in a way that can more reasonably be accommodated near many residential uses without adverse impacts.

In the US, Skosey (2006) points out the significance to current zoning practices, of the US Supreme Court decision in *Euclid vs. Ambler* 272 U.S. 365 (1926). In this landmark case, Ambler Realty challenged the constitutionality of a new zoning ordinance imposed by the town of Euclid, Ohio. The ordinance prescribed segregated land uses over Ambler's land. At the end of a long process of appeals, the US Supreme Court deemed such an ordinance constitutional and the town of Euclid to zone land as such, in the public interest. The segregational zoning model arising from the Euclid case, has since given rise to the term "Euclidean zoning", which has come to describe that type of landuse control.

Today, almost every major city in both the US (and also Australia), has adopted a zoning code. Based on the Euclid decision and for almost a century following, there is almost universal use of zoning to regulate land use, including the type and nature of all permitted uses, the number of lots and the size and siting of structures (Revell, 1999). These are now ubiquitous in Australia (Stein, 2008) and widely accepted as the main regulating mechanism for all development whether industrial, commercial or residential. In essence, such zoning dictates where people live, shop, recreate and work (Gurran, 2007). It controls the look, size and type of housing and the location of schools, churches and retail stores.

Zoning may also be used to stipulate the preservation of natural, scenic or environmental settings, directing infill patterns and mixed-use development to specific locations, and provide for additional public community assets. These factors, according to many such as Crecine et al (1967); Janssen-Jansen et al (2008); Karkkainen (1994); D. Harvey (1985); Nelson (1977); and Arendt (1992), are all legitimate reasons justifying the widespread adoption of landuse zoning in cities and towns.

Notwithstanding its universality of use in Australian and US cities (Glickfeld and Levine, 1991), zoning is relatively new in historical terms and despite its obvious practicality, it did experience great difficulty in gaining public acceptance. Many city-planning pioneers, such as Chicago architect Daniel Burnham and landscape architect

Frederick Law Olmsted¹³, at around 1910, needed to seek refuge in the legal power of compulsory acquisition (or eminent domain) to re-create civic architectural order embodied by elegant boulevards, parks, and civic buildings. It was a requisite, as these men felt, that older forms and spaces be destroyed, before they could be properly re-set (Johnson, 2003). This would also prove an equal challenge to Australian urban planning in how to make cities more beautiful and give more emphasis for instance, to urban parklands without having to constantly resort to the heavy-handed rigidity of compulsory acquisition. Could a public mechanism such as zoning fulfil such aims more simply? Many past city planners had to be iconoclasts first and city makers second. This need for civic order was also a driving force behind Baron Haussmann's desire in the late nineteenth century, to reorder Paris under the aegis of Emperor Napoleon III (Freestone, 2007). He was granted "carte blanche" and the delegation of the Emperor's powers of intervention and unquestionable acquisition, in order to remodel and showcase Paris' now-famed manicured civic beauty (Cuthbert, 2003).

So it is hardly surprising perhaps, that zoning has found such widespread and immediate support from the public and their local government representatives in both the USA and Australia. By 1926, the year of the Euclid decision, all but five of the US states had passed zoning-enabling acts, an immediate acceptance by any account. Hence, by historical default, zoning had taken on its present function as a template for the creation of new urban districts and maintenance of existing areas. The purpose of such zoning was, according to Ryan (1988), to not only give order to the growth of cities but also importantly, to stabilise existing areas ensuring slow transformation and more orderly suburban expansion over time. The question that begs an answer in the face of such inexorable acceptance, is why?

Zoning's ability to produce greater certainty is perhaps one of the reasons for its popularity but perhaps also in the way it allows for improved architecture in the design

¹³ Burnham and Olmstead presided over a new ordered town park concept which further developed in the 19th Century, becoming a major influence in Frederick Law Olmstead's famed design of Central Park in New York. This movement probably had the greatest historical influence on the inter-relationship between the built form and the natural form within cities in the US, drew from the Garden City Movement begun by Ebenezer Howard in 1898 in his published work "A Peaceful Path to Real Reform".

stipulations of development plans. The codified rules, upon which much of zoning's rationale is based, according to Ellickson (1973), gave greater certainty to local law makers that their zoning ordinances could not be ruled unconstitutional. As a precursor to and survivor of older systems of land use, planning using standardised zones, has come to symbolise a greater integrity, stability and predictability, especially for residential precincts, often with little necessity for litigation. This is perhaps another good reason for zoning's ubiquity and widespread acceptance in Australia and the US today (Ryan, 1988).

Other critics such as Crecine et al. (1967) were also supportive of zoning city districts and prescribing uses to the built-form. They found that placing restrictions upon private development in urban markets, assisted in the provision of services such as new roads, water and sewer. Accepting the segregation of high-density and low-density land uses as necessary for harmony, Crecine saw the economic advantages to zoning, in its ability to permit cities to confine the construction of high-density to specified areas of cities, as needed, but still providing other low-density housing forms in other areas. Thus Crecine et al. (1967) supported municipal zoning both for its contribution to economic efficiency, as well as for creating civic order and directing urban growth.

Many other authors on the subject, such as Daniels (2002); Gurran (2007); Burnley and Murphy (2002); and Mills (2005) were also in support of zoning for its structured ability to limit urban sprawl. Janssen-Jansen et al. (2008) thought zoning was beneficial to both municipalities and the state in creating a centralist role to plan better cities. Rosen and Katz (1981) believed in its economic benefits, whilst Delano (1931) espoused planning's positive influence in stabilising property values in cities. Other supporters of zoning included Huxley (1994); Stein (2008); Arendt (1992); and Babcock (1966). Mark and Goldberg (1986) were also advocates of the universal use of zoning to control land use, namely due to its ability to limit negative externalities in urban settings.

Equally however, Euclidean (or segregational) zoning has received prodigious criticism for its lack of flexibility and institutionalisation of outdated planning theory. This criticism levelled at zoning (Hibner 2002; Dowall 1984; Ellickson 1973), includes its

purported economic and social shortcomings and its inability to produce appropriate and functional mixed uses and varied streetscapes (Rosen and Katz, 1981; Dowall and Landis 1982; Fischel 1979; Quigley and Rosenthal 2005; Ross 1972; Monk and Whitehead 1999; Malloy 1987; Siegan 1970; Garrett 1987; Grieson and White 1981; McMillen and McDonald 1991; Ellickson 1973; Bailey 1959; Briffault 1990 and Richardson et al. 2002).

To many critics however, zoning's formalised prescription of the built-form will always be viewed as a prodigious shortcoming, which is not only undesirable, but also unhelpful in creating better urban environments (Hibner 2002; Dowall 1984), with serious limitations that arguably outweighed its benefits (Ellickson, 1973). Its many purported deficiencies include its economic impacts (Rosen and Katz, 1981; Dowall and Landis, 1982; Fischel, 1979; Quigley and Rosenthal, 2005; Ross, 1972) and social shortcomings (Briffault 1990; Monk and Whitehead, 1999; Dawkins and Nelson, 2002) as well as its inability to produce functional civic outcomes, mixed uses and varied streetscapes (Jacobs, 1961; Ross, 1972; Starke, 1966; Brugmann, 2008; Stein, 2008; Davis, 1963; and Richardson et al. 2002).

Zoning is widespread today in Australia however and its use is indeed almost universal within the urban footprint of the State of NSW (used by all 152 municipalities in NSW), serving as a powerful reminder of its true acceptance in the face of much ardent criticism. Euclidean zoning is certainly preferred by councils in NSW and used in all of the State's municipalities, probably because of its comparative efficacy, ease of implementation (having one set of explicit, prescriptive rules applied across each zone), long-established legal precedent, and familiarity to planners, architects and city-planning professionals (Gleeson and Low, 2000). Here certainty and administrability have been preferred to more flexible systems that might exist elsewhere such as in the UK or Western Europe.

Despite such widespread criticism of zoning, whether undeserved or accurate, it is nonetheless clear that a very large number of jurisdictions have either used or continue to use, Euclidean (or segregational) zoning as their landuse control method of choice. There is also perhaps reasonable unanimity of view, in both the literature examined

herein and in the property sector generally, that laissez-faire, uncoordinated development would lead to unacceptable civic outcomes with poor amenity as the inevitable result (Huxley, 1994).

Therefore some form of public control becomes necessary, even mandatory for safety and liveability (J. Harvey, 1996). This extends to the need for the control of urban development in cities (Janssen-Jansen et al. 2008) and the great fear of continued sprawl which can destroy productive farmland (Daniels, 2002), exacerbate traffic conditions and stretch cities outwards uneconomically and unsustainably.

Arguably zoning changes through intensification of landuse are the best way of promoting desirable infill development and discouraging the often-unabated take-up of “*greenfield*” areas by expanding cities. There is on that very count, as Gurran (2007) argues, much merit in such urban consolidation. Such reorder would make better use of existing urban areas. This could also include the reuse of obsolete, former industrial and brownfield sites and the gentrification and rejuvenation of older areas at city centres (J. Harvey, 1981; Evans, 1985; Ley, 1986; N. Smith, 1979; E. Clark, 1985).

It is perhaps for its orderly impacts on renewal that traditional zoning is universally acknowledged, as a transformative vehicle for directing and governing civic outcomes on employment and housing, especially to “brownfield” locations that have existing infrastructure to support them. Some experts have come to view zoning as an efficient tool in directing the pattern of new development to the areas of a city that most need it and away from regions least able to accommodate certain uses (Forster, 2004; Daniels, 2010).

To its advocates, Euclidean zoning remains the tool best-suited for encouraging greater density and greater diversity in many growing cities (Swan, 1934; Wiggins, 1991). The most fundamental question arising from the zoning debate however remains the efficacy of zoning in reaching its stated public amenity objectives. Are these easy to measure? Is zoning an ideal landuse mechanism as some claim (Delano, 1931; Babcock, 1966; Crecine et al. 1967; Arendt, 1992; Huxley, 1994; Harvey, 1996; Nelson, 1977) or simply another contrived statutory tool obsessed with segregation rather than civic outcomes?

The fullest and most accurate answer is indeed complex. At its most rudimentary, there rests the justifiable criticism that zoning may be less than an ideal tool of effecting immediate and responsive change to observable civic issues such as congestion, sprawl or employment needs (Starke, 1966). It may also be at least partly to blame, for certain unintended urban consequences such as homogeneity, and car dependence (Davis, 1963). Nonetheless, zoning's ability to stabilise property values has swayed the debate in its favour (Delano, 1931; Rosen and Katz, 1981). Given its ubiquity and pervasiveness of use in Australian cities however (Forster, 2004), it would be fair to assume that it is probably here to stay and that future landuse systems would probably be variations rather than total departures from the current segregational zoning model (Stein, 2008).

1.9 - Dynamics of Rezoning Land

It has been argued that the development of zoning as a legal tool for local government created many correlated private benefits: real estate groups gained a form of statutory protection for property values; neighbourhood associations now possessed a sanctioned mechanism to be more selective about their locales. Even municipal reformers gained a platform to apply expertise to the great urban problems of cities, but mostly zoning was well-suited to local government bodies interested in self-promotion and increasing local power and decision-making (Revell, 1999).

For these reasons and because putting ordinances into practice required little public investment (unlike other planning measures that required costly compensation claims or compulsory acquisitions), zoning and rezoning became a practice of choice across most of the USA (Revell, 1999). Australia followed in a very short period of time. It also created immediate visible benefits without requiring large financial outlays by local government.

There was also the added benefit for rezoning authorities, of being under absolutely no obligation to proceed with an amendment to effect a rezoning at the request of a landowner (Stein, 2008). This is particularly applicable in New South Wales, where the issue of all rezonings was and remains discretionary for public bodies and ministers. It

is also most usually subject to the proclivities and motivations of local government (Landry, 2006). Exceptions are, of course, those matters that are considered of state significance or those of specific interest to the Planning Minister, which can follow a more defined pathway.

An essential question that must be asked in the course of this thesis is a fundamental one: if zoning creates such great stability, is there a need to continually undergo further rezoning? Should rezoning as a practice be encouraged or is it by its very nature a formula that undermines systemic stability?

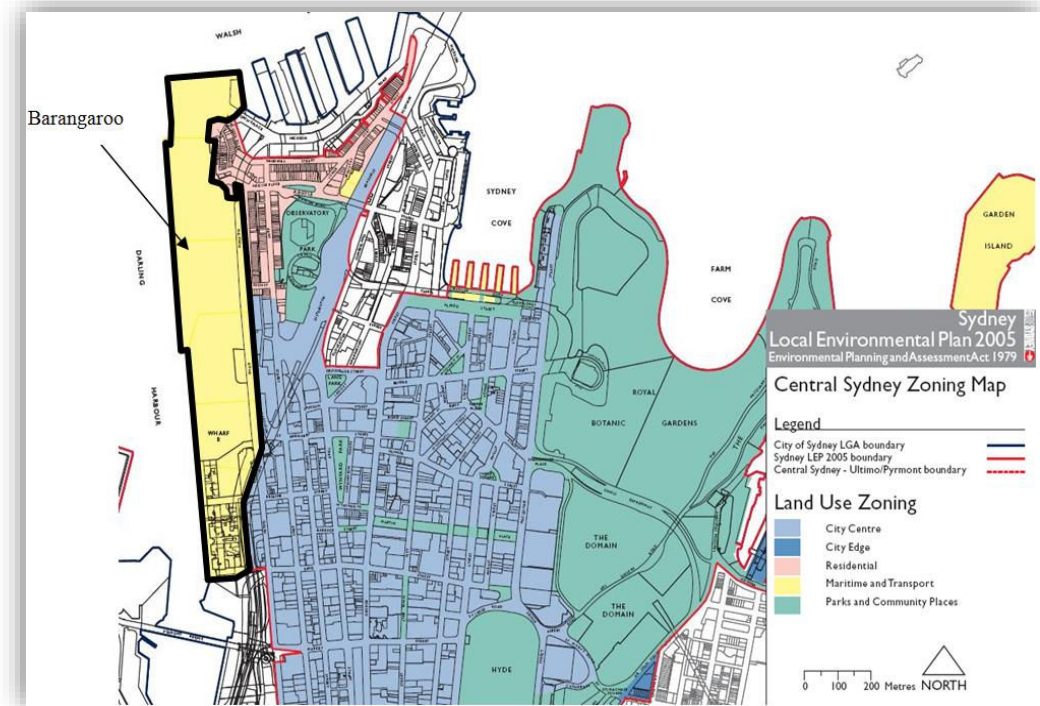
The answer is actually very simple. There is indeed a genuine need for evolution in all cities. Our cities are not static landscapes: they are dynamic and continuously-evolving with new needs and requirements over time (Hibner, 2002). We have very different household structures to only fifty years ago. We have different demographics and population settlement configurations and changing employment and retail patterns. Also many areas change in popularity and many others gentrify (Landry, 2006). To the extent that a planning system does not allow ready change of uses or the cohabitation of uses, then rezoning must occur, as it currently does in many cities around New South Wales today (Mant, 2002).

One quick mention of a large-scale urban renewal and landuse transformation, may be afforded here to a large land parcel at the edge of the Sydney CBD known as Barangaroo. It is essentially a rezoning of land producing land value transformation. In some ways, it is the essence of this topic and may be worth a quick cursory examination at this early point in the thesis. Some reasons to use Barangaroo as an early example include the fact that genuine renewal occurred and value change, as well as it being a very recent example (2012).

1.95 - Barangaroo: Urban Renewal at the Edge of Sydney CBD

Barangaroo is an inner-city area of Sydney, located at the north-western edge of the CBD and the southern end of the Sydney Harbour Bridge (Figure 1.1). It measures approximately 22 hectares and is wholly-located within the City of Sydney Local Government Area (LGA).

Figure 1.1 - Barangaroo prior to Rezoning in relation to Sydney LGA



Compiled by Geha, 2012

In land-value terms, Barangaroo had an estimated value of \$96.688 million AUD in 2007 and is presently valued in 2012 at over \$6 billion AUD (Barangaroo Delivery Authority, 2012). It is currently the largest redevelopment project in the State of NSW and as it continues to evolve over the course of the ensuing decade, it is estimated to contribute over \$1.5 billion AUD into the NSW economy annually (Barangaroo Delivery Authority, 2012). The project's main objective as stated publicly, is to deliver high-quality commercial space, new housing, as well as entertainment and retail space adjoining the Sydney CBD. In that sense Barangaroo presents as an excellent introductory example of urban renewal and gentrification in an urban context, with the site changing physically and economically through both planning and zoning. The redevelopment of the site was facilitated by a government process under a special part of the planning legislation, namely the former Part 3A (repealed in 2011) of the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act).

The readaptation of land uses at the site began in earnest when the NSW Government launched an international urban design competition in May 2005 to source ideas and

concepts that would underpin the transformation of Barangaroo (Sussex and Penn, 2011). In 2008, following a long public selection process which included many international development and banking consortia, the winning bid for the development rights to develop Barangaroo were awarded to property giant Lend Lease and their financiers Westpac Banking Corporation (Barangaroo Delivery Authority, 2012).

Figure 1.2 - Barangaroo; Redevelopment Areas



Compiled by Geha, 2012

In detailed planning terms, the project was granted elevated status as a site of state and regional planning significance transformed in accordance with a new site concept plan from its previous Maritime and Transport zoning to part-RE1 and part-B4 Mixed Use under Schedule 3 of the State Environmental Planning Policy (Major Development) 2005, the later permutation of SEPP (MP). Technically, a rezoning was never sought through this process, but rather, landuse change was retrospectively formalised through the former Part 3A¹⁴ Project Plan approval process (see Figure 1.3 below). Therefore, Barangaroo has acquired presently the status of being a gazetted State Significant Site (SSS).

¹⁴ Though repealed in 2011, former Part 3A of the EP&A Act 1979 (NSW), was a significant, and once commonly-used, part of the Act. It applied to the approval of all major development and infrastructure projects in New South Wales. In former Part 3A, the Act set out in some detail, the assessment process for major infrastructure and other projects considered by the Minister to be of regional or state planning significance.

Figure 1.3 - Barangaroo Current Zoning according to SEPP (MP) 2005



Compiled by Geha, 2012

Currently, as of 2012, the construction of the retaining walls, piling and further archaeological investigations have commenced in Barangaroo South. At the Headland Park, major works on the park and open space in the precinct have commenced the formation of the new precinct (Barangaroo Delivery Authority, 2012).

The Barangaroo precinct embodies the notion of revitalising obsolete and surplus land into prime inner city real estate. This is an increasingly-significant development technique, as observed by many experts such as Evans (1985) who links such urban renewal and rezoning effects with changing social needs and shifting demographics, thus necessitating landuse change as observed in many countries including the US, the UK and Australia (Randolph, 2006). It is one of the many civic patterns that precipitate the zoning transformation of urban land and serves as one illustrative example of the central point of the thesis.

The land component here experienced a large value uplift due to the “rezoning effect” of the precinct. It was this effect that transformed the site value for Barangaroo. This value transformation by planning and zoning processes is central to the discussion contained within this thesis, as it sets out to explore and quantify this effect on land value through the use of some 20 detailed empirical case studies, experiencing a similar pattern of value change to Barangaroo.

1.10 - Morphology of the Thesis

This thesis consists of seven chapters, centred around the themes of land value, planning and zoning. These spheres are explored in an attempt to address specifically how a landuse change may produce a value change in land, despite the fact that the land remains unchanged in area, topography and geography. Chapters 2 and 3 contain a comprehensive review of the literature relating to zoning and planning. Contained in every chapter moreover, is more specific literature, focusing on zoning and rezoning. Such focus relates more particularly to the specific subject matter contained in each chapter. The seven chapters may be summarised as follows:

Chapter 1: Introduction

This chapter begins by introducing in more depth, the aims and objectives of the thesis. It introduces the subject of land, highlighting its importance as an asset class and defines the concepts of zoning and rezoning and their complex interaction with land value. The chapter also introduces the research question of value-change due to zoning and explains how this is arrived at using rezoning examples. It also outlines the methodology employed in the research work carried out on the heritage conservation areas and the research comparisons made. This chapter concludes by highlighting both the outcomes and the main practical benefits of the research.

Chapter 2: Literature Review - Land Economics and Zoning

The second chapter represents the first of two parts of a detailed review of the main academic literature on the broader themes of landuse, urban planning and land economics. The literature was deliberately selected to traverse a breadth of views, some

directly centred on subjects relating to the topic of this thesis, as well as others a little further afield. Whether overtly, intrinsically, directly or innately, all the literature examined in this chapter relates to the core topics of land, its zoning and value.

The principal aims of the review of such a substantial amount of the prevailing literature on these subjects, were comprehensiveness and diversity. Consideration of the subject matter from a wide range of perspectives enables a deeper understanding of the issues covered by the thesis, namely the effect on land values subsequent to a zoning change.

To that end, this chapter examines the views of a number of academics, theorists and experts on the subjects of zoning and land value. The first part of the chapter (Sections 2.1- 2.5) covers the main literature relating to the concepts of land value, gentrification, the rent gap¹⁵, urban location, and bid rent¹⁶. These were considered significant in establishing a conceptual basis for the discussion on zoning and rezoning and their economic connection with land value. The uplifting effects of upzoning on land value (or its converse diminutional effect in the case of a downzoning) are not too dissimilar to the notion of a “rent gap”, being the difference between a parcel’s existing use and its “Highest-and-Best-Use” in the market.

The theoretical considerations of rent gap, economic efficiency, redevelopment, bid rent and urban location were deemed relevant for greater consideration of the important question of how land value is created or recreated through planning and zoning. Such notions also introduce a theoretical economic perspective that offers different insights into the topic of value change as related more specifically to zoning.

¹⁵ The rent gap is defined as the difference between a land parcel’s actual economic return based on its current land use and its maximum potential rental return should it be at its optimal “Highest-and-Best” use. Theoretically, as this rent gap grows larger, it creates future profit opportunities for land owners.

¹⁶ The bid price function for land is the price which the market is willing to pay (or bid) at varying locations (distances from a city centre) in order to achieve an acceptable level of profits.

A total of 48 documented opinions have been considered in the literature review in the second portion of this chapter (Section 2.6). They all centre on the concepts of zoning and whether certain types of landuse zoning can alter land value. The views ranged from those who believed that zoning created certainty like Jud (1980) to those who believed that it created value through the elimination of negative externalities such as Crone (1983); Peterson (1974) and Stull (1974). There were also those who felt that zoning land as a process added certainty and value (Speyrer, 1989; Munneke, 2005). There were also those whose research showed that enforcement of strict zoning and planning regulation raised land prices, including (Fischel (1979); Downs (2002); and Stull (1974). Most importantly also there were those who believed that rezoning land created immediate windfalls, including Gurran (2007) and Stein (2008).

Chapter 3: Literature Review - A Critique of Zoning

This chapter, in conjunction with Chapter 2, reviews more literature on zoning. The review covers both arguments for the unrivalled ubiquity of zoning and its often-lauded success at creating civic order and certainty of value and tenure, as well as many of the criticisms levelled at zoning, including its vapid “dead hand” and its lack of responsiveness to the changing needs of cities. These explications include zoning’s many manifest and latent ideological, design, economic and social shortcomings and its sometimes poor but obvious influence on civic outcomes.

The chapter continues the literature commenced in Chapter 2 and focuses more closely on the subject of zoning, covering its history, typologies, use, as well as its main benefits and disadvantages. It also covers the important density debate as set out by various academics including the arguments relating to urban sprawl. The chapter concludes with a full account of how various academics deal with zoning’s ability to create and destroy value.

The chapter also contains a review of the main written commentary on urban growth boundaries, urban containment and their researched effects on house and land prices. The chapter includes a review of literature explaining the function of growth management systems as administered through zoning, in the context of planning and zoning where such systems are largely conceived and administered.

The chapter concludes with an appraisal of the concept of land-value change through zoning, as seen from different academic perspectives, including a wide range of views of how land value may be created or destroyed by zoning or planning change.

Chapter 4: Zoning and the New South Wales Planning System

The planning system and its complex rubric of codes and instrumentalities, is and remains key to unlocking land value, particularly in the state of NSW. This chapter reviews in some detail the New South Wales Planning system. It commences by elucidating on the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act), which governs all land in NSW, and gives effect to all of its zones. In particular, the more relevant sections of the Act are explained with special emphases on those parts of the Act connected with zoning, rezoning and development approval, namely Part 3, (former) Part 3A and Part 4.

The chapter attempts to set out the basis of the statutory and bureaucratic processes by which planning affects value in NSW. There is discussion of the instruments of the Act used in plan-making, including the State Environmental Planning Policies (SEPPs), Regional Environmental Plans (REPs)¹⁷, Local Environmental Plans (LEPs) and (former) Part 3A which governed those projects deemed to be of state or regional planning significant between 2005-2011.

Discussion is concentrated on all those sections of the EP&A Act deemed relevant to the aims of this thesis, primarily in order to elucidate the methodology and the statutory steps involved in the ability to rezone land and approve development upon it. There is also discussion of the new Gateway process for making new local plans or amending existing local plans (LEPs) under s.56 of the Act.

¹⁷ In 2008 amendments to the Environmental Planning and Assessment Act 1979 (NSW) abolished Regional Environmental Plans leaving only two types of Environmental Planning Instruments in NSW, namely State Environmental Planning Policies and Local Environmental Plans.

Part 4 of the EP&A Act is also discussed as it is the part of the Act empowering the approval of Development Applications (DAs), which is also connected to several of the examples used in Chapter 5 of this thesis in expounding the notion that zoning creates value. This is also relevant in creating the necessary pretext for the methodology used in arriving at the Empirical Value Change Equation (Chapter 5, Section 5.8). The main purpose herein is to show how the planning system can effect a rezoning or grant approvals that create value.

This chapter's key contribution to the thesis is in the explanation it offers of how the planning system gives legal and statutory pretext to value and value-change, as it relates to development and land generally, and to the 20 rezoning case study examples used in this thesis specifically (refer Chapter 5).

Chapter 5: Change of Land Value through Zoning and Development Control

The chapter explores many of the underlying theoretical and practical factors that create and destroy land value, explaining how these are formulated and derived. It uses the empirical evidence, detailed in the 20 case study examples, to inter-relate the market price of land parcels to both zoning and planning outcomes and hence value-change. This analysis includes the important work of Ruming, especially ANT (Actor Network Theorem) as applicable to complex projects (2007; 2009), where the final outcomes were all necessarily reached through negotiated final land outcomes. As the case study examples show, where competing statutory, political and financial interests exist in a project, such interactions between proponents become essential in reaching a final outcome that might be accepted by all parties.

So why should a rezoning or planning approval affect land value? The reasons are both complex and varied. To summarise the findings of the research, in very simple terms, value-change occurs due to the change in the productive capacity of the land and its increased ability to produce income or capital or both. This proposition is discussed in this chapter, using the examples of the 20 rezoning case studies in turn.

The chapter begins by exploring many of the underlying factors that constitute land value, explaining how these are formulated and derived. The general relationship

between land value and land economics is explored from a planning and zoning perspective, including the more complex interaction between zoning and its manifestations on value-change.

In order to explain and understand more fully how zoning change interacts with land value, there is first a theoretical prelude in the earlier parts of the chapter, which uses two typical land parcels - the first undergoing a floorspace ratio¹⁸ (FSR) change, the other subdivision. The aim of these was to explore the quantification of “the zoning effect” from a conceptual viewpoint. Firstly an equation relating to land’s market value-change is formulated and expressed in terms of FSR and gross floor area¹⁹ (GFA) changes, for an urban parcel. The chapter introduces two new terms for expressing the zoning effect. The first is titled the Zoning Value Equation (Urban Renewal). A parallel equation is derived for zoning value-change for a rezoning that effects a subdivision. This is referred to as the Zoning Value Equation (Greenfield Subdivision).

These formulae build up the theoretical and deductive rationale for what is designated as the “rezoning effect” and then, using the empirical data contained in the chapter, inter-fold into the Empirical Value-Change Equation - the main objective of this chapter and thesis. In constructing this outcome, the approach has been to use the data contained and derived from the empirical case study examples documented, to properly explore and model value-change by quantifying the movement in the market value of land and relating the quantum and direction of this value-change to either zoning or planning processes.

Chapter 6: Heritage Conservation Area Comparison

In essence, heritage generally and a Heritage Conservation Area (HCA) specifically are a zoning overlay, which is superimposed upon property further restricting activity in a given zone. It is thus an obvious manifestation of planning control. It directly restricts

¹⁸ The Floorspace Ratio (FSR) of buildings on a site is the ratio of the gross floor area (GFA) of all buildings within the site, to the site area (Standard Instrument: Principal Local Environmental Plan, 2006)

¹⁹ The Gross Floor Area (GFA) refers to the total area of all storeys contained by the enclosing walls (National Construction Code: Building Code of Australia, Volume 1, 2012).

the use of properties within a heritage-designated area such as an HCA, at least by comparison to properties outside the HCA.

The main question posed and answered within this chapter is whether Heritage Conservation Area (HCA) restrictions, as a part of the operation of zoning, impact residential land and house prices? This chapter details the research findings of two empirical case studies relating to capital growth comparisons of residential property affected by such heritage planning controls. The study incorporates two HCAs in Sydney's Eastern Suburbs, namely the North Randwick Heritage Conservation Area (NRHCA) and the West Kensington Heritage Conservation Area (WKHCA).

The primary reason for the analysis was to ascertain the impact of heritage conservation overlays on the market price of residential property. More specifically this chapter examines how house prices inside heritage conservation areas might compare with those outside these areas, in the same localities. Thus, the gross sale prices of a statistically-significant number of residential properties inside each heritage conservation area (HCA), was nominally compared with property sale prices outside each HCA over time and the results calculated, quantified, collated and compared. Obviously the heritage "zoning" may be relevant to value; so this is explored.

The chapter contains interviews²⁰ with three local real estate agents, who give expert opinions on the precinct price comparisons, the desirability of heritage conservation area homes to the market and area housing market appraisals. Their views are based on their detailed market experience. The realty agents also provide their professional views on how they perceive heritage conservation areas and their market effect on residential property values, especially as they may relate to market demand for detached homes in the area. These expert views on the residential market in Randwick and Kensington, were included both as a confirmation mechanism, as well as to give a separate but supporting qualitative perspective, of the quantitative and numeric analyses contained in this thesis.

²⁰ Notes and method of the three interviews as well as the questions posed to the interviewees are documented more fully in Appendix VII.

Chapter 7: Conclusion

The subject topic of this thesis, as stated at the outset of this chapter, is that of “Measuring the Interzonal Price Differential of Land under Varying Landuse Controls”, using market value analyses and comparisons in the state of NSW. The main aim of this thesis, is thus to explore the complex relationship that exists between zoning and land value, including the effects of zoning and planning and such manifestations of zoning as heritage conservation overlays, on the value of detached housing and hence land.

The research contained in the thesis has found that a definite relationship exists between land value and zoning. It reaches this conclusion both through a theoretical and practical framework. It does so both qualitatively and empirically, through the development of an equation: the Empirical Value Change Equation that interconnects zoning change with land value. This allows in turn for the quantification of the “rezoning effect” of land.

1.11 - Outcomes and Practical Benefits of Research

There are many tangible, practical benefits that may be derived from the research contained in this thesis. These include the clarification of the current landuse processes; the value-benefits to landuse change and the proper understanding of both the practical and economic benefits of rezoning land. Rezoning allows a practical, dynamic method of readjusting the ever-changing face of evolving cities including Sydney, in an economic milieu, without which arguably no change would occur.

The findings contained in this thesis should be of benefit to developers, land owners, home owners, municipal councils, the Valuer General’s office, the state government, large property trusts as well as the Crown, namely the State Government and its departments, all of whom may be able to better model their financial and fiscal positions, with respect to the large inventory of landed assets and derived revenues generated by the State. This may be especially significant given that land-based assets in both value and income terms, still constitute a significant proportion of the wealth of the Australian population.

1.12 - Conclusion

The main aim of this thesis is to review the effects of planning and zoning regulation on land values, as measured through real examples. This thesis will thoroughly review the effects of planning regulation on the price of landed realty in New South Wales, as empirically modelled, quantified and qualified through detailed market transactional data of examples that have undergone both observable zoning and value changes.

This chapter has sought to summarise the importance of land as an asset class, as well as the changing requirements of cities, hence creating the need for constant change to a city's zones. In so doing, it underpins the main aim of the research in the thesis, namely the quantification of value change attributable to zoning change with all of its manifestations including rezonings, major project, development approval and heritage conservation zoning overlays.

This chapter has also attempted to establish a definition of zoning in the context of this thesis, as well as that of a precinct rezoning, a spot rezoning and the overarching rationale for landuse regulation under existing landuse models. A detailed outline is given of the empirical research that forms the basis of this thesis, as well as that of the heritage conservation area data.

Now that both the topic and research question of this thesis have been clearly set out and zoning and rezoning defined, and the need for rezoning explained, it is important to review the main academic literature connected with the subject of zoning.

The literature reviewed forms an integral part of the exercise of assessing the prevailing views which currently exist on this subject and several related topics including planning, land economics, history of land tenure, city making, land value and others. Due to the quantity of the literature, the review has been subdivided into two chapters. Chapter 2 reviews the planning and land economics literature, whilst Chapter 3 looks at the various literature written on the subject of zoning.

Chapter 2: Literature Review - Land Economics and Zoning

2.0 - Introduction

The literature review in this thesis is divided into two broad sections; the first here, in Chapter 2, provides a critique of literature related to the economics of land including commentary on urban planning, city-making and land use, followed by a full critique of the literature describing the effects of planning on land and house values. This is followed in Chapter 3, by a critique of the main literature published on the more-specific theme of zoning. Of note, is that the bulk of zoning commentary presented in both Chapter 2 and Chapter 3 is US-based. This is simply because of the weight of literature and research conducted by US academics. After all, the US is where zoning originated - it is a US construct.

In presenting the following literature review material, there have been four main objectives: to explain the relationship between land value, location and land use; to demonstrate the complexity of landuse change and the many factors that constitute land value. Also to provide a coherent narrative that supplements the considerations of this thesis. Finally, through the reviewed information, it is proffered that a more rigorous focus on the rezoning effect and the concept of land-value creation, would enable wider and more insightful perspectives in answering the questions posed in this thesis.

To that end, this chapter includes a detailed review of the published academic literature on the commoditisation of land and its economics. It also contains a brief overview of the main theoretical models relating to the economics of land, including the various models of Jack Harvey (1981, 1996), Evans (1985), Clark (1951), Alonso (1960), and Vernon (1964).

It is also important to note at the outset, that the literature covered in this thesis relates specifically to zoning and planning and the concomitant value changes created by those processes. Though traversing its classical theorisations, it does not explore in any great depth literature relating to the specifics of the economics of land, nor does it deal in any

detail with the more numeric land economic models relating to value, as may be examined from a pure land-economics perspective.

The literature was deliberately selected to traverse a breadth of views, some centred on subjects relating to the topic of this thesis directly, others a little further afield. All were considered important in providing a thorough account of researched publications that offer insights into the concept of value in the land rezoning process.

The literature builds towards identifying and explaining how the demand for living and working space in urban areas is connected to the orderly supply pattern created by zoning. This limitation of supply for land use becomes, in a highly-regulated planning system, one of the governing factors in balancing the demand pressures of a growing city.

In all the literature examined however, it is clear that one of the largest gaps both conceptually and empirically, remains the lack of direct commentary linking zoning and planning changes with land value. It is the aim of this thesis to provide new empirical research that may be used to establish such a relationship with land value. The theoretical perspectives on “bid rent” and “rent gap” (see Section 2.2) are reviewed below and fail to satisfactorily explain the land-value relationship because of several reasons. The theories, though not without merit, are too focused on the notion of a land “rent” attributable to an asset. Land rent may be a proxy for value in some ways but actually it is not accurately a proxy for market value nor simply a correlative relationship with land’s supply-demand dynamic or its rezoned value in the modern context.

A rezoning of a block such as that in Example 1 of Chapter 5 (see Section 5.5 and Table 5.4) for instance, increased land value by 487% but it is not a direct reflection of the parcel’s future rental income as a new asset class. It is rather a question of the market value of the land based on a new saleable product, created through zoning and planning. This is especially true for parcels with residential land uses and broad-acre subdivisions (refer to Examples 12, 18, 1, 19, 8, 3, 5, 9, 20, 4, 13, 7 and 17 in Chapter 5). Such case studies as Examples 4 and 9 are ones where the final product presented to the market, is

a lot yield with no “rental” income at all. To that end, this thesis concludes that though the concepts of both a “rent gap” and a “bid rent”, are subsets of the incentive that helps to drive gentrification and value transformation, that it is the rezoning and planning processes that alter the land value.

The theories on land rent are also a little simplistic geographically. Alonso’s Bid Rent Theorem for example, is deficient in one sense because it links both geographical location and rent as may be measured linearly from a city centre, where highest rents are commanded. Cities and their rental patterns today are far more complex and the rental demand or bid rent would be far from linear. It is also not the present or future land rent that is the greatest determinant of value according to the research contained in this thesis, though the ability of the transformed land is related to its future capacity to produce income or capital. Rather it is the rezoning or development approval conferring upon the land a certainty of future capital value generation, which the empirical evidence in Chapter 5 shows to be the main reason for value recalibration.

Other permutations of the concept of a “rent gap” as theoretically expounded by academics such as Vernon (1964), is more closely connected with a built asset that is ageing for which there comes a moment in its life-cycle where its future income based on a totally renovated asset, is able to be supported economically because its future rent is much higher than its existing and constantly-diminishing income. The rezoning and planning examples of this thesis (see Examples 1-20 in Chapter 5) demonstrate market value change through both change of use and greater certainty of outcome, but do not rely on either the economic concepts of a “rent gap” or a “bid rent”, except to the extent that they are both significant conceptual considerations for both the reasons causing value change (a rent or value gap must precede a decision to rezone) and determinative consequences of such a change (a new “bid rent” or market value must be gained) for the zoning or planning change to achieve a confirmed new market value. Nonetheless, the market value increases experienced by the empirical case studies in this thesis, have gained their value-change in line with the factors stated in the Empirical Value Change Equation (see Section 5.8) rather than other factors.

In fact some of the examples that rely on land subdivision (such as Examples 4, 7 and 9 in Chapter 5) are large open land parcels with no built-form assets or agricultural income at all. The results derived from the empirical research quoted in this thesis, do not show the same standardised patterns suggested by theories such as “bid rent” and “rent gap” as the documented effect of location on land value is more random and arbitrary (see Figures 5.21 and 5.22) than the rounded hyperbolic curves (as those shown in Figures 2.1, 2.2 and 2.3).

It is for these reasons that the theoretical explications on “rent gap” and “bid rent”, though germane to the research question of this thesis, fail to adequately address the important notion of value-change through planning and zoning, as expounded by the examples and the empirical research contained later in this thesis. Nonetheless, these models add value to the conceptualisation of the rezoning effect on land, which is highly relevant to the research question on land value changed posed herein.

2.1 - The Commoditisation of Land and its Economics

The economics of land was and remains central to its commoditisation and is a key theoretical and empirical consideration in what constitutes, creates and re-creates land value - a core tenet of this thesis. The commoditisation of land is essential, without which, it may be argued, land cannot have “value” at all. This land valorisation²¹ came centuries after ownership, because it is only when a society can adequately feed itself, without continuously expending all of its labour on producing food, that urban development becomes possible. Economically, it was the creation of an agricultural surplus that allowed the growth of towns because no longer was all of society’s energy needed for subsistence farming and living (Stilwell, 2006).

It was the mercantilist doctrines of the seventeenth and eighteenth centuries that aided the expansion of business and trade effecting the transformation from the feudal system (Stilwell, 2006). The mercantilist view, which still prevails today, was that government was essential in regulating the national economy and trade but it was the traders who

²¹ Valorisation refers to the process of ascribing the price or value to an asset (The Australian Macquarie Dictionary, Second Edition 1991).

created the wealth. It was for this reason that small businesses and farmers resented both the monopolistic privileges of the big trading companies and the heavy taxes levied by the ruling classes in order to finance national initiatives.

Modern economic practices have almost created a new “invisible hand of the market”, to replace the once-touted “invisible hand of government” in the modern context, has come to symbolise Adam Smith’s (1759) intellectual legacy and signify the preference for self-regulating markets as expounded in the theorisations of Edel (1964), Vernon (1964) and J. Harvey (1981, 1996). Smith’s view was that the chief purpose of the state was to preserve justice by protecting individual rights, property, reputation, and social relations rather than artificially regulating markets.

A series of fundamental questions thus arise: what creates value generally and land value more specifically? Does the planning system play a part in this value creation - the central proposition in this thesis? If so then, how is this done - is it through the generation of floorspace²² or the creation of extra Gross Floor Area (GFA) or more lots or dwellings? Is this realised through the exchange process or is it only released at the point of consumption of the new product such as housing or commercial floorspace? The answers to these questions are explored below.

2.2 - The Economics of Land: Theoretical Perspectives

The economics of land has been discussed by a number of experts utilising elaborate theoretical models that attempt to explain the important relationships between land value, urban location, function, productive income and the associated costs of living, travel and income-generation. Several theoretical land models have been examined herein. These include the three models developed by J. Harvey, termed for ease of identification the Economic Efficiency Pricing Model (Section 2.2.1), the Economic Model for Land Redevelopment (Section 2.2.2), and the Redevelopment Time Return Model (Section 2.2.3). Others include the Evans’ Landuse Allocation Model (Section 2.2.4); Clark’s Landuse Distance Model (Section 2.2.5); Alonso’s Bid Rent Theorem (Section 2.2.6); Vernon’s Urban Location Model (Section 2.2.7) and Edel’s Land Model (Section 2.2.8). These are not proper nouns and do not represent the names that the

²² Floorspace (FSR) is the total of the gross area of the space on each floor of a building (National Construction Code: Building Code of Australia, Volume 1, 2012).

models may or may not be referred to by others. These names are simply the names given to the various theorisations summarised within this chapter.

The models presented, all attempt to explain how land may be allocated value, including the underlying economic rationale for both the development and redevelopment of land to occur. This is often a precursor to rezoning and forms an important part of the market assessment as to whether, when and why redevelopment and gentrification might occur in some parts of the city but not others. The land value in these theorisations is explained in terms of rent, value and location creating change, as per the empirical analysis and the rezoning and planning examples contained in this thesis, where changing the land's capacity to produce income creates a new land value (refer Examples 10 and 12 and Table 5.6 in Chapter 5). These theoretical models are summarised in the sub-sections below:

2.2.1- J. Harvey's Economic Efficiency Pricing Model

In Urban Land Economics Jack Harvey (1996) discusses land as a commodity in terms of economic efficiency. Harvey's model, herein termed Harvey's "Economic Efficiency Pricing Model", assumes Pareto optimality with respect to the total output of goods, of which land is one, that can be obtained when society's limited resources are combined efficiently. This model assumes two finite resources: land and capital and only two outputs: food and manufactured products. Harvey (1996) argues that whilst technical efficiency is a necessary condition for Pareto optimality, it is not sufficient. Rather, it is economic efficiency which dictates the precise product-mix needed to give society its optimal outcome. Thus, in order to attain economic efficiency, a society will move to maximise welfare, with units of food and manufactured goods competing to be produced on a finite amount of land.

This Economic Efficiency Pricing Model by Harvey (1996) assumes that the consumer is the only judge of welfare and acts through markets to maximise that welfare. Economic efficiency is then achieved through Adam Smith's "invisible hand", where market equilibrium is reached. Using this efficiency pricing model, it can thus be assumed that in a perfect market, a single price is established in which food and manufactured goods are exchanged, as per the formula below:

$\frac{\text{Marginal utility of Food}}{\text{Marginal utility of manufactured goods}} = \frac{\text{Price of food}}{\text{Price of manufactured goods}}$

Source: J. Harvey 1996, p. 10

Thus producers, in deciding on the utility of their land, would ordinarily combine land and capital to obtain maximum output from a finite capital base. Demand and supply then determine the price at which land and capital are exchanged with the demand for each factor being contingent on the price of the finished product that the land is able to produce (J. Harvey, 1996).

In perfect competition, for example a farmer growing food on a land parcel, will produce at a minimum, that output where the price of food (P_f) equals the marginal cost of a unit of food (MC_f). Similarly, the output of manufactured goods will be where the price of manufactured goods (P_m) will need to at least equal the marginal cost of a unit of manufactured goods (MC_m), as per the equation below:

$\frac{P_f}{P_m} = \frac{MC_f}{MC_m}$

Source: J. Harvey 1996, p. 11

Harvey saw the main shortcoming of his Model in its rigidity as a purely-static theory (1996, p. 15). As most economic decisions span time, a choice has to usually be made between present and future benefits. For example, the planning decision to designate farming land as a National Park on amenity grounds, must involve consideration not only of the present community's preferences, but also of the assumed predispositions of future generations. Thus Harvey believed that a market economy was unlikely to be fully efficient in distributing resources, whilst allocation by government sanction in a “command economy”, would also create obstacles. A market system he believed, had

the advantage of having economic decisions based on price, reflecting albeit imperfectly, consumer preferences between utility, amenity and cost.

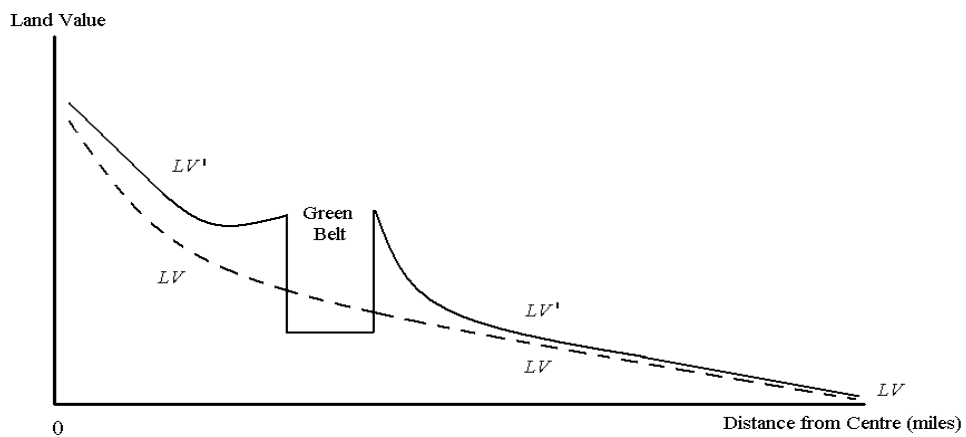
J. Harvey (1996) also believed that any improvement in a community's welfare imposed a balancing cost in achieving that improvement. A "green belt", for instance, reserves land for agriculture - a lower use compared with housing but will extend the journey to work of those city workers who live beyond it and also increase pollution and congestion. Harvey also points out that both positive and negative externalities should be fully reflected in the market price. Thus people will pay more for a house in an area which has easy access to schools, parks, shopping facilities, sporting fields, transport and employment. Equally, those retail outlets where traffic congestion becomes problematic, will command lower rents because trade revenue becomes adversely affected. Perhaps neither the market nor private arrangements, are likely to be adequate in dealing with all externalities. How much congestion has to be suffered, for instance, before the price system readjusts land prices?

Passively leaving the price system to deal with all externalities, in Harvey's view, may also produce inferior net social and environmental outcomes. Equally, uncertainty and self-interest may hinder better solutions by private action. Where the individuals concerned however, have an identical interest on a specific issue, it is often possible to find common ground and an answer that serves both public and private interests. This is consistent with Ruming's view (2007, 2009) expressed in Chapter 5 of this thesis, which models the way land development proposals are approved by the culmination of a series of negotiated outcomes. The proponents here are typically the developer, councils, public authorities, neighbouring land owners, the approving authority and the public.

J. Harvey (1996) goes on further to suggest that in their present utilisation of land resources, individuals might not have sufficient knowledge or power to make allowance for future needs. Governments, however, with a longer time-horizon, would. Indeed, the designation of green belts around towns may not only be necessary to safeguard amenity for unborn generations, but could increase existing land values.

As Figure 2.1 below shows, original land values along the curve LV, decrease regularly from the city centre outwards. With the introduction of the Green Belt, the land value curve shifts to LV¹, showing that the fall in land values within the Green Belt is compensated by the rise in values elsewhere - even in the city centre - since accessibility to the open-space amenity land, is now theoretically improved. Houses immediately adjacent to the Green Belt might then command a price premium representing a higher capitalised accessibility value, as shown by the difference between the two land value curves LV and LV¹ (see Figure 2.1).

Figure 2.1 - Effect of Green Belt on Land Values



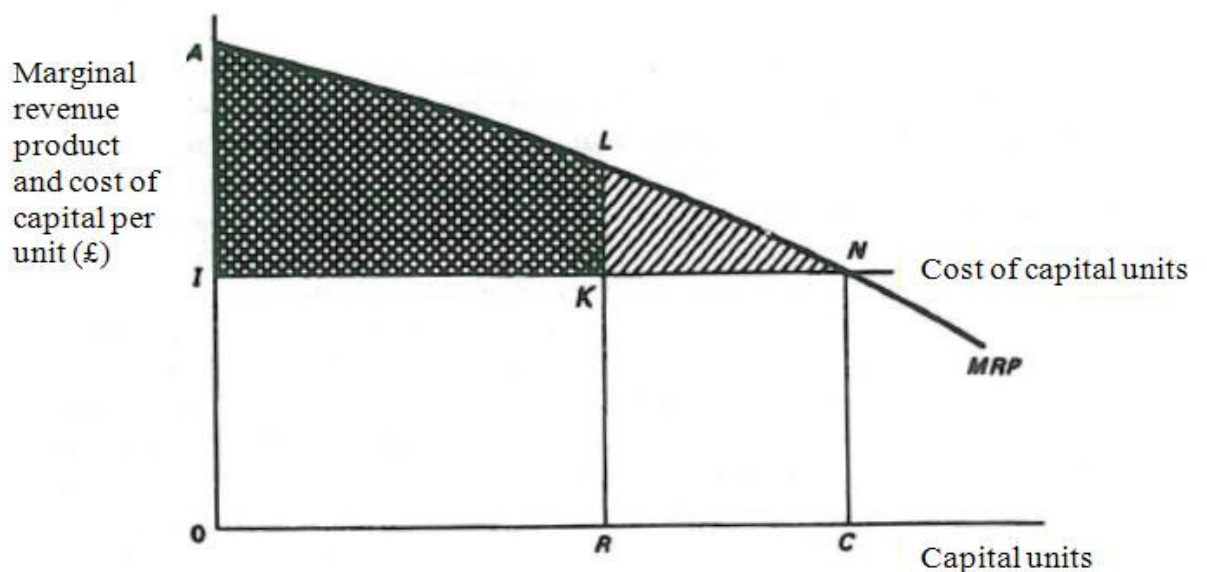
Source: J. Harvey (1996), p. 155

Planning controls such as zoning have a very similar effect on the pattern of land values, according to Harvey (1996). Restricting the amount of land available for offices for instance, should theoretically raise the value of existing office land and thus of all future land which may be granted planning consent for offices.

Though planning is mainly concerned with the allocation of land resources, it has both direct and indirect distributional effects which may clash with the economic efficiency objective. Harvey believed that both zoning and planning approvals had a positive effect on land values. An owner who obtains planning consent for a development for example, receives a financial benefit, since the use of restrictive land-release policies force up the price of land. This idea of planning approvals increasing land value is supported by the empirical evidence presented in Chapter 5 of this thesis (Examples 9, 13, 16 and 17, as shown in Tables 5.4 and 5.8). Here it is argued that the gaining of development approval is an important part of the value creation.

So does the Harvey model showing highest land values near the city centre always hold true (Figure 2.1)? Is the cheapest land always located furthest from the centre of town? Do the affluent always occupy downtown and the impecunious always live further out? It is difficult to fully agree. City patterns vary greatly from this simplified pattern of land and resource allocation (Landry, 2006). Some cities have no single downtown, whilst many are polycentric (Landry, 2006). Others have the affluent close to the town centre but not directly in it like Point Piper in Sydney (6 km from city centre) and Toorak in Melbourne (4 km from city centre). Recent reconversions of downtown, cheaper areas to expensive living suburbs, has also markedly changed the idea of a simple settlement pattern within cities (Randolph and Freestone, 2008).

Figure 2.2 - Effect of Planning on Site Value



Source: J. Harvey (1996), p. 163

In reconciling such competing claims in Harvey's argument for the use of land, one must ponder why the price system cannot perform for land the allocative function that it does for other resources? Land, like other resources, is allocated through the price system. According to Harvey (1996) however, the answer is that the necessary conditions for efficient allocation of resources, through the price system, do not always

exist for land. Planning controls exist in part to allow a formalised method of dealing with certain aspects of this market failure.

2.2.2 - J. Harvey's Economic Land Redevelopment Model

In an earlier publication, Jack Harvey (1981) had presented another useful version of his Economic Efficiency Pricing Model projecting the impacts of redevelopment on land value from a purely economic perspective, whereby he suggests that land redevelopment only takes place when the present value of the sum of future nett returns from an existing use becomes less than the total value of the land, without improvements. This is also relevant to the aims of this thesis, as the ability to give land redevelopment potential or zoning potential is critical to the valorisation process. Devalorisation²³ is the reverse and the devalorisation cycle of an asset is thus the complete process by which it loses all of its market value as described by Harvey (1981). Harvey's Economic Land Redevelopment Model considered land value in terms of Nett Annual Returns (NARs), which he defined as the difference between the Gross Annual Return (GAR) produced by rental income, and the operating costs, including repairs and outgoings.

Harvey (1981) argued that there comes a point in every land asset's life-cycle, where operating costs and gross annual returns become equal and then divergent and that it is at this point that redevelopment of the asset occurs. This makes both financial and intuitive sense. Additionally, according to Harvey, should a successful development produce "super profits", it encourages similar development in competition. This then lowers future returns due to lower yields and greater uncertainty for new projects.

Coupled with the higher maintenance costs in an aging building, this eventually results in a building with a Nett Present Value (NPV) of zero, dictating that either the building is demolished and the land is redeveloped or that the asset is left derelict until future improvement can occur. This is the asset's "devalorisation cycle" in economic terms, which put differently, is in effect the value of the land (Harvey, 1981). Thus the cleared

²³ Devalorisation is the process by which an asset relinquishes value (The Australian Macquarie Dictionary, Second Edition 1991).

site's NPV, would be the value of the "Highest-and-Best-Use" of the land less the total development costs of that use. This all begs the question of how this "Highest-and-Best-Use" may be reached? It is usually through the planning system via rezoning or effective rezoning²⁴. So once a new and better use for the land in terms of its utility value can be recognised, its new uses would remain prohibited in its old zone until a new zone creates the formalised setting for its new uses. This idea is the main thrust of this thesis.

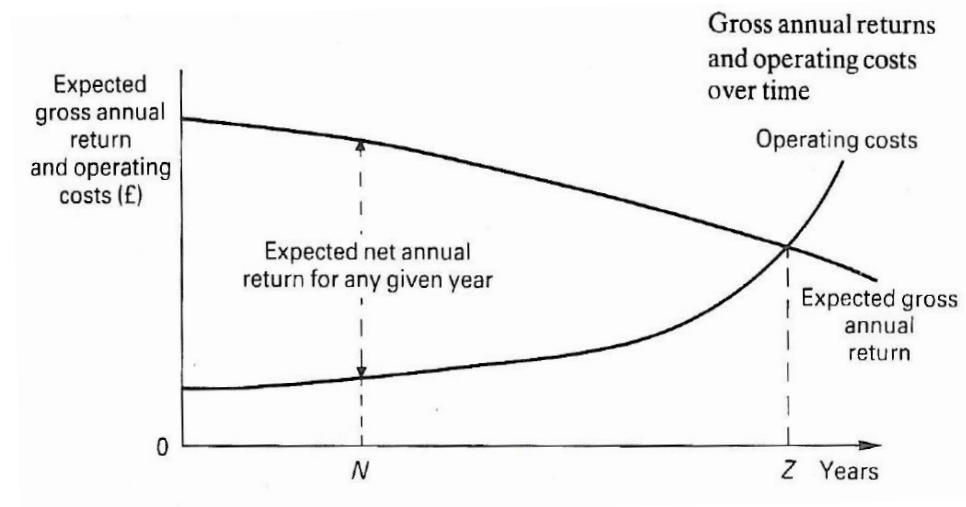
Yet the rigidity of planning and zoning controls do not make this simple. Landuse and zoning regulations has been deemed a hindrance in reaching "Highest-and-Best-Use" values (Evans, 1985). It is quite clear therefore, that not only is redevelopment affected by imperfections in capital markets, but also by zoning and landuse that can prohibit a particular "Highest-and-Best-Use" development from taking place and so postponing the most viable redevelopment of the land.

2.2.3 - J. Harvey's Redevelopment Time-Return Model

In *For Sale-The Economics of Real Property*, Jack Harvey (1981) suggested a connection between a real asset's Gross Annual Returns (GARs), maintenance costs and the timing of its redevelopment. This is simply an application of Harvey's Economic Land Redevelopment Model to assets that depreciate. A connection between the economic life of an asset and its total value at the point of full depreciation, is put forward in this model. This is also easy to correlate with land rezoning and planning approval, both of which usually precede gentrification and redevelopment and are heavily featured in the empirical results of this thesis. According to Harvey's Redevelopment Time-Return Model (refer to Figure 2.3 below), GARs decrease with both time and age, as is logical.

²⁴ Although the focus of this thesis, rezoning does not always occur for commercial and value reasons. There are a variety of community and other reasons why zones may be changed. These need acknowledgement if only for the sometimes non-profit zonings that are created for both a parcel and its improvements where the "Highest-and-Best" use of the land is not the aim of the rezoning exercise.

Figure 2.3 - The Timing and Rate of Redevelopment



Source: Harvey (1981), p. 93

Obviously, as an asset ages, its operating costs rise because the structure deteriorates physically, and the building becomes less suitable compared to its competition over time. Floorplate²⁵ market requirements; green credentials; power use; fire regulation; disabled access requirements and most of all aesthetics, all change over time. Higher repair costs also increase with age, further eroding the GARs and NARs to the owner.

As value is being modelled as a yield function of the discounted NARs for the future returns of the building discounted to the present, then it can be argued that the land value is reached when the discounted NPV of the asset is zero. At this point, Harvey suggests that a strong rationale would prevail to redevelop the asset or rezone the land.

2.2.4 - Evans' Landuse Allocation Model

According to Evans (1985) urban economics has been more responsible than town planning for the transformation of US cities. In the theoretical model used by Evans to reach this view, the city is assumed amongst other assumptions, to be monocentric with no topographical constraints. Evans explored the complex relationship between travel distances, transport costs and liveability. He then related these to optimal location and land price in connection with total "living costs" in a city. Evans believed that an

²⁵ A Floorplate in a building is the extent of area defined by each floor or storey contained within the external walls of the building.

optimal urban location should be one where total costs, including both housing and travel, are minimised.

In value terms, Evans postulated that lower travel costs would mean that residents become willing to travel further and bid for cheaper land (and therefore housing) but that this was only true in the short term. In reality the desire to settle further out, Evans believed, would still predominate to reduce demand for inner-city living. This gradually increases the prices of land in the outer suburbs by comparison to the more central locations. In time, this gives less of a price incentive for outward movement and relocation. This landuse balancing act, Evans believed, was the most likely explanation of the widespread patterns of decentralisation that have come to govern most US cities (and perhaps many others).

According to Evans, this decentralisation reduces transport and housing costs in the long term, allowing employers to use labour closer to the city centre hence reducing costs. This in turn allows the centre of the city to re-emerge as a location of choice for firms rather than choosing more distal smaller towns. Thus the growth of larger cities can be related to the reduction in the real costs of commuting and reduced travel times.

In terms of housing patterns, a reduction in travel times should incentivise high income groups to move to the suburbs, whilst lower transport costs creates a similar effect with lower income groups. The general pattern of change over the years in the US according to Evans, have indicated that improvements in the speed and comfort of commuter travel, have caused greater suburbanisation of higher income groups rather than the reverse.

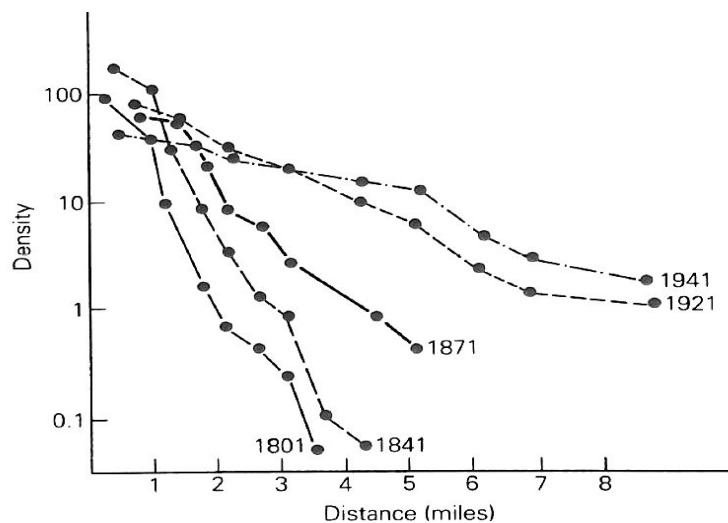
2.2.5 - Clark's Landuse Distance Model

This urban equilibrium was originally modelled by Colin Clark (1951), who found that cities like London continued to have dense and well-patronised city centres for over 140 years, despite their outer suburbs moving further out over time. This desire by households Clark believed, would produce a fall in the demand for housing in the inner areas of the city and an increase in the demand in the outer areas. As a result, house prices and land values fall in the inner areas and rise in the outer areas, so that the

housing cost gradient becomes less steep. The incentive to move outward is then largely eliminated in the longer run, because redevelopment in the inner areas and new construction in the outer areas leads to a gradual decentralisation of the population. This decentralisation, using London as an example, is illustrated in Figure 2.4 below.

Clark (1951) modelled London's density-distance relationships between 1801 and 1941. In general terms, the graph shows density remaining relatively constant near the city centre but decreasing over two thousand fold at the outer edges for both 1801 and 1841. By 1871, London's city centre remained at about the same density but its outermost suburbs became 10 times more dense, whilst moving out only 1½ miles. By 1921, the city's central densities had hardly changed but its peripheral densities had doubled, whilst moving further out from 5 miles to 8½ miles from the city centre. The results for 1921 and 1941 were almost identical. Even by 1941, the outer suburbs of London had around one-tenth the density of its city centre.

Figure 2.4 - London's Density Gradients 1801-1941



Source: Clark (1951) as quoted in Evans, 1985, p. 105

One of the main shortcomings of the above data, however, must be its age. Since 1941 there has been major decentralisation of Central London fuelled by transport links, including new 'tube' lines and the Docklands Light Rail. This connectivity is not reflected in the above model. So the decentralisation patterns of London, though valid in trend terms, have arguably become more complex than the Clark curves shown in Figure 2.4 may suggest.

Evans' view was of a constantly-dense, economic city centre with distant outer suburbs moving further out but becoming much more dense over time. According to Figure 2.4 as compiled by Clark and used by Evans (1985), the density of London's outer suburbs for example, increased 20 times between 1801 and 1921. As early as 1801, London's central-city density was over 2,000 times that of its outermost residential location, only 3½ miles from the city centre. Clark's (1951) research also shows that for London, at least, the outer suburbs only moved out 5 miles in 140 years. These observations demonstrate that for cities such as London, the inner areas were not those transformed by densification. Rather, it is a prodigious transformation experienced by the outer urban suburbs. Though new data from the last 71 years may show a very different pattern from the past, the results presented by Clark and Evans are of analytical significance in describing the density and settlement patterns of large cities.

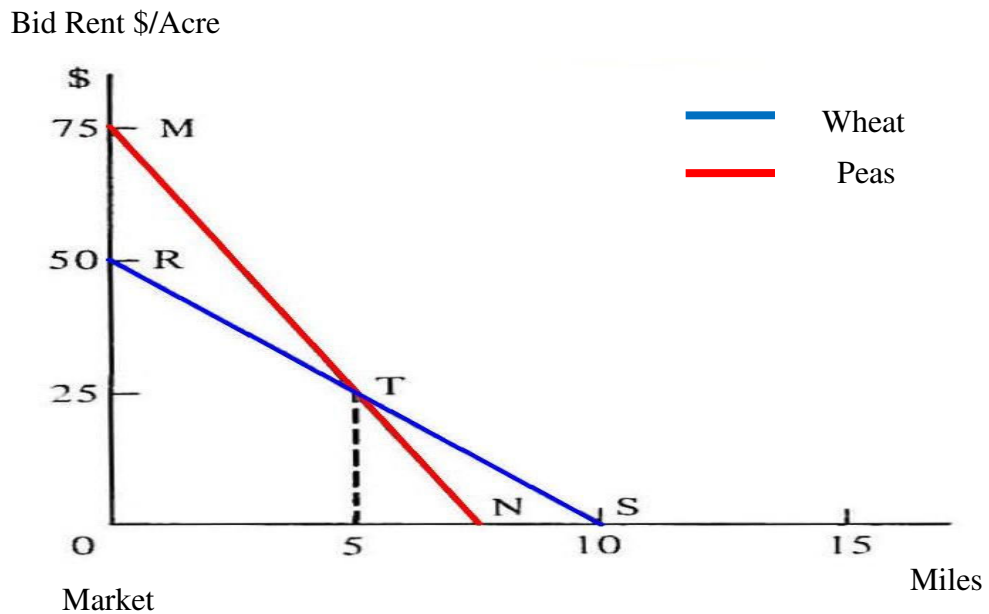
2.2.6 - Alonso's Bid Rent Theorem

One of the most widely accepted theories on the land use value-change effect, remains that of the Bid Rent Theorem, as postulated by William Alonso (1960) based on the earlier work of Von Thunen and quoted in Edel and Rothenberg (1972). This is commensurate with other theorisations such as Agricultural Rent Theory (Alonso, 1960). The concept of Bid Rent centres around the combination of the two main desired concomitants of land and location as selected by a purchaser (or renter) for a given parcel of land.

In Alonso's analysis, every participant in the economy follows a series of "bid price" curves, each indicating the amount that would be bid per acre of land, at various distances from the centre of town, to maintain a given level of welfare. At certain points on each of these curves, the amount of land demanded may be different for an individual within each curve, representing a constant level of utility (Alonso, 1960).

Mathematically, the theoretical urban land market as proposed by Alonso, centres around the concept of land commanding a rent based on its productivity and locational attributes. Alonso's earlier theorisations assume a utility value of the land based on its agricultural capacity. For a set product such as say wheat, there exists a market at a given selling price of say \$100 per acre of grown wheat (Alonso, 1960).

Figure 2.5 - Alonso's Third Agricultural Model - Wheat and Pea Production Bid Rent Curves



Source: Alonso, 1960, p. 107. Modified by Geha 2012

In examining Figure 2.5, one can note that when production costs are \$50/acre, a farmer growing wheat and selling it at \$100/acre at the market, would make a profit of \$50/acre. At a distance of 5 miles from the market the profit is \$25/acre. Finally, when 10 miles away from the market, total costs (production and transport) will equal total revenue.

Consider now the production of peas. Assume that the market price of peas is higher than wheat at \$150/acre but with a higher production price of \$75/acre. This results in a profit of \$75/acre at zero distance; \$25 at a distance of 5 miles and zero at a distance of 7.5 miles. This means that the Pea Farmer can pay a bid rent of \$25 at a distance of 5 miles and zero bid rent at 7.5 miles from market. As pea farmers can bid higher rents in the range of 0-5 miles from the market, this is where they end up locating, with wheat farmers locating in the ring of 5-10 miles.

In this Agricultural Model, there is a direct linear relationship between profit and location. Thus the two farmers' profit curves, not distinguishing between farmer and

landowner, become a “bid rent” function of the price per acre that a farmer would be willing to pay at various distances from the market based on the commodity grown on the land. Abstracting this further, land uses come to be the determinants of land value and thus come to prescribe location for the land uses of each farmer (assuming a competitive and elastic market in accordance with the ability of each land owner) to pay.

Alonso (1960) extended this view past agriculture, by arguing that the “bid rent” at the market-value equilibrium for any land use may be arrived at by selecting the highest value able to be paid by each land user at any given location. Even Alonso acknowledged however, the simplicity of this model for the various land uses that may come to use the land for profit. For business land users for example, the equation is complicated by the fact that the product generated (unlike for the farmer) will have a less linear relationship between its production costs and land location. Also the costs of transport do not have a straight-line relationship with distance. Bid rent and profit are rarely equal in reality due to the complexities of set-up, production costs, rent and profit. Nonetheless, a reasonable correlation should occur, according to Alonso, in that the rent payable remains the rate of change in the volume of product (or service) minus the rate of change in costs to derive the income, divided by the land area.

For residential uses, the situation becomes even more complex in the Alonso (1960) model, as there is no ostensible production or cost of production. Rather the bid rent offered by a consumer here is more closely correlated to income, commuting time and costs. A residential “bid renter” will balance the cheaper, larger land further out with the inconvenience of commuting to work and distance from retail and recreation. Here the bid rent curve of each buyer (“bid renter”) assumes a consumer who is satisfied with the overall equilibrium balance of these factors.

This is relevant to the aims of this thesis which attempts to establish a correlation between uses, economic demand and land value, in transactional value terms. The Alonso (1960) bid rent model assumes a land value at the city centre which sets the price for land at other locations and whilst a simplification, it bears direct relevance as

to how new land value might re-calibrate after a zoning change for a land parcel (such as those used in the empirical research quoted in this thesis).

2.2.7 - Vernon's Urban Location Model

Another model relating land use and value was put forward by Vernon (1964). In his model, herein termed Vernon's Urban Location Model as explained by Edel and Rothenberg (1972), Edel finds that landuse planning to be a complex game played between localities, each attempting to cast undesired new residents onto neighbouring communities. This was a view supported by US academics Morgan (1984); and Wachter and Cho (1991).

Vernon (1964) saw the expansion of American cities as a positive process, as it allowed less wealthy groups access to a city's services but at a lower land price, affording them better homes. Vernon also suggested that it was the wealthy who generally cause sprawl and that employment and other land uses simply followed, with the middle classes and the poor spreading out as a result. This dispersion occurred in American cities, according to Vernon, due to the abundance of land around cities and the availability of motor transport for such land. This is somewhat different to the view already discussed as put by Clark (1951) for the city of London, where the pattern is more of diversification rather than extensive expansion and sprawl.

Vernon (1964), like Alonso (1960) and Edel (1969), proposed in his model for "landuse equilibrium", a formulation which incorporated both vendor and purchaser satisfaction. He found these to be the main determinants of urban location. His observations centred largely on US cities, where there still remains vacant land around cities, with transportation facilities that could access dispersed urban locations. Vernon's Urban Location Model describes a situation in which the wealthier property purchasers choose spacious, more-distant living in preference to residences nearer their employment. The less affluent are then forced by their lower incomes to have the convenience of smaller but more-expensive land (due to its lower travel expenditure) over larger, cheaper and more distant land.

2.2.8 - Edel's Land Model

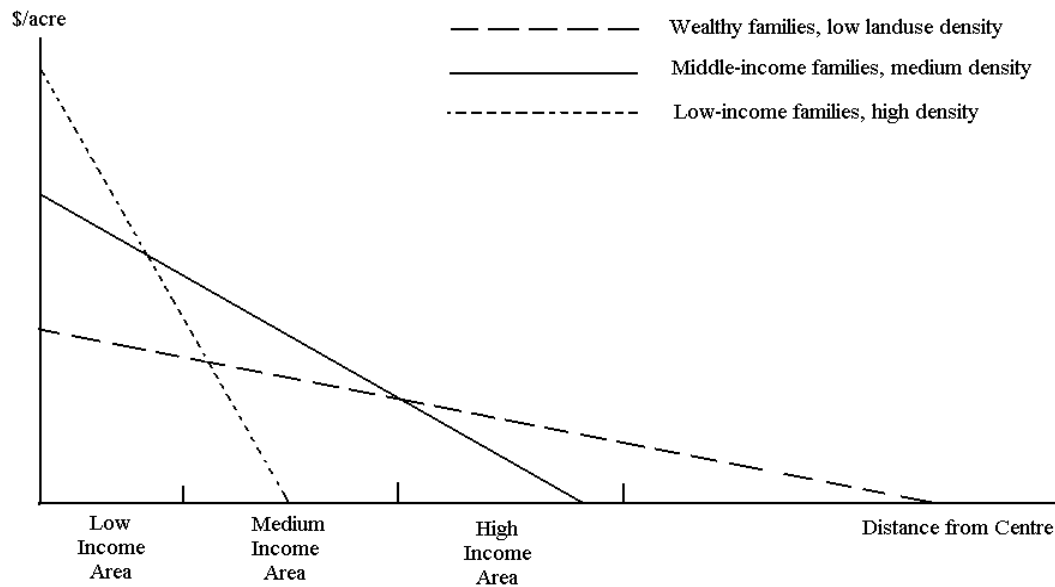
Abstracting from Vernon's Urban Location Model, Edel (1969) postulated a broader view for other land uses. Edel's a priori theorisations can be summarised as follows:

1. Land size, location and uses determine land value through competitive bid rents.
2. Land values determine land uses in an open market in response to a landowner's ability to pay.
3. Land uses that produce higher yields, should occupy more central locations in a city.
4. Using an agricultural bid-rent model, the bid rent for other land uses can be extrapolated for non-agricultural uses where land purchasers bid in accordance with the economics of their situation and location.

Based on Vernon's model, bid-price curves were formulated by Edel (1969) in another urban location model, herein termed Edel's Land Model, for each of the three arch-typical income groups in a city. The low-income groups had the steepest bid-price curve, because of the group's sensitivity to extra expenditure for commuting and ability to compromise on space. This was the same assumption made by Alonso (1964) - that the poor would be forced to bid more per acre than other groups, to acquire sufficient space closer to the centre of a city, simply to maintain a minimum standard of living (Edel, 1969).

Alonso's model, quoted by Vernon as Figure 2.6 below, indicates those areas of a city in which the lower, middle and upper-income groups will be the highest bidders for land. As the well-to-do and some of the middle classes have an increased preference for space, land values are bid up by increasing incomes and population at these locations. This consequently leaves less of the traditionally-cheaper and older housing available for other income groups.

Figure 2.6 - Alonso's Model of Effective Bid-Price curves for an acre of land at varying densities.



Source: Edel 1969, p. 138

As Edel (1969) observed however, in many underdeveloped countries, the poor live not at the city centre, but in slums surrounding the cities. As the time of the poor has a lower cash value, they tend to live at the edges of cities to save on rent. In a small city they may walk to work; in a larger city, if cheap but slow public transportation is provided, they might still find it optimal to commute. If the gap between incomes of the wealthy and the middle classes is great enough however, and if there are only a small number of businesses in the city centre, the wealthy will generally indulge their desire for spacious living with new housing at more convenient locations. These patterns obviously have a determinative impact on price and there is a clear logic in this affordability pattern of habitation put forward by Edel that at least attempts to explain the complex connection between land location and price for residential uses.

2.3 - Demographic Effects of Gentrification

There is another factor to consider however, that is closely intertwined with demographic civic transformation, namely that of the gentrification effect, which is both a cause and an effect of the landuse change process. Gentrification is defined in the Oxford Dictionary of Geography as “the rebuilding, renewing, and rehabilitation of

depressed areas of the inner city as more affluent families seek to live near to the city centre, trading off space and quiet for access to the goods and services of the city centre” (Sixth Ed. 2001).

According to Evans (1985), the current phenomenon of the decline in manufacturing employment in western cities will continue, resulting in the transformation of many derelict industrial areas mostly into “chic” new housing. This “gentrification” is a significant change on a number of levels including economic, demographic and social, as it brings new wealthier populations into areas not previously zoned for residential uses. This is obviously one main driving force for the rezoning of land in and around many inner city locations, recasting its economic viability and providing a powerful rationale for landuse change.

Evans also links gentrification with the contemporaneous, social outcomes of single working and childless couples, citing evidence of economic patterns of changing demographics and land use in the US, the UK and Australia. This demographic shift causing gentrification of older, more central areas of cities, has been anecdotally termed the “battle for downtown” and is observed in many cities world-wide (Randolph, 2006). It is one of the many civic patterns that precipitates the advent of change and transformation and often the rezoning of land.

2.4 - The Battle for Downtown

The main conceptualisations on the movement of urban populations have proven more complex however, than the simple hyperbolic curves suggested by Harvey (1981), or the pricing and allocation models of Evans, Clark, Alonso, Vernon or Edel. Edel (1969) for instance, theorised that the rise in middle-class incomes, coupled with the pressure of increasing urban populations, and the formation of a record numbers of new families, is what has led many of the well-to-do into reconverting downtown areas to new uses. This is because if commuting distances are great enough and incomes high enough, the income-elasticity of demand for proximity to work, becomes greater than that for space.

Edel (1969) observed that many US cities have witnessed a new wave of inner-city redevelopment of lavish town houses, and luxurious high-rise dwellings, often at high per-square-metre prices. These have come to replace larger more neglected tracts of cheaper central suburban land. Under these market conditions, the purchase of downtown land by the rich, leaves less land available to the poor at the traditional and more affordable rent levels. The less affluent are then compelled to move to a higher Bid-Price curve, and forced to expend higher prices per acre for the old locations, and to purchase less land as a consequence thereby substituting other expenditure for the now-more-costly space (Edel and Rothenberg, 1972).

The only possibility for large-scale renewal then becomes, as Vernon (1964) put it, that of recapturing and redeveloping old urban parcels. If a piece of real estate has been acquired which is so large as to insulate it utterly from its previous less desirable surrounds, so as to be equipped with its own parks, schools, libraries and shops, then the opportunity of successfully reusing the land for middle-income living increases markedly (Vernon, 1964). A limitation to this renewal is frequently that most urban land is held in small parcels and unless consolidation occurs, renewal cannot take place.

By the early 1970s in the US, a reversal of the traditional civic settlement patterns, particularly in the period between 1949-61, has seen thousands of American families removed from their dwellings by urban renewal projects and, by so doing, losing the “Battle Over Downtown” space to the more affluent (Edel and Rothenberg, 1972).

2.5 - Evolutions in the Concept of the “Rent Gap”

In bringing a semblance of commonality to all of the landuse, urban-location, bid-rent and landuse distance models discussed above, another theory put forward by Neil Smith (1987), known as Rent Gap Theory, may be utilised to good effect. This originated as a social theory modelling urban development outcomes, but was readjusted to incorporate social relations and power struggles in the “capture of potential land rents, actual land rents and building values” (Smith 1987, p. 462).

According to Smith (1987), for any given site, there is always a potential rent based on its so-called “Highest-and-Best-Use”, and there is also an actual rent, based on its existing use. The divergence amounts to what he came to call the “Rent Gap” differential. The idea of a “gap” is simply the difference between a property’s actual and “Highest-and-Best-Use” value rent. This is a very useful concept to reflect on, as it describes in part, the way a land’s new zoning might capture and create new value.

Gaffney felt that the best way to conceive of land rent, was in terms of the unrealised income from a parcel of land that not collected, because it did not achieve its “most productive uses” (1961, p. 480). Extending this further, it may also be meaningfully conjectured that the difference between a land’s potential (“Highest-and-Best-Use”) and its actual use, brings on the economic and market pressure to rezone the land to its most productive use.

Others such as Ley (1986) postulated a direct alternative to the capitalisation of the housing market thesis, suggesting that demand rather than supply was the critical factor in triggering gentrification and urban relocation. The “Rent Gap” defined by Ley is the disparity between the potential ground rent after redevelopment and the existing ground rent. This, he argued, is what provides the motivation for reinvestment, once the Rent Gap exceeds a critical threshold. Thus revitalisation is “a back-to-the-city movement by capital rather than people”, according to Smith (1979). Ley found, for instance, that most inner-city space had significant amenity of its own that attracted residents who could well afford other locations and thus offered more than just affordable housing.

The Rent Gap thesis however, was not supported by Ley’s research. He found that the gentrification effect he had observed between 1971 and 1981, was better correlated with inner cities that had higher (rather than lower) house prices relative to the national metropolitan average. Ley (1986) found that housing and demographic variables had low correlations with gentrification. He also found that evidence was entirely lacking in Canadian cities for the Rent Gap thesis; indeed, if anything, gentrification was observed to have occurred in inner cities with higher house-price ratios.

For Eric Clark (1995) on the other hand, the term “Rent Gap” was simply the disparity between the capitalised (or actual) land rent and potential land rent. Clark believed that the potential land rent of a site, was determined solely by a site’s “Highest-and-Best-Use”. The actual land rent of a parcel of land is thus determined by a site’s intensity and type of land use. Development on the land will generally involve capital investment, as may be required to accommodate the site’s “Highest-and-Best-Use” rental value for the procurement of future land rent (Clark, 1995).

Three decades earlier, Marshall (1961) had suggested that actual land rent needed to equal potential land rent only when “the full resources of the site” are developed (p. 797). Over time Marshall suggested, that the surrounding land may transform, implying a higher potential use of the site. Urban growth would then increase the site’s potential land rent to a level corresponding to a greater intensity of capital investment or a “higher” use. This “Rent Gap” which results, then acts as a prelude to disinvestment. Neglect of repair and maintenance consequently accelerates the building’s depreciation, which in turn influences actual land rent negatively as use of the existing structure shifts to “lesser uses” for the asset.

It thus makes perfect sense that as the Rent Gap widens, and the actual land rent of an existing use becomes increasingly removed from its potential land rent under the land’s possible changing “Highest-and-Best-Use”, that the site’s economics make it more likely to be redeveloped. It is this potential for future land rent income which produces an upswing in capitalised land rents in the period leading to redevelopment which triggers either renovation or demolition and complete re-construction.

As Clark (1995) points out however, Rent Gap Theory is not able to ever predict the timing of renewal or the geographical or chronological sequence of redevelopment, because the Rent Gap is not a crucial consideration at that stage of the land and development cycle. Clark felt that no theory could give accurate predictions of the location or timing of new development. In a reference to changing land values and zones, - he noted that the expansion of modern cities effectively invests land in certain locations with higher values but that existing improvements on the land may depress

these values instead of increasing them, because the assets no longer reflect the land's new uses, especially if requiring costly replacement due to age.

Accordingly, the period of greatest difference between actual and potential land rent does not occur at the point of redevelopment, but much earlier. Rent Gap Theory has clearly not been designed as a predictive mechanism for determining the timing of profitable redevelopment. Interestingly, there would exist instances where land value may exceed total property value, if the value of the building is negative, due to demolition costs for example. Overall costs include: demolition; replacement; fees and charges; readaptation of floorspace; decontamination; as well as compliance with new building regulations such as parking, fire and disabled access.

Importantly, where land in an area is designated a landuse zone such as a low-density residential zone, its zoning will determine the "Highest-and-Best-Use" of the land rather than economic theory. On this analysis, the market comes later and places a degree of probability of achieving various economic outcomes on the land based on its zoning and development permissibility potential and the marketability of the final product achieved by the process. A rezoning of the land, of course, would simply change this potential "Highest-and-Best-Use" outcome.

There are some important precursors and provisos however. According to Bourassa (1993), "Highest-and-Best-Use" is determined by comparison with surrounding land uses and is the use to which the site would be put if it were vacant. In reality, this is also limited by a parcel's zoning and ability to achieve development approval for those value-maximising uses. Firstly there must be a marketable product that might be able to be produced by the rezoning and approval process. Secondly, there must be a level of certainty of achieving that outcome. This certainty may not exist if the land has a heritage listing or is too small or has little or no perceivable chance of rezoning. Also "Highest-and-Best-Use" may not necessarily be related to "gentrification" because the rezoned land may be of much greater intensity than the surrounding or existing uses. It is arguably both the land's allowable uses and intensity of use that create the value uplift.

Kary (1988) tried to test the Rent Gap hypothesis by comparing house prices in Toronto, Canada. Like Ley, Kary was unable to measure the Rent Gap directly and instead simply compared inner-city house prices with suburban ones by measuring relative house prices over time. According to Bourassa (1993), neither of Ley's or Kary's approaches are capable of demonstrating the existence of a Rent Gap, because neither were able to prove that there was a potential rent that differed from actual rent. Bourassa (1993) believed that it was only when the devalorisation cycle, as described by Clark (1995) and Vernon (1964) above and defined by Harvey (1981; see Section 2.2.2) is complete, that revaluation of assets can occur. Such a cycle is centred around the Rent Gap giving rise to gentrification when the potential for profit is perceivable to the market in accordance with the equation:

$$V_n - C_n > V_c + D_c$$

Source: Bourassa 1993, p. 1142

Here: V_c is the market value of a site and the improvements on it, if any (the subscript c refers to current use); V_n denotes the expected market value of the same site with either a refurbished or a new building on it (n refers to the new use); D_c is the cost of demolishing the current building if there is one and if it is to be replaced by a new building ($D_c = 0$ if the current building is retained or rehabilitated); and C_n is the cost of refurbishment of the existing building or the construction of a new one, excluding the cost of purchase or replacement or clearing the site (Bourassa, 1993).

Like the Rent Gap hypothesis however, Bourassa (1993) is dismissive of the formula as inadequate at explaining why gentrification takes place at a given location. The question which remains unanswered by the suggested models, according to Bourassa, is why certain areas previously subject to disinvestment come to be perceived by the market to have new-found potential for reinvestment and higher land rents. Bourassa concludes that Marxist theory fails to adequately explain how it becomes profitable to redevelop inner-city areas. It also fails, according to Bourassa, to properly address the reasons for the change in value that produce the gentrification effect.

According to Stilwell (2006), this is explained by the fact that land is fundamentally different from labour and capital because its supply is inherently (or perhaps “more”) limited.

The history of land in Western countries as a commodity is cited by Stilwell (2006) as part of this explanation. Land, in Stilwell’s view, has always had capacity to earn varying rents. So as a city grows and more land is brought into urban use, existing landowners become the primary beneficiaries. This, according to Stilwell (2006) and D. Harvey (1985), why socialist ideology has always been hostile to private property ownership, namely for its ability to control the means of production. Thus the capitalist system allows anyone who has savings to invest in land, to acquire the power and appropriate rent, privileges once reserved for the landed gentry.

Property values can thus be created by providing an economic milieu out of which aspirations and future incomes may be estimated. As David Harvey puts it, value is created out of production but is not realised until consumption. This has an a priori connection with the empirical evidence presented in this thesis, namely that zoning change alters land value and that land value may be created (or destroyed) by the way that it is traded and valued at the point of exchange. However it differs from the research contained in this thesis, which shows through empirical evidence that land value is altered well before the point of consumption and is readjusted in value terms at or close to the point of certainty of new permissibility of use (refer to Chapter 5 of this thesis).

So, since the effect of zoning change on value can only partly be explained by the neoclassical concepts of landuse, and is only partly dealt with by the theorisations of Edel (1969), Vernon (1964), Clark (1951), Alonso (1960), Jack Harvey (1981, 1996), David Harvey (1985), Stilwell (2006), Heilburn (1974), Bourassa (1993), Kary (1988), Ley (1986) and others, it follows that further explanations of land’s translation of value must be more fully explored. The effects of zoning and landuse regulation must specifically be reviewed with particular emphasis on finding the connection between zoning, landuse change and land and asset values.

To that end, there appears to be little research into the rezoning effect on land. There is also little guidance if any, offered by the various models to explain why rezoning land may alter its market value. Equally the questions of how the additional value may be created or recreated is also not adequately covered. Of all the models examined above, none explain the process by which supply and demand for land may shift or the many market complexities that all form subsets of such a shift. The Edel model for example, relates largely to North American cities in the 1950s, and as city models are very specific, it is less relevant to rezoning land in NSW today.

All of the models, though useful theorisations in establishing the notion of land and asset value in terms of income and changing demand and supply patterns, do not explain how value is created through land use change, nor do they explain the processes by which supply and demand shift. They simply describe the process by which some types of value-change happen for income-producing assets. They are to that end context specific, with little actual market research included in assessing and describing the effect experienced by the asset either through valorisation or disinvestment. In income-producing terms, both housing and land are not strictly in that category. This thesis is centred on exploring the transformational effects of land rezoning and its connection with value. This is considered an important piece of the overall puzzle, needed to better model and understand how contemporary cities transform and rejuvenate.

Specifically, the empirical research contained in Chapters 5 (and also Chapter 6) of this thesis expounds on the limitations of such theories as “rent-gap”, “bid rent” and the ANT theorem of Ruming (2008). The research contained in this thesis concomitantly reinforces and completes the gaps in the research conducted by experts such as Ruming and J. Harvey, proving them to be conceptually correct but only able to part-describe the rezoning and planning effects on land, as set out in this thesis. This is not necessarily a failure of either theorisations, simply that the complexity of rezoning and planning outcomes has been shown in this thesis to depart from the more ideal models set out for the land value conceptualisation as well as how the outcomes relating to such results may be derived and granted. It is true however, that embedded in the concept of land value augmentation, a value gap is certainly present in all of the data as seen in the change in values documented in Figure 5.3.

Assuming “rent” to be a proxy for value, then it is true that if a “value gap” did not exist, the land would, by definition, not change its market value. Here the planning and zoning transformations are seen to have created new land value in a short space of time quite akin to that explained in J. Harvey’s Rent Gap Theorem but yet it is not related to land rent directly nor is it strongly linked to location (see Figure 5. In Chapter 5). Rezoning and planning-related value-change, as documented in this thesis at least, has been shown to occur for a whole range of values (see Figures 5.5 and 5.6); landuses (Figure 5.20); land areas (Table 5.6) and geographical locations. The transformation is such that the value is created almost directly post rezoning and planning approval and is not delayed until the point of consumption, as might be suggested by “bid rent” theories.

The value-change experienced also involved various complex negotiations and processes for differing land uses (see Figure 5.11 and Figure 5.19) and also different time frames (see Figures 5.12 and 5.13). Though both rent gap and bid rent theorisations reinforce the concept of land-value change through market transformation, they fail to properly take into account that a land’s “Highest-and-Best” use is only at its maximum permissible zoning. Thus when its zoning changes, its ability to generate capital or income also changes, initially in expectation (documented rezoning or DA) but also in market terms due to the certainty of the new outcome. The results analysed in this thesis are clearly lacking a locational or land-rent pattern and are scattered around the State of NSW in distances ranging from a few hundred kilometres from the CBD (eg Rosedale - Example 4), to only a few kilometres (e.g. Pindari - Example 1). This is shown for all examples in Map 5.1 in Chapter 5.

Ruming’s ANT perspectives are also significantly embodied in the values generated by the land rezoning and planning approvals as all of these (for all 20 examples used) have experienced processes which contain negotiated outcomes but each negotiation undertaken was case-specific involving different methods, values, time-frames and sometimes different proponents (Actors), as the information presented in Tables 5.3 and 5.6 suggests. The Ruming (2008) research relates strongly to the methodologies by which the rezonings and development approvals documented in this thesis, were achieved. They all involved complex interactions with local and State-government

bodies, land owners, public authorities, government departments, financiers, utility providers and the public. The empirical research as related to market-based examples, and explained in Section 5.6, elucidates the Ruming Actor Network in practical terms and properly reinforces the notion that all approvals in modern NSW today, do involve a “network” of negotiations with an entire “network” of stakeholders.

Chapter 6 of this thesis contains research conducted on HCAs and the secondary research question of the impact of such manifestations of zoning on land value. Though “rent gap”, “bid rent” and ANT do not directly apply to this research,

2.6 - Zoning in NSW: Origins and Evolution

So where does zoning as we know it in NSW have its origins? Does it draw on the segregational American Euclidean Model of 1926 or is it based on English Town and Country legislative construct? The truth is that it has borrowed from both. Planning and zoning have a most interesting history in the state of New South Wales. As an American system that has been embedded within an English planning system, NSW planning is perhaps best described as a hybrid that sits midway between British-style statutory landuse regulation and the more strategic American-style policy interventions (Freestone, 2007).

According to Whitmore (1981 pp 4-5), local government in New South Wales follows closely that of the English example with two main differences. The first being that in New South Wales, local authorities have no powers that extend over police, transport, education and fire services, all of which remain with the State government. The second difference being that the English trend is for an increasing shift from local to central governance, which seems to be the opposite in New South Wales. Indeed, according to Whitmore, the historical borrowings by the colony of New South Wales from English statutes, render them useful and applicable by the NSW courts particularly in establishing legal precedent in the modern context.

This view is mirrored by Coleman in “Planning and People: An Introduction to Urban Planning in Australia, 1971: Sydney, Angus and Robertson, p.43) who suggests that the

NSW Parliament “substantially copied” Britain’s Town and Country Planning Act 1932 when it inserted Pt XIA into the Local Government Act 1919 (NSW) in 1945.

There is also Wright’s narrative (2001) further highlighting the significant influence that the British Town Planning Act 1925 and the Town and Country Planning Act 1932 had on the statutory planning direction set in NSW and the evolution of the Environmental Planning and Assessment Act 1979 (NSW). Indeed the earliest British zoning statute was the Housing, Town Planning Act, 1909, which despite its emphasis on housing, initiated zoning provisions for the first time in Britain (Booth, 2003).

Part XIA of the Local Government Act 1919, has general application to all cities and municipalities in the State of NSW and are binding on all local bodies. Part XIA binds both the Crown in a practical sense and land owners by restricting, either by delegated legislation, their ability to use land (Wilcox 1967).

2.6.1 - The English Planning and Zoning Story

Therefore the NSW planning journey begins in England as does the concept that planning permissiveness or restrictiveness can create value. The English have long recognised at a governmental level, the value change in land caused by zoning change and have on numerous occasions attempted, on behalf of their public, to capture some of the resulting windfall gains. Unlike the Americans however, the English dealt with zoning and value-change mainly through statutory mechanisms rather than through the courts.

In 1943 for example, the government commissioned the English Uthwatt Report.²⁶ The Report strongly recognised “betterment due to zoning change”, but its recommendations for recapturing betterment, were officially rejected. This was probably because it had

²⁶ English Uthwatt Report of 1942: Commissioned during the Second World War, in January 1941 the “Expert Committee on Compensation and Betterment” to give its full title, reported in September 1942. Chaired by Justice Uthwatt with members James Barr and Raymond Evershed KC, two past presidents of the Chartered Surveyors Institution (as it then was) and Gerald Eve.

recommended the taxation of unrealised gains and the government at the time, preferred a system resulting in the nationalisation of development rights. Thus the recognition of zoning's effect on value was officially explicit but politically difficult to capture.

2.6.1.1 - English 1909 Town Planning Act and its Progenies

This recognition of land value increase in England was present in statutes dating back to the early part of the last century. Hagman (1978) describes in detail the 1909 adoption of the English Town Planning Act. It contained provisions for recapturing land value increases (betterment) following the adoption of a planning scheme and for paying compensation for decreases (worsement) in land value due to the scheme. Thus the 1909 Act clearly contained an overt recognition of how zoning can increase or lower land value. This recognition was also present in later revisions of the Act.

2.6.1.2 - Planning Law of England from 1947 to Present

English planning law was fundamentally revised by the Town and Country Planning Act 1947 by which all property in England was, in effect, “downzoned” so that the owner was left only with existing-use rights. Compensation was made available for any loss in value. In order to develop the land, development rights had to be purchased and no right to develop was granted, unless conferred (Hagman, 1978).

According to Sir Desmond Heap (1978) in his authoritative text “An Outline of Planning Law”, it was the subsequent Town and Country Planning Act 1971 that reordered the English planning hierarchy. It expressly provided that for every piece of land, outside of Greater London, that there would be two planning authorities - a local planning authority and a County Planning Authority. This was the Act upon which the NSW EP&A 1979 was based and authored.

Within the administrative area of Greater London (defined in the London Government Act 1963) there were also special provisions, contained in the 1971 Act and in the Town

and Country Planning (Local Planning Authorities in Greater London) Regulation 1965, for the establishment of local planning authorities.

The Greater London Council became the local planning authority for Greater London as a whole. The City of London, acting through the Common Council of the City, was granted the same planning powers as a London borough. The provisions also allowed a local planning authority to establish planning committees as it felt expedient, for the efficient discharge of its functions under the 1971 Act. This also bears propinquity to the relationship under the Environmental Planning and Assessment Act (NSW) (EP&A Act) between the State of NSW and its constituent local government areas. The new-style procedures of the Act split development plans into two distinct parts: “structure plans” and “local plans” creating an administrative hierarchy.

Further, in another great similarity with the EP&A Act of NSW, any planning committee of a local planning authority may delegate planning functions to an officer of the authority, where the decision of the officer, becomes automatically the decision of the authority.

It became obligatory, Heap observed, under the 1971 Act, for all local planning authorities to submit to the British Secretary of State for his approval, a Development Plan for their area, prescribing the precise manner in which land would be permitted to be used. This bears incredible resemblance to the modern system of segregational zoning and development control in NSW.

According to Jacobsen and McHenry (1978) (Sorry I can’t find this reference? (Clues; Windfalls for Wipeouts)), the principal sources of power for local control, are those state statutes delegating the state’s power to local governments. These so-called Enabling Acts authorise local government to both regulate and impose conditions on the development of land zoning (Hagman and Misczynski eds., 1978).

In essence, an English Development Plan consists of a map and a written statement, together with a Town Authorisation Map allocating land uses, including areas for proposed roads, buildings, airfields, parks, nature reserves and other uses designated as

agricultural, residential or industrial on the map. Other areas were specifically set aside for comprehensive development or redevelopment.

The responsibility for the making of a Structure Plan was exclusively that of the County Planning Authority (Local Government Act, 1972), while the responsibility for the making of a Local Plan was primarily but not exclusively that of the District Planning authority (Town and Country Planning Act 1971). Thus a Local Plan became a plan prepared by a local planning authority under the aegis of an overriding structure plan.

Under the English system of planning, when a Structure Plan has been approved by the Secretary of State, the local planning authority must, as soon as practicable, consider preparing a local plan for their area. The Secretary of State may also direct the preparation and adoption of a Local Plan. A Local Plan typically consists of a map and a written statement detailing local planning proposals for the development of land to which the plan applies, or for any description of development upon land. The English Structure Plan is typically the progenitor of a plethora of imposed local plans.

After considering the objections to an advertised local plan, the local planning authority may then proceed to formally adopt it by resolution. If objections are made in due time, then after considering objections, the local planning authority may proceed formally, by resolution, to adopt the plan, as originally prepared or as modified.

Appeal to the courts under the English system, only relates to matters of proper procedure has been followed in plan-making. On matters of substance however, namely issues of policy, no appeal is available.

When a Local Plan has been finally adopted by a local planning authority, it comes into force. It can naturally also be altered by a public authority, through a similar process, provided that it has been approved by the Secretary of State.

Also, the Civic Amenities Act 1967 contained specific controls aimed at addressing the aesthetic of buildings of historical or architectural interest and providing for such amenity issues as tree preservation.

England employs a permit system of land use control. A “planning permission” (or development permit) is required prior to the commencement of almost any development. Planning permissions can be conditioned under the Town and Country Planning Act 1971 but there is a strong tradition that these permissions are to be granted based on planning considerations, and both the central government, which reviews planning permissions, and the courts, have not permitted planning permissions to be occasion for the imposition of any significant exactions on applicants. For example, conditions cannot include the required dedication of land for roads or open space.

According to the authoritative Heap (1978), the English statutes have been more generous to property owners than have the American courts. The relative generosity of the English over the years, Sir Desmond believed, related primarily to the statutory recognition of “betterment” due to land use change. The 1947 Act, in effect, nationalised the right to develop land, requiring all proposals to secure planning permission from a local authority, with provision for appeal against a refusal.

In both the 1947 Act and its modern progeny however, the essential nature of the Act remained unchanged. English planning requires local authorities to develop Local Plans to outline what kind of development is permitted where, as well as to mark special areas on Local Plan Maps. The English did not introduce a formal system of zoning as was used in the United States. Instead, Counties develop Structure Plans that set broad targets for wider areas of a locality.

As Frederik Jacobsen and Craig McHenry point out in concurrence with the above analysis, there are two axiomatic conclusions that can be advanced after the distillation of English planning controls by comparison to the US (Hagman & Mischynski, 1978). Firstly, the English have a stronger tradition for the “central” government to provide public facilities than Americans. Secondly, except for about a dozen years since 1909, the English have had some kind of windfall recapture device in force, explicitly recognising both the positive and negative effects of zoning on land value. This is highly significant as it demonstrates official acknowledgement that zoning has a direct and palpable effect on the value of land.

2.6.1.3 - Important English Cases on Zoning

There are very few zoning cases in English law that can be cited to demonstrate genuine challenges to zoning ordinances. There are however, important judicial decisions that bear mention. These relate more to planning permission demonstrating implicitly but more fundamentally, that zoning per se is rarely challenged in England. The English landmark cases relate more to questions of authority, reasonableness and the ability to exercise statutory power within prescribed zones.

Firstly, is the landmark case of *Hall & Co. Ltd. v Shorham-by-Sea U.D.C* [1964] 1 All ER 1 defining local authority. Here, planning permission had been granted for a concrete aggregate grading plant, on condition that the applicants construct an ancillary road over the entire frontage of the site at their expense. The Court found however, that such a condition was beyond the government's authority, both on the ground of unreasonableness and on the ground that it had no authority to act in the manner it did.

Another important decision dealing with the limitation of discretion to condition planning approvals, was that of *Pyx Granite Co. Ltd. v Ministry of Housing & Local Government*, [1958] 1 QB 554, where it was stated by Lord Denning that:

“Although the planning authorities are given very wide powers to impose such conditions as they think fit, nevertheless the law says that those conditions, to be valid, must fairly and reasonably relate to the permitted development. The planning authorities are not at liberty to use their powers for an ulterior object, however desirable that object may seem to them, to be in the public interest”.

In *Fawcett Properties Ltd. v Buckingham County Council* [1961] AC 636 at 684, Lord Jenkins ruled that: “the power to impose conditions though expressed in language apt to confer an absolute discretion on a local planning authority to impose any condition of any kind they may think the power must be construed as limited to the imposition of conditions with respect to matters relevant, or reasonably capable of being regarded as relevant to the implementation of planning policy”.

2.6.2 - Compensation for Planning Restrictions and Forced Acquisition of Land

Planning restriction and compensation cases are relevant for consideration because they clearly demonstrate an official recognition of the loss of value following effective or actual zoning change. Compensation is deemed payable under the Town and Country Planning Act 1971 in respect of planning restrictions which either prevent or hamper the development of land; or cause loss, damage or depreciation in the value of land. It is essential in connection with this matter of compensation for planning restrictions, to draw a clear distinction, as does the 1971 Act, between compensation for planning restrictions on new development and compensation for planning restrictions on other development.

The concept of compulsory acquisition is also relevant because it provides a parallel to the “*eminent domain*” and “*taking*” concepts, as practiced in the US and is one way in which a value due to zoning change, may be recognised by the legislature and the courts.

To that end, the grounds on which a local authority or the Secretary of State for the Environment, can acquire land compulsorily for the purpose of town and country planning, are set out in Sections 112 and 113 of the 1971 Act. Section 112 confers compulsory purchase powers upon the councils of counties and country districts, the Greater London Council and the councils of London boroughs, authorising local authorities to acquire compulsorily any land in their area stating that: “The Secretary of State may also authorise a local authority to acquire land which is within the area of another local authority and acquisition is carried out by means of a compulsory purchase order made in accordance the procedure set out in the Acquisition of Land” (Authorisation Procedure Act 1946).

Upon the completion of any compulsory purchase of land under the 1971 Act, all private rights-of-way and rights of laying down, erecting, continuing or maintaining any apparatus on under or over the land, are extinguished and any such apparatus becomes vested in the acquiring authority. Persons suffering loss by such extinguishment of a

right or the vesting of apparatus, are entitled to compensation from the acquiring authority, in accordance with the Land Compensation Act 1961.

Section 113 of the 1971 Act also confers upon the Secretary of State, the ability to acquire compulsorily any land necessary for the public service, an undefined and far-reaching expression. All applications for planning permission can also be called in for decision by the Secretary of State himself under section 35, if deemed significant.

2.6.3 - The Evolution of Australian Statutory Zoning

Australia's statutory zoning journey is very interesting to observe and has drawn ideologically from the English Town & Country Planning Act 1932 and its successors. In his classic article on the development and growth of conceptions of private property, Philbrick (1983) points out that Australia was influenced at the time by Adam Smith's *Wealth of Nations*, with its "natural right to property" doctrine. In the new colony, the physiocrats established precepts for the early settlers, all fulfilling the dream of property ownership. Or as Sir Edward Coke put it: "The house of everyone is to him as his castle, and fortress, as well for his defence against injury" (Sir Edward Coke - Reports, *Semaynes' Case*, (1604) vol. 3. pt. 5, p.185).

This sanctity of private property has always been tempered by the omnipotent judicial maxim: "Sic utere tuo ut alienum non laedas", of using one's property so as not to injure another. It illustrates the most important principle behind landuse zoning control, which was as significant in the early zoning years as it is today.

The ubiquitous zoning methodology of classifying landuses into segregated districts, is in many cases, the only device of planning in Australia. Planning is delivered through allowable and prohibited land uses, all set out within the zones of Local Environmental Plans used throughout all the Local Government Areas around Australia. Most planning schemes also utilise a hierarchical approval system allowing certain landuses in each zone, while disallowing others. Zones typically prohibit certain uses absolutely, while allowing others, only with the permission of a local authority or the relevant state government.

This is further reinforced by Wilcox (1967) who outlines that one of the purposes of planning schemes is to zone land for private uses, done purposefully to ensure that its future permitted uses follow desired town planning principles and contribute to amenity. In NSW, this typically categorises the uses in each zone as: permissible; permissible with consent; and prohibited. These are binding on a responsible authority determining a development application on the land. Wilcox also points out that the object of a planning scheme is to regulate the use of land but that zoning gives some an advantage if land is permitted to accommodate more profitable outcomes.

Glickfeld and Hagman (1978) aptly described Australia's considerable zoning journey, commencing with the Australian states introducing Australian state acts, based on the English Town and Country Planning Act, 1932. Comprehensive town planning eventually came to NSW with the Town and Country Planning Act 1945 (an amendment to the 1919 Local Government Act), which drew heavily upon the provisions of the 1932 Act and the British Uthwatt Report.

Like its English counterpart, the Town and Country Planning Act 1971, the NSW EP&A Act 1979, also requires permission to be obtained for most development of land and thus few uses are permitted as a right. Thus, from its conception, almost all uses under the County of Cumberland Scheme and later the EP&A Act, were made subject to planning permission.

This becomes more interesting as some academics point out (Fogg (1985) 16 Western Law Review 258 pp. 262-3), since Britain abandoned the zoning system in their planning on the 1st July 1948. Though some current legislation in South Australia and Tasmania has followed in this approach, the NSW framework is still in full use of zoning. Broadly this means that Development Plans came to replace town planning schemes in England but they do not have the force of law and represent only an intention. In the UK no building or engineering may be carried out on the land nor a material change made to the uses, as a right. There is an obligation to gain planning permission, which can be refused even for "development" that appears to comply with official policy. There is also no subdivision control in Britain, with any land being able to be subdivided and sold without restriction or the need for consent.

Worthy of note here, is that the first albeit rudimentary zoning provision, related to the proclamation of “residential districts” under the Local Government Act 1919 (NSW), did in fact restrict land use in residential areas for amenity enhancement (Freestone, 2010). The provisions of the Local Government Act 1919 have been argued by Proudfoot (1992) to have historically contributed to the concept of segregated zones or districts, with the Act under Section 309 permitting “pure” residential zones, free of industrial and commercial uses, to be established in the context of preserving residential amenity.

2.6.3.1 - Euclidean (or segregational) zoning

Euclidean zoning, including its form and function, and ability to protect and generate value, are all relevant considerations for the empirical evidence contained in this thesis. Named after the type of zoning code adopted in the early twentieth century in the town of Euclid, Ohio, and sanctioned through a landmark decision of the US Supreme Court (*Village of Euclid v. Ambler Realty Co.* [272 U.S. 365, (1926)]; also refer to API 2.6), Euclidean or segregational zoning codes are the most prevalent form of zoning in both the United States and Australia (Stein, 2008; McAuslan, 1980; Freestone, 2007). They are almost universally employed across the state of New South Wales in small towns and large cities alike and work through the effective segregation of land uses (Stein, 2008; Williams, 2007; Forster, 2004; Gurran 2007).

So how does Euclidean or segregational zoning give effect to such purified landuse segregation? This type of zoning, according to US academics Rosen and Katz (1981), functions through the exclusive allocation of areas to particular land uses. The primary rationale for such zoning is the elimination of externalities for each use. This view is well supported by most commentators (e.g. Stein, 2008; Starke, 1966; Ryan, 1988), who point out that the isolation of land uses is not only functional but also historic. It is intended to spatially separate “incompatible” land uses for the purpose of mitigating “nuisances” generated by other activities.

Over the past 90 years, zoning and planning ordinances have grown from regulating air and light (refer to Doctrine of Ancient Lights API 6), to controlling density, land use and almost everything else from signs, parking, hours of operation, facade treatments,

height, streetscape setbacks, as well as a panoply of other aspects of development. Politically, much of the nuisance argument, in practice, ends up placing residential amenity at the apex of the zoning pyramid. This is logical given where voters and complainants exert the greatest power in a democracy (Carr 2007, Ruming 2011). According to Groves and Helland (2002), this is also probably because zoning's most-frequently-stated objective was and remains the protection of property from the negative externalities of neighbouring development.

So when in 1926, the United States Supreme Court upheld the constitutionality of traditional comprehensive zoning ordinances in the landmark legal case of *Village of Euclid v. Ambler Realty Co.* [272 U.S. 365, (1926)], a new form of zoning that segregated uses was constitutionally born and legitimised. It proved so immensely popular that almost 100 years after its introduction it still has ubiquitous appeal. Zoning is today the predominant method of landuse control in many countries like the United States and Australia. It is for this reason that planners frequently refer to traditional zoning as "Euclidean", drawing upon this very historic connection.

Probably Euclidean (or segregational) zoning's greatest strengths, are its methodological simplicity and ease of execution. Though not always that simple, it often can be effective, by the division of a municipality into linear or geometric patterns and a decision of future intended land uses. Euclidean zoning operates by separating areas into large homogeneous zones allowing only certain prescribed uses. Although not all zones in NSW are strictly segregational with many allowing the cohabitation of a multiplicity of uses, there intent certainly is. The legal instruments empowering such segregation, confine the resulting allowable land uses within each zone so as to only contain a narrow range, precisely for this reason. There are thus under this broader umbrella, such obvious zones as single-family residential zones, reserved exclusively for detached houses. Even rural land can be zoned to have large non-subdivisible primary, livestock or agricultural uses; this is also possible with all other zones including light industrial or commercial uses.

Is segregational (or Euclidean) zoning the most efficacious way to plan a city? Is segregation the answer to better amenity outcomes? Are there better methods in zoning

or planning which can be considered for the future? These questions are all important to contemplate in the context of landuse change. As may be conceptually germane to this argument however, using the words of Carlos Fuentes: “history is not over” yet. We continue to make history every day as our cities grow and evolve and we strive to ensure that due anthropocentric consideration is paid to the design and planning of our urban spaces by adherence to the omnipotent, judicial zoning principle, following Euclid: “salus populi suprema lex est”, that the welfare of the people is the supreme law. Whatever the verdict, segregational Euclidean zoning is the landuse system that has prevailed in Australia for almost a century. It has stood the test of time. Paradoxically it is the very rigidity of this type of zoning, so frequently criticised by some, that may have imbued zoned property with greater certainty of tenure and arguably higher land values upon planning or zoning change. This hypothesis is tested by the empirical research presented in this thesis.

2.6.3.2 - Performance zoning

Another, less-prevalent, form of zoning in Australia and the US, is Performance zoning. Under this type of zoning, performance-oriented criteria are used to establish the assessment parameters for proposed developments. Under this type of zoning, the market is afforded maximum flexibility in being permitted to build almost any structure that meets the performance standards for that district (Philadelphia Zoning Code Commission 2011). Rather than specifying permissible uses in a given zone, Performance zoning instead dictates the intensity of acceptable land uses in a zone. One obvious advantage of such a zone is that it requires lower administrative involvement, with less amendments, court appeals and rezonings necessary, if implemented universally across a city (Healey 2006).

There were similar attempts in Australia to use Performance zoning in the Warringah local government area in Sydney’s north. John Mant (2006) describes Warringah’s former “place-based” scheme as a success prior to its enforced replacement by the standard planning provisions that all NSW councils were made to follow at the behest of the State Government.

Performance zoning is purported to allow for more innovation and better architecture (Gurran 2007) and the use of new technologies as well as encourage innovation in design, rather than an obsession with fixed, prescriptive rules. Though still not widely used, there is a view that the use of “Performance-based” zoning should begin to be trialled in Australia (Gurran, 2007).

Performance-based landuse regulation however, is increasingly being applied to the public sector as a means of enhancing the efficiency and effectiveness of decision making. It has been trialled in the United States, Great Britain, New Zealand, Australia, and Nordic countries in an attempt to circumvent some of the well-documented failures of current practices in landuse control (Exner and Sawchuk, 1996).

To its critics however, Performance zoning has some distinct disadvantages. One such limitation is its inability to create certainty in terms of what is either allowed or prohibited in a given zone. Under Performance zoning, some allowable uses need to be determined through elaborate modelling or mathematical calculations, making it more difficult to make categorical determinations (Baker, Sipe and Gleeson, 2006). Notwithstanding the certainty ascribed to the current segregational models of current local plans in NSW, one can cite at least one historical example of a local scheme, that of the city of Goulburn (located between Sydney and Canberra) where in the early 1980s, the planning controls contained no prohibited uses. Perhaps such controls are not as essential as currently purported.

Though it had intuitive appeal, Baker et al. found that performance-based planning at the local level in the United States, Australia, and New Zealand, in many of the jurisdictions that adopted it, subsequently abandoned it due to its difficulty of administration. Even where Performance zoning survived, it was typically hybridised with traditional zoning for ease of implementation (Baker, Sipe and Gleeson, 2006).

2.6.3.3 - Incentive zoning

Incentive zoning has been used for over half a century mainly to encourage developers in fulfilling specific urban planning goals. The rewards can range from taxation

incentives to direct financial contributions, frequently utilising density controls in bonus schemes. The first implementation of Incentive zoning in the cities of Chicago and New York, was thus instituted to provide reward for those developments that authorities felt met desired urban objectives. Common examples include bonus FSRs and increased heights for the inclusion of public amenities. Incentive zoning has become more common throughout the United States during the last 20 years (Schafner and Waxman, 2009).

It has also been practiced in Australia in several jurisdictions, including the City of Sydney and Waverley local government areas (Williams, 2007). Though Incentive zoning could allow for greater numeric flexibility as a policy tool, it has the drawback of being more difficult to assess. Though this is not necessarily problematic, the quality of the assessment becomes the determinative factor in creating a decision. The initial formulation of the incentive, in order to best serve planning priorities, can also be challenging and often requires extensive ongoing revision to maintain balance between incentive, magnitude and derived benefit granted to an applicant (Schafner and Waxman, 2009). Notwithstanding, there are incentive-based tools under the Threatened Species Conservation Act 1995 (NSW) and the Native Vegetation Act 2003 (NSW). These statutes are also primarily regulatory.

Further, because in most cases in the US and Australia zoning policies are delegated to the municipal level of government, many localities have enacted policies to create incentives such as density bonuses, tax breaks, affordable housing stipulations or the payment of affordable housing fees (Carr, 2007). These measures have attempted to improve civic outcomes as well as affordability with some degree of success, but are still not widely used in Australia (Untaru, 2002).

2.6.3.4 - Design-Based or Form-Based zoning

Another way to reach planning objectives is by using Design-Based zoning. Design-Based zoning relies on both prescriptive and discretionary criteria. These criteria are typically dependent on such aspects as lot size, location, siting and proximity to transport. Advocates of Design-Based zoning, believe it offers considerably more

flexibility for achieving design excellence than segregational Euclidean codes; but proponents generally acknowledge that design-based codes are more challenging to create and administer. Design-Based codes have not been readily adopted in the United States or Australia, perhaps precisely for that reason. Form-Based or Design-Based codes have also been fiercely criticised for their lack of illustrative nature and for being difficult to interpret. There is greater flexibility that could be found under Design-Based zones however, which cannot be accommodated under standard segregational Euclidean zoning (Stein, 2008; Forsyth 2003).

New Urbanist architect Andres Duany (as quoted in Stein, 2008) believed that it was housing type, location of buildings on streets and the distance that pedestrians have to walk, that had the greatest effect on creating a community. Critics of this New Urbanism²⁷ and Form-Based zoning point out however, that communities that have used this zoning, such as Celebration, Florida, built by Disney Corporation, are dull, sterile, artificial and disconnected from their surrounds (Stein, 2008).

2.6.3.5 - Enterprise zoning

Another type of zoning frequently advocated is Enterprise zoning. This is where a defined geographical area is identified by authorities and given special administrative, zoning and taxation treatment in order to encourage certain uses such as commerce or industry. It is undoubtedly true, that simply zoning an area for “Industrial” purposes per se as a zoning code might do, cannot of itself draw industry to that location.

Also, under Australia’s current zoning practices, there are many additional barriers before projects gain development approval, and get constructed. According to Stein (2008), there have not been in Australia to date, any such Enterprise zones other than the St. Andrews Estate, north of Perth, making it difficult to judge the efficacy of such zoning in delivering desired planning outcomes.

²⁷ New Urbanism is a twentieth-century design and urban movement that centres on the concepts of higher urban densities and communal open space in creating better living environments.

2.6.4 - Externality zoning and the Externality Principle

This is not a zone per se as much as a widely-practiced zoning principle. By eliminating harmful externalities which would have been present in an unregulated market, the practice of the Externality Zoning Principle is designed to protect residential property values. This Principle, closely associated with zoning, is primarily designed to underpin residential amenity but seems to be rarely discussed in the context of other zones. All segregational zoning laws embody the assumption that housing must be protected from any deleterious introduced impacts caused by new development.

This is why most industry is prohibited in residential zones as is residential construction in general industrial zones in the segregational Euclidean model (Ruming, 2010; Randwick LEP 2008). This is seen as creating harmony between otherwise incompatible landuses. In reality however, this widespread segregational practice makes industrial and all other uses subservient to residential uses particularly single residential dwellings and creates transport and other functional issues (Westerman, 1998).

This Externality Principle is well explained by Ross, who believed that the main economic objective of zoning remains that of “keeping anyone from doing something on his lot that would make the neighbourhood a less enjoyable place to live or make a buyer less willing to buy” (1972, p. 337). This is put more formally by Revell using the well-known Latin phrase “sic utere tuo ut alienum non laedas” or using your property so as to not injure another, still a governing principle of modern-day zoning (1999, p. 59).

The creation of districts containing only single-family homes, is therefore common in New South Wales and authorities often seek to protect this form of housing from intrusion by industry, commercial and even medium-density residential uses. This is of course not the case with greater mixed-use codes such as those practiced in Germany (Healey, 2006).

2.6.6 - Exclusionary zoning Mechanism

Exclusionary zoning has been defined by Morgan as those “land use controls which interfere seriously with the availability of low and moderate income housing” (1984, p. 779). To summarise matters particularly negatively, critics of traditional zoning assert that traditional zoning is no more than a deliberate but blunt statutory mechanism for the geographic segregation of lower-income families from wealthier ones (Ellickson, 1981; Fischel, 1979; Petersen, 1974).

Ross (1972) is highly critical of many Exclusionary zoning practices in the US. Ross contends that the deliberate exclusion of apartment buildings from low-density housing areas, done ostensibly to protect single-residential-dwelling amenity, is no more than a cynical Exclusionary zoning practice. This results in an artificial barrier on the housing supply, exacerbating affordability in most large cities, including Sydney (Forster, 2004).

Exclusionary landuse practices aimed at protecting the local environment, have led to a monoculture of land use and a greater separation of trip origins and destinations, according to Westerman (1998). This can be counteracted by planning more mixed-use zones but as Westerman notes, this is not yet widely accepted by the Australian community. The current zoning practices therefore prevail.

2.6.7 - Inclusionary zoning Mechanism

Inclusionary zoning is the zoning practice whereby approval authorities require developers to allocate a percentage of housing, in new residential developments, for community benefits such as community facilities or open space or sometimes to lower-income households. In return, developers can receive density bonuses, zoning variances and expedited development approvals (Policy Link, 2009). This is not dissimilar to Incentive zoning, discussed in Section 2.6.2.

These practices have received strong support from different quarters (Stein, 2008) but also some operational criticisms. Some of the criticisms include the unresolved but

important issues of who gets chosen as the recipients of the affordable housing, the definition of “affordable”, the length and type of tenure and how the affordable accommodation is eventually passed unto others. Other issues include questions on how the selections are granted and what effect on a project’s overall feasibility, lower-priced dwellings may have? To its advocates however, these questions are not problematic and the Inclusionary zoning mechanism is an effective way of allowing cities to densify and grow in a much more equitable and sustainable way (Stein, 2008).

Peter Williams (2000) discussed the concepts of Inclusionary zoning and affordable housing in Sydney and cites two attempts to use such zoning there. He concluded that “a strong need exists in New South Wales today, for both the provision and maintenance of affordable housing, through Inclusionary zoning” (2000, p. 308). Williams found that the use of Inclusionary zoning was helpful in alleviating housing affordability in both Sydney, Australia, and in Dublin, Ireland for example (2006).

Conversely, Ellickson (1981) who also examined the processes associated with “Inclusionary zoning” in the United States, found that these programmes were simply “taxes on the production of new housing”, increasing housing prices, which placed further limits on the “housing opportunities of moderate-income families” (p. 1170). Even if the Ellickson view holds true, it is not clear, even from such concerted claims, what might be recommended in its place, if Inclusionary zoning is considered inadequate as a means of increasing affordability and equity in growing cities.

Thus after discussing zoning’s origins and the many existing types and practices of zoning and given that zoning may take one or several forms in a city, it is necessary now to examine the main literature relating to its effects on land and house values.

2.7 - Effect of Zoning and Landuse Regulation on Land and House Values

We now move on to consider the specific case of landuse zoning and its impact on land value. Given that land is a finite and a historically tightly-controlled resource, a connection is suggested to exist between its productive capacity and its tradeable value

(Jack Harvey, Bourassa, Stilwell, Clark, Alonso, Vernon and Evans). It may be pertinent to ask an important question: if zoning could change the land's ability to produce income, does varying the zoning then effect a value-change in the land?

The question here is how does a land's zoning affect its value? Much literature was reviewed on this very point. The diverse opinions expressed in the research herein can be broadly categorised into three distinct groupings; those who believed that zoning (and its manifestations) increased land value; those who concluded that zoning lowered land value and those who thought for various reasons, that the effects of zoning and zoning change were either difficult to measure or of no real impact on land (or house and land) value.

Grouping the 49 academic views on this subject, we can surmise that 34 out of 49 (69%) academic experts agreed with the view that zoning affected land value positively. Only 1 out of 49 (2%) thought it lowered or negatively impacted values, and the remaining 29% (14 out of 49) believed its effect was either indeterminate or negligible. The zoning studies reviewed, ranged from 1956 to 2008 and include amongst others Jud (1980); Fischel (1981); Downing (1973); Mark and Goldberg (1986); Peterson (1974); Dowell and Landis (1982) and White (1988). These are all reviewed and summarised in the ensuing sections.

2.7.1 - How Zoning and Planning Increase Land Value

Most academic experts reviewed herein agreed with the notion that zoning and planning increased land values. A strong starting point is with two British academics Cheshire and Sheppard (1989) who examined the effects of planning constraints on both the land supply and on house prices. They analysed the property markets in two English cities Darlington and Reading, selected specifically to be at opposing ends of planning restrictiveness.

Cheshire and Sheppard (1989) used household surveys to generate their data, pointing out that though there were allowable uses on zoned land, like residential, light industrial, or agricultural, when any development is proposed under the British planning

system, additional planning approval must be gained prior to development taking place. This is similar to the way that the NSW planning system is constructed and the way planning approvals in Sydney and NSW are determined. To that end, the Cheshire and Sheppard research directly relates to the planning development application examples analysed within this thesis (Chapter 5: Examples 9, 13, 16 and 17 and Table 5.16).

The Cheshire and Sheppard research concluded that “the process of development control, does in effect restrict the supply of land for particular uses including housing” (1989, p. 471) and that it does consequently raise both the price of land and the cost of buildings developed on the land. They also found however, that the overall impact of the planning system on house prices was “significant but not enormous” (1989, p. 471).

Other academics have also argued that zoning regulations and their administration are a main reason for land price increases. Controls such as minimum lot-size regulations were found to increase the land cost per dwelling in American research (Rosen and Katz, 1981). Development standards and minimum floor-space requirements that are also often included in zoning ordinances, were found to increase administrative, land development and construction costs, such standards include increased setbacks and lower floorspace ratios, amongst others. Notwithstanding the extra costs imposed by such standards, the contribution of such rigid development controls to a building functionally and architecturally may also be deemed questionable (Mant, 2006). Land prices were also found to increase due to the complexity of assessment procedures, which added to administrative costs and caused delays that increased financing as well as holding costs (Rosen and Katz, 1981).

Bearing on this point, that zoning restrictions can change land and house values, data from the US collected in Montgomery County, Maryland between 1982 and 1987, showed that monopoly zoning and landuse regulation did raise owner-occupier, detached housing prices within an area, despite spillover effects across localities. Also that the effects of zoning and growth management controls, taken together, exceeded their impact when measured separately (Pollakowski and Wachter, 1990).

Similarly Groves and Helland (2002) looked at zoning’s effects on land values through an empirical analysis of Harris County, Texas over the period 1988 to 1997. They concluded that zoning raised the “value of properties best-suited to residential use, by

protecting them from the threat of nearby, future commercial development” (2002, p. 43).

Segal and Srinivasan (1985) gathered data from planning officials, and estimated the amount of land taken out of production because of landuse regulation. They found that a lower supply of available land had a material impact on both land and housing prices (Dawkins and Nelson, 2002). Though the Segal and Srinivasan research was not totally market-based, using an ordinary-least-squares regression to model the effects of house prices, it nonetheless concluded that a reduction in land supply due to zoning and planning restrictions, did produce higher housing prices.

Prices of finished housing lots in restricted cities were found to be more than twice those (in 1990 nominal dollar terms) of the least restricted Shilling, Sirmans and Guidry (1991). A similar effect was found by Dawkins and Nelson in their review of UK studies, surmising that “England’s policy of containment has had a measurable impact” (2002, p. 6) on land availability for housing which consequently resulted in higher housing prices.

White concluded that the effect of zoning is not “cut and dried” (1988, p. 371) but that zoning did increase the market price of a house, if it allowed conversion to another use with a higher present value of the nett revenue stream. For existing homes however, conversion was not always profitable until a new future time, thus making the impact of zoning on the present value of the revenue stream small. This is consonant in fact with Clark’s “Highest-and-Best-Use” hypothesis on rent gap and the landuse model of change put forward by Marshall (1961).

More specifically, this occurs where the value of the house becomes high when compared to the land. Notwithstanding, if the size of the block is small, it may mean that even if “up-zoning” were to occur, the land is too small to allow a better use. Under such circumstances, financial gain may not be able to be immediately realised on the land. White strongly rejected the “null hypothesis” that zoning is not binding (1988, p. 381). He found that zoning’s effects were binding and that a land parcel’s Minimum Lot Size zoning did increase the market value of house prices, including land.

Peterson's (1974) analysis of zoning was confirmed by White (1988), who concluded that property value is created if a lot can be made legally subdivisible into multiple lots. Peterson studied prices of undeveloped farmland, without the distortion of having houses on the land, and concluded that for broadacre farmland price was inversely proportional to minimum allowable lot size (White, 1988). This is an endorsement of the view that increased lot density increases land value as expressed in the Zoning Value Equation (Urban Renewal) in Section 5.2.1 of this thesis.

Dowall (1984) concluded that supply and demand factors for suburban land in San Francisco Bay were not the exclusive result of natural constraints but rather of restrictive land use and development regulation imposed by the region's 100 local governments. Thus Dowall suggested a link between zoning practices and land price, and especially that San Francisco Bay had experienced falling residential densities for new residential construction, at far lower than historical levels, which in turn reduced supply.

Downs (1991), another US academic, described the effect of zoning on housing price and the role of local government in upholding regulation. Data gathered by Downs, revealed that a surprising variety of regulatory barriers were continuing to raise housing costs across the US. The most widespread obstacles, according to Downs, were local zoning codes that excluded almost all moderate or high-density housing from their localities.

Based on the findings of their "Value Equation", Nelson et al. concluded that "traditional zoning and other planning controls did limit land supply for housing, thereby raising home prices by excluding lower-income households" (2002, p. 1). The Value Equation put forward by Nelson et al. used both price and value parameters and found that local environmental regulations were draconically enforced with arduous project assessment requirements, resulting in added complexity and unusually-long development approval times (Nelson et al., 2002). They found that "the fundamental purpose of traditional land use control is...to explicitly exclude undesirable land users from entering communities" (Nelson et al., 2002, p. 8).

It is interesting that land value is not featured as part of the Nelson et al. value equation and that there is no account for differing land values under different zones, such as how the formula may apply to housing values of medium-density apartments. According to Nelson et al., traditional landuse regulation can “raise value but only by limiting the supply of properties with favourable locational features” (2002, p. 14).

After assessing various studies, Nelson et al. concluded that when landuse regulations and growth controls act as supply constraints, especially in closed land markets containing strong demand for new housing, housing price inflation can be substantial. Nelson’s empirical research suggested that “housing demand is relatively inelastic and that both traditional landuse regulations and growth-management policies, can raise the price of housing” (2002, p. 28).

Green (1999), as reviewed by Nelson et al. (2002), also examined the impacts of various zoning constraints on the price of housing. Green believed that zoning was biased against smaller, less expensive houses rendering them less profitable relative to large, expensive homes, thus discouraging their construction. Based on his US research, Green found, as did Nelson et al., that zoning regulation increased housing prices.

Rosen and Katz (1981) found that landuse growth controls increased San Francisco Bay’s house prices. This, they attributed to local landuse controls significantly diminishing the availability of development opportunities in the region and forcing costly alterations to both home and development projects. Rosen and Katz concluded that based on the evidence reviewed and the case studies examined, that building moratoria, growth management systems, and other restrictive zoning practices, all led to significant increases in Bay Area house prices.

In another study, Rosen and Katz (1981), through empirical evidence from Bay Area data also found, that growth management techniques can have a significant inflationary impact on house prices. According to Rosen and Katz, zoning ordinances that restrict minimum lot sizes, and floorspace controls stipulating higher administrative requirements, increase the cost of building new housing as well as the price of

residentially-zoned land. Additionally, Schwartz et al., (1979) found in their US study of house prices, that given that the supply of housing is never perfectly elastic, demand raised house prices in substitute areas (being other areas that may be substituted by a consumer for their first choice) as well as the study areas (Rosen and Katz, 1981).

Malpezzi (1994) examined the effects of planning regulation on both land and housing in the US. Malpezzi's empirical analysis used mathematical indices that modelled the effects of regulatory regimes in different markets. Malpezzi found that prices were positively and significantly correlated with income and that housing prices were driven primarily by the cost of both land and construction. Malpezzi derived a simple Model of Price Determination and found that regulation raised housing values and therefore lowered home-ownership rates.

The study by Wachter and Cho (1991) sampled 781 sales of single-family houses in 15 suburban locations around Boston and employed multiple regressions to estimate hedonic housing prices. Their empirical findings suggested that proximity to certain non-residential land uses affected housing prices in both directions. They had a positive value for accessibility and a negative value for external diseconomies (congestion and pollution). The detailed landuse, geographic, geological, and vegetation characteristics for each house were modelled. The house sale prices were each deconstructed into subsums of each of the micro-neighbourhood property attributes. Wachter and Cho estimated the effects of such attributes including the proximity to non-residential land uses, on housing sale prices. The effect of noise pollution for instance, was found to reduce sale price, whilst propinquity to commercial establishments and throughways provided both benefit (accessibility) and detriment (externalities). The overall result was a complex nett effect that was not a simple, monotonic function of distance as contrasted with the theorisation of Clark (1951) and others discussed in the earlier parts of this chapter.

Wachter and Cho (1991) found that when zoning was more restrictive in adjacent areas, it also increased detached housing prices in the study areas. Thus, where housing investment was artificially constrained it moved to adjacent jurisdictions. Wachter and Cho suggested that residential property owners benefited from restrictive local landuse

controls through a direct-pricing effect. They found that the values of land sites, zoned for given housing densities, were increased by restrictive zoning, impacting on local housing prices in two ways. Firstly, tighter controls created a better living environment, which became capitalised in higher housing prices. Also, landuse restrictions, by setting the housing supply at below equilibrium levels, created scarcity, thus increasing demand in the local housing market. Wachter and Cho found that landuse controls had both inter-jurisdictional as well as intra-jurisdictional effects on housing prices but were unable to discover how such growth and landuse controls and restrictive regulation, actually raised housing prices. This is in part what has been empirically derived in this thesis.

Brueckner (1998) studied zoning's effect on land and found that strict landuse controls made vacant land in adjacent jurisdictions more valuable and thus encouraged diffusion. It is important to remember that, with commodities such as land (and also housing) supply is only loosely aligned with demand due to the lag-time required for land release to occur. Additionally planning approval and the length of time needed to construct and sell the new stock, are highly relevant factors in the value equation (Chapter 5, Sections 5.5 and 5.6).

Jud's (1980) work in Charlotte, North Carolina, suggested that exclusive single-family residential zoning produced a degree of certainty in the zoned areas that the market actually valued. Jud concluded that zoning classification was an important property attribute to consumers of residential housing and one for which they were willing to pay a considerable premium. The research by Jud drew on empirical data, with the results suggesting that residential zoning classification had a strong, positive effect on the price of single-family residential property.

Jud found that zoning increased the value of residential property by "preventing negative external effects from springing forth within a residentially zoned neighbourhood" (1980, p. 142). These findings are indeed the very points which go to the heart of the rezoning process and what might come to constitute a parcel's "Highest-and-Best-Use" value as discussed throughout this chapter.

Crone (1983) examined price data for parcels of “underdeveloped land” and found that the data on commercial and industrial structures could not be used to estimate value using a Hedonic Price Equation²⁸. Crone used the example of Foster City, a residential town in close proximity to San Francisco. Crone analysed the sale price, lot size, and structural characteristics of 177 single-family dwellings and 24 multifamily dwellings between 1975 and 1979, also taking account of inflation by adjusting the sale prices to their earlier levels. Crone’s results concurred with the earlier work of Peterson (1974) and Stull (1974) that multifamily structures are a “source of negative externalities for other nearby dwellings” (Crone, 1983, p. 179). He found that in Foster City zoning for multifamily structures had a negative effect on the value of nearby properties, but the effect on land prices due to the mixing of the two uses was not significant.

Crone (1983) concluded that the impact caused by localised externalities can be assumed to be capitalised in the sale price of land. This concurs with the academic research expressed by Jack Harvey (1996), and Smith (1987) and others. Thus buyers, including developers, often have knowledge of “future environmental quality or land-use mix of a neighbourhood” (Crone, 1983, p. 180), and these are ordinarily fully reflected in the land price. This is totally consistent with “Highest-and-Best-Use” valuation theory for landed assets that assumes that market value always has potential future value priced in if the outcome can be reasonably expected.

Speyrer (1989) analysed the effects of zoning and restrictive covenants on single-family housing prices in Houston, Texas, the only city in the USA without zoning controls. Like Crone (1983), Speyrer also constructed a Hedonic Price Index²⁹ and found that higher prices were paid for homes in suburbs with superimposed landuse controls, than for comparable houses in suburbs without controls. Her study concluded that substantial premiums were paid for both zoning and restrictive covenants. This is indeed a significant finding on restrictive zoning practices, simply because it reinforces the notion that zoning, to be effective, must be difficult to displace or change.

²⁸ A Hedonic Price Equation or Hedonic Regression is a mathematical formula with dependent and independent variables, used in predicting the value of a good such as housing, by estimating each of the individual characteristics that compose the value of the dependent variable.

²⁹ Hedonic Price Index is any price index which uses information from hedonic regression (see Footnote 15 earlier).

Others like Stull (1974) also examined the question of whether zoning affected value. Stull carried out a theoretical, conceptual analysis which suggested that when land is rezoned out of residential designations into employment-generating uses, there should be a resulting increase in residential land prices. This occurs, Stull suggested, because the supply of available residential land is reduced and because the increased employment in the area raises the demand for further residential land.

Fischel (1991) observed that in 1970, following a decade of rapid population growth, Californian housing prices were about one-third higher than those of the rest of the USA, postulating that restrictive landuse controls were the main reason for California's extraordinary housing price increases in the 1970s. Fischel explored Fiscal zoning in the US and observed that it was ubiquitous with "almost all local governments in metropolitan areas in the US" having a form of zoning (1991, p. 172). This lends further credibility to Downs' (1991) contention that regulatory barriers raised housing costs by 50 percent or more in Portland, Oregon. Administrative delays, according to Downs, were another substantive consideration in escalating the housing price.

Downing (1973) also found that zoning and planning regulations served as legal barriers and statutory restraints preventing the easy transfer of land from one land use to another. Even when zoning was able to be changed however, the process was difficult, expensive and time-consuming. Thus Downing argued that zoning was an effective restraint on landuse change. Downing concluded as a result, that commercial land values would vary between land parcels in line with the total revenue that can be earned at different locations and the differing costs in producing a good or service on the land under the rules permissible by its zoning. This is a view supporting the earlier-quoted theoretical rent gap and other landuse allocation models by Alonso, Jack Harvey, Clark and others.

McMillen and McDonald (1991) examined data for land values of single-family residential, multi-family residential, commercial, and manufacturing land uses in the northwest suburbs of Chicago, tracing individual tracts of land over a 20-year period. Almost all of the undeveloped land in this study was zoned Residential. McMillen and McDonald developed an empirical equation which modelled the price of land against proximity to railroad lines and freeways. They concluded that developed residential and

apartment land were both more valuable when proximal to a commuter rail line and that this effect diminished as the distance from rail increased. The figures were much larger for apartment land. Here we see once again the effects of change of use and positive externalities on land value. This was supported by the work of Munneke (2005) who examined the effects of zoning change in Chicago, comparing the 1988 and 1996 Chicago Zoning Ordinance maps and concluding that zoning certainly impacted land price. Empirically, it was found that land prices played a significant role in the decision to reallocate vacant land in Chicago to a different zoning classification based on the difference in the price of a vacant parcel from its existing zoning classification.

The findings on zoning of the McMillen and McDonald (1991) studies, which looked at the impact of zoning on land values, were further highlighted by Munneke (2005) who supported the McMillen and McDonald conclusion that the adoption of a comprehensive zoning plan in Chicago in the early 1920s, was a determinative factor in increasing land values. In three separate studies, McMillan and McDonald analysed the impact of zoning on estimated land values in Chicago in 1961, 1971 and 1981, in an attempt to test the efficacy of zoning regulations. They found that landuse assignments were not designed to maximise property values, but rather to minimise the effects of externalities on residential zones. Nonetheless they found that landuse assignments through zoning increased property values when applied.

Asabere (1981) found that the effect of high-class residential zoning on land values was positive, due to the positive impacts arising from creating well-protected, better-quality areas and that there was also a positive nett effect on land values due to commercial zoning. This is recognition that zoning change raised land values. This view was reinforced by Wallace who produced a study in 1988 that assessed the zoning process and classifications administered by the County Council of King County, Washington. The Wallace study concluded that value for all land is higher with zoning than without.

Schiller's research covered land prices of some 749 land sales in the Greater Boston area from 1850 to 1989, within a 30-mile radius of the city centre (2001). In a period roughly correlating to that of the presence of zoning controls (1926-2001), Schiller found that in Boston, the cost of zoned land had risen over inflation for over a hundred

years in multiple locations, concluding that zoning land had a positive effect on its value.

Peiser (1989) found that land prices were higher in US localities where discontinuous development was prevented. He also found that land prices at the urban fringes were higher, because monopoly pricing opportunities were available to owners whose properties were next in line for development. In their conceptual and theoretical analyses, Ohls, Weisberg and White (1974) found that zoning regulations which effectively restricted the available residential land supply increased residential land costs and property values.

Hendershott and Thibodeau (1990) measured changes in the price of a constant-quality house, through both repeat sales and derived regressions. The repeat-sales technique used data from individual houses that had sold many times. Quality was held constant and major renovations were excluded from the sample. The hedonic equations technique measured the price of housing characteristics such as size, number of bathrooms and type of construction. These measures of price were then used to compute the aggregate price of a standard bundle of characteristics measuring quality. Hendershott and Thibodeau (1990) found that growth rates, using both the repeat-sales method and hedonic modelling for constant-quality houses in four cities, were positively correlated with the presence of both natural and governmental land restrictions such as zoning, and that these were sources of higher real house prices.

Another detailed study by Stull (1974) suggested that many external factors, traditionally dealt with by zoning regulations, had significant effects on the market value of residential property. Also of significance, was the location of any externalities. Thus price would vary depending on where the impacting property was located in relation to the impacted property and its zone, such as the location of a supermarket impacting on detached housing. This seems to suggest that property is a network mascot, whose value is affected by surrounding land uses as well as its own zoning.

Courant (1976) examined the research published by Ohls, Weisberg and White (1974) and posited that: "land values may rise or fall in a metropolitan area, in response to zoning" (1976, p. 88). Courant also argued that "the effect of such a zoning change on

housing prices and consumer welfare is unambiguous; the former rises and the latter falls” (1976, p. 88). This is confirmation that zoning directly impacts property value, the main premise of this thesis.

Chicoine (1981) attempted to model the non-linear relationship between land value and time. Empirical data collected by Chicoine comprised some 491 transacted sales of vacant, unimproved farmland parcels around the US State of Illinois between 1970 and 1974. The data included price, acreage, and property characteristics. Chicoine found that a location contiguous to an incorporated community added over 40% to the mean price of fringe area farmland and that a premium was also paid for parcels located on non-township roads and for good access to freeways. A non-township road frontage reflected a 13% increase in per-acre values with sale prices increasing 2% per mile for locations closer to freeway exchanges. This research showed that an industrial or commercial zoning classification resulted in a 28% increase in price over agriculturally-zoned farmland. Residential conversion in this instance did not seem to increase values however. This was mainly explained by the local ordinance’s liberal provision allowing for residential use in non-residential zones.

This finding by Chicoine (1981) is significant and mirrors those of Fischel (1979); Downs (2002); Rosen and Katz (1981); Peiser; Ohls et al. (1974); Herdershott and Thibodeau (1990); as well as Courant (1976) and Stull (1974). It is necessary for value creation through zoning, therefore to have strong enforcement criteria. Research such as Chicoine’s (1981) suggests a definite connection between enforcement and value. So we must ask ourselves the important question - is the rigidity of zoning what makes the conversion more valuable?

In the body of academic literature examined one theme is that zoning and planning processes serve to increase land values at the expense of others by influencing the planning process. Fischel (1981) is one such expert who believes that as the interest of existing homeowners would be that of maximising the value of their zoned properties, this happens at the expense of new owners of not-yet-developed or not-yet-zoned tracts. Zoning may therefore be manipulated by existing land-holders to achieve that effect. This is done by authorising local officials to zone as restrictively as possible, creating an

artificial scarcity which raises the value of their homes. Fischel provided extensive reviews of other landuse studies and concluded that the practice of zoning increased the price of existing housing in the suburbs studied.

In another study of the rezoning effect, Munroe, Croissant and York (2005) explored landuse patterns near Bloomington, Indiana, where urban and suburban development was expanding into formerly agricultural and forested areas. They found that both diversity of land use and values were higher in areas that were rezoned to allow for the highest housing densities and smallest lot sizes (Munroe et al., 2005). Therefore, at least according to Munroe et al., a broad connection exists between the building density allocated to a parcel and its land value. This thesis also found a broad connection between increasing a parcel's density and value, albeit not a linear connection (refer to Section 5.11.1 in Chapter 5).

Gurran (2007) writing in the Australian context, believed that enforcement was an essential prerequisite but that it was the rezoning of the land itself that created the windfall gains for land owners and that the land experiencing rezoning undergoes an immediate increase in land value, often occurring at the "stroke of a bureaucratic pen" (2007, p. 70). This is in line with the conclusions contained in this thesis but is divergent from the Stilwell (2006) view that land value is derived at the point of consumption only.

So how does the value get created and where does it come from? In a sense, the value change arising out of a zoning and planning change, mimics the economic effects of gentrification or the valorisation of land as described qualitatively and quantitatively by the many theorisations and research findings discussed in this chapter (refer Section 2.2). This view is also supported by the rezoning examples contained in this thesis, all of which demonstrate strong value incrementation post zoning or planning change.

In supply-demand terms, land is most freely-available at the urban peripheries of cities. Without planning constraints however, this very availability may reduce rather than augment its value.

Gurran (2007) also asked the all-important question of whether zoning restrictions diminish land values, or whether land values were actually enhanced by the certainty of knowing what will occur on a property and its surrounds. Zoning not only increases values but what began as a tool to preserve local amenity and possibly property values has, according to Gurran, become an effective means of excluding many groups from certain locales.

Also in the Australian setting, Stein (2008) believed that not just zoning but also development approvals affected property values because rezoning and other statutory approvals can be passed on to subsequent buyers and “run with the land” and that such development consents increased land value. This is supported by the research contained in this thesis (see Chapter 5 - Examples 9, 13, 16, 17 and Figure. 5.16).

Many of these studies do not recognise an important point however: land values are not used to allocate zones to land. It is the reverse that occurs. Zoning is allocated on planning or performance principles, and market forces; supply and demand patterns and the general economic status of the market subsequently equilibrates the land price.

Peterson (1974) agreed with Fischel (1981) and attempted to estimate the losses to landowners who were restrained from building at higher levels of density or prevented from rezoning single houses to duplexes. His results suggested that landowner losses exceeded the sum of community gains by not allowing the extra dwellings. This is totally consonant with the view expressed in this thesis that a change in zoning to higher FSRs and densities increases land values. What is being discussed is in essence a theoretical loss of potential gain that might have been achieved through rezoning.

2.7.2 - How Zoning and Planning Decrease Land Value

In a very different finding, using data from Vancouver, Canada, Mark and Goldberg (1986) examined how zoning classifications and land uses affected the sale prices of single-family residences. They detailed three separate studies on the effects of zoning in Vancouver, British Columbia and concluded that rezoning property to higher densities, had “either a negative or no effect” on the assessed value (1986, p. 260).

They also found that there was no pricing differential between houses zoned for duplexes or single family homes. Restrictions preventing family homes from conversion to duplexes, equally had no effect on price. This was because, while zoning impacted on the value of single family homes, the “magnitude and direction of such an impact could not be consistently measured” over time (1986, p. 271). But this research seems to point to evidentiary limitations rather than a definite conclusion either way.

The findings of Mark and Goldberg (1986) may be explained in several ways. The jurisdictions they examined may have been subject to loosely-enforced or non-binding zoning regulations with respect to homes and duplexes, giving no advantage to a rezoned parcel over a home parcel. This reverts to the issue of enforcement of zoning regulations (Gurran, 2007) and the liberal provisions of some ordinances which may not allow for a strong connection between zoning and value to occur (Stull (1974); Courant (1976); Chicoine (1981); Ohls et al. (1974)). Also in instances where planning authorities may have deliberately zoned large tracts of land for residential uses say, in the short-term at least, this can have the effect of increasing total land supply and perhaps lowering price.

All this suggests that the rezoning of land can never be considered in isolation when assessing its potential value impacts.

2.7.3 - How Zoning and Planning have Negligible or Indeterminate Effect on Land Value

The effects of zoning and planning were not found to be easily assessable by some experts. A minority but significant proportion (29%) of academics reviewing zoning effects considered in this chapter, found such effects too difficult to measure and quantify definitively. It is important to establish at this point that this view is consonant with the research question of this thesis. It is indeed the *raison d'être* of this thesis - to quantify, explain and assess the measurable impact of zoning on land value: a seemingly complex relationship. This nexus has been, by all accounts, not simple to assess due to its complexity and interconnectivity with many other compounding relevant factors.

In their overview paper, Pogodzinski and Sass (1991) examine the impact of landuse regulation on the price of housing in the US by reviewing other expert literature. They found that in some studies, restrictive zoning was found to raise property values, whilst in others, there was either a reduction or no effect. Pogodzinski and Sass attributed such divergence to the types of empirical zoning models used in the various studies and the data selected as inputs by different critics.

The Pogodzinski and Sass research centred on zoning's capacity to create segregated uses thereby minimises possible impacts of incompatible land uses. They analysed the outcomes put forward by a large number of studies on property prices under four different categories of zoning estimation models: Externality Zoning Models³⁰; Exogenous Zoning Models³¹; Characteristics Zoning Models³²; and Endogenous Zoning Models³³ (1991). Pogodzinski and Sass concluded that the many types of zoning can all raise housing values because they limit surrounding negative impacts but that the nett impact of zoning regulation on price could only be determined by empirical analysis. This empirical determination of the impact of zoning on land price, is precisely what has been carried out in this thesis. Pogodzinski and Sass also found that it is difficult to reach definitive conclusions on the nett effect of zoning on property and that many of the published models examined, contained "significant flaws" (p. 614).

Adams et al. (1968) in their attempt to quantify the zoning effect, found that the provision of services rather than the zoning itself was the key driver of value. They found that the provision of services such as a trunk sewer increased the value of

³⁰ Externality Zoning Models are those relating to the effects of segregational zoning restrictions on housing price. Landuse is restricted under zoning codes to minimise external impacts on neighbouring land.

³¹ Exogenous Zoning Models evaluate the direct impacts of landuse regulation on price by incorporating different landuses into the model.

³² Characteristics Zoning Models are those analysing the effects on price of those aspects of zoning which impose restrictions on housing e.g. minimum lot size, maximum height and minimum setback provisions.

³³ Endogenous Zoning Models quantify the zoning process through equations that attempt to explain why particular zoning regulations arise e.g. the proportion of vacant land zoned for residential use or the restrictiveness of a residential or business zone.

undeveloped land by an average of 75%. Adams et al. found that land price was most impacted by factors such as interest rates; and that land price exhibited “positive relationships with construction activity and general economic conditions” (1968, p. 258). This is not inconsistent with the view that zoning changes land value, as such a value-change is often created with the timely provision of services and is assisted by macro-economic conditions that can increase the affordability of the land to purchasers.

Ohls, Weisberg and White (1974) presented their views on zoning in a complex theoretical and mathematical paper, concentrating on taxation factors. They concluded that it was not possible, using a priori (deductive logical reasoning) theory, to predict the valence of the sign (positive or negative) of the effect of zoning on aggregate land value. Ohls et al. identified the key parameters which determine the effect of zoning on land prices by considering two types of zoning: Fiscal zoning³⁴ and Externality zoning. Their research was theoretical rather than empirical but demonstrated that both types of zoning can either raise or lower aggregate land values, depending on how they were implemented. Ohls et al. (1974) found that “it is not possible to predict the impact of zoning on aggregate land values in a metropolitan area”, simply by looking at zoning practices alone (p. 428). Thus the empirical research in this thesis may be a useful addition to much of the existing non-market based research such as that of Ohls et al.

Other US research performed by Isakson (2004) analysed sales data over a 20-year period in a US Midwestern county, including reviewing the work of Peterson (1974). Peterson concluded that municipalities engaged in Fiscal zoning intentionally to increase the per-capita tax base or reduce demand for municipal services. Isakson found that the effect of zoning on land values was not clear. Isakson also incorporated the work of White (1988) who tested for restrictiveness in binding zoning ordinances by using sales of single family homes, finding that a significant bias existed by zoning authorities against land zoned for multi-family use (2004, p. 399). This, if ubiquitously true, would certainly have the long-term effect of lowering overall built-form densities and limiting land and built-form supply in a given zoned-land market.

³⁴ Fiscal zoning is the practice by zoning authorities such as municipalities to zone land so as to increase per capita tax base or reduce the demand for municipal services.

Colwell and Sirmans (1993) looked at this density dynamic for greenfield land blocks. In their research, they also examined the relationship between land value and parcel size and explored the impact of zoning on market outcomes. They could not reach a definitive conclusion on a link between zoning and land value, however. The most probable reason for this is perhaps that, despite having results which had little linkage between zoning and the price effects of externalities, they did not examine transaction costs and assembly costs and did not directly research a possible link between land value and zoning.

Dowall and Landis (1982), in examining land densities, tried to gauge the extent to which landuse controls restricted housing supply using data from the San Francisco Bay Area, and concluded that density controls and reduced land availability, both have a bearing on the price of new housing. Counties in the San Francisco Bay Area had been using many techniques to control growth: creating urban limit lines; reducing building densities; using slope-based zoning techniques to reduce hillside densities; establishing 20-year agricultural reserves; imposing development fees to pay for the construction of on-site infrastructure (sewer and water) and levying further fees to subsidise the purchase of parkland. They found that all such planning and zoning methods reduced the available land supply.

Dowall and Landis (1982) also looked at the effects of various zoning techniques and landuse controls on the price of single family dwellings. The sample used consisted of 79 San Francisco Bay homes. They concluded that if higher future-allowable densities could be permitted by the authorities, the practice would lead to lower new housing prices. Dowall and Landis however found, that while landuse controls directly affected the price of new housing, such effects tended to be small and widely varied across different housing submarkets. Also they argued that there was little supporting empirical evidence linking development control and higher home prices. Epple and Platt (1998) approached the zoning debate from a more theoretical angle through elaborate mathematical models. They could not give any definitive zoning or land-pricing outcomes however. In the absence of real examples, these authors modelled prices using several other characteristics with a tenuous connection to economic and

market considerations. Their conclusions on zoning's effect on land and house values were indeterminate. This once again highlights the complexity of the multi-faceted relationship between zoning and land value but still does not contradict the main hypothesis that zoning affects value.

Separately, Crecine, Davis and Jackson (1967) explored the effects of land zoning assessed against externalities; they found that a property's surrounds were more important than its zoning in the creation of property values. In many cases, however, most surroundings in a given locale are of the one zoning. This is the way that all segregational zoning actually works. This may have limited the ability to measure effects as aimed in this study.

In an opposite finding to Crecine, Davis and Jackson (1967), research by Maser, Riker and Posett (1977) and also Reuter (1973), in separate studies, all concluded that there was little evidence to suggest that non-residential land use generated negative external effects on neighbouring residential properties. This further highlights the complexity of the zoning-value relationship and the ability to accurately measure the effects of zoning externalities on property values.

As earlier mentioned, Munneke (2005) studied empirically the role of land prices in the decision to rezone vacant land from one land use to another. Munneke's data was drawn from a single city - Chicago, Illinois, with a uniform definition of zones. He concluded that the "external effect of zoning on land values was too complex" to measure (2005, p. 456). Munneke also found that tracts of land which contained exclusively-residential or non-residential land uses, were less likely to undergo a change in zoning. This was an observation also made by Stein (2008) in Australia, where Euclidean zones are widely used. Munneke's findings do not actually contradict the weight of theoretical or empirical evidence presented in this thesis. The Munneke findings in fact reinforce both the rationale and purpose of segregational zoning, whose effects on value are undoubtedly complex and dependent on a range of external and other variables.

The effects of zoning were also found to be highly complex by Jud who reviewed the work of Maser, Riker and Posett (1977). He concluded that “there was no evidence that zoning affected real estate prices” (1980, p. 143). The Jud model assumed that value was determined by a number of combined rather than discrete factors including zoning classification; neighbourhood landuse patterns; neighbourhood socio-economic conditions; quality of built form; size of structure; and lot size. This view is not inconsistent with the main research findings of this thesis, namely that a combination of factors including zoning classification and landuse patterns, all contribute to the final determination of value.

In his research on the effects of growth controls (a subset or manifestation of zoning) Landis (1992) examined changes between 1980 and 1987 in the median home price for single-family dwellings in seven Californian cities with strong growth controls and compared these with seven cities which did not have growth controls. Landis found that median single-family home prices did not rise any faster in the growth-controlled cities compared with the pro-growth cities. He concluded that growth controls were not the critical factor in price increases and postulated that this was due both to substitutable spillover to adjacent jurisdictions (i.e. residents who are unable to find a suitable dwelling in a locale, finding an equally-suitable place in a neighbouring but different jurisdiction), and the inability to implement effective growth controls within some areas. This finding is also not inconsistent with the view that zoning (similar in the effect to the use of growth controls) increases value as enforceability and substitution would both be critical factors in the ability of zoning to effectively create or destroy value.

Similarly, Maser et al. (1977) examined relative price differentials in a number of jurisdictions around Rochester, New York. Their findings revealed that zoning did not influence market prices but their study was not able to properly compare either the prices or impacts of zoning on land under varying landuse controls.

In summarising the above views of these academics who believed that zoning and planning processes impacted negligibly on land values, it is important to reiterate that all of the above views (i.e. those summarised in Section 2.6.2 herein) do not in fact

contradict the main views contained in this thesis. Mark and Goldberg (1986) for example, in concluding that zoning lowered land values, are actually agreeing with the notion that zoning has a direct effect on value. This very impact is suggested to be two-directional as discussed in Chapter 5 of this thesis.

2.8 - Conclusion

This chapter has examined the views of a comprehensive range of scholars on the subjects of zoning and land value. The first part of the chapter (Sections 2.1 - 2.5) covered the main literature relating to the concepts of land value, gentrification, the rent gap, urban location, and bid rent. This literature was deemed important in setting up a conceptual basis for the discussion on zoning and rezoning and their economic connection with land and its ability to generate income or value. The theoretical considerations of rent gap, economic efficiency, redevelopment, bid rent and urban location have allowed for greater consideration of the important question of how land value may be created or recreated through planning and zoning.

This literature also serves as a sound prelude to the review of the more specific body of literature relating specifically to zoning, presented in Section 2.6 of this chapter. The incremental effect of upzoning on land value (or its converse diminutional effect in the case of a downzoning) are not dissimilar to the notion of a “rent gap” or “value gap”, being the difference between a land’s existing use and its “Highest-and-Best-Use”. Drawing on such theorisations as the “rent gap” has thus proven helpful in threading together a more robust argument for how a change of a land’s zoning could change its value. The understanding of such landuse models as “bid rent” and “rent gap” combine to complete the picture for the research questions posed in this thesis, namely whether land could change value through planning and zoning. What the theorisations of such academics as Neil Smith (1987), Jack Harvey (1981, 1996), Evans (1985), Clark (1951), Alonso (1960), and Vernon (1964) have helped explain, is the very important notion of “embedded” value invested in the land when its productive present or future capacity is permanently changed, through an adaptation of the themes contained in such explications. As zoning and development approval confers upon the land new economic circumstances that can be reasonably relied upon, the economic “rent” or

value of the land is thus permanently changed. This is the central tenet demonstrated by the research contained in this thesis.

The research of Ruming also proved useful in explaining how such new land uses become accepted and enacted within the statutory process. Negotiated outcomes for all the land parcels detailed in Chapter 5 of this thesis, as explained by Ruming (2007; 2008; 2009), all dovetail into the process employed for each of the rezoning and planning examples. The Ruming explanations have been used to add theoretical grounding to what had been a well-established empirical outcomes for the case studies used in Chapter 5 of this thesis and upon which the later-derived Empirical Value Change Equation was based.

The literature reviewed in the second portion of this chapter (Section 2.6) has centred on the expert opinions relating to zoning and whether certain types of landuse zoning can alter land value and in one form or another, all of the 48 academics reviewed in the latter half of the chapter (Section 2.6) supported the hypothesis that zoning had an effect on land value. Based mainly on examined case studies and original research, some 69% thought it affected value positively; 2% felt it had a negative effect on value and 29% were not able to definitively measure its impact. Therefore about 71% concluded that zoning and planning could alter land value, with another 29% of critics not able to contradict this position.

The views ranged from those who believed that zoning created certainty (Jud, 1980) to those who believed that it created value through the elimination of negative externalities (Crone (1983); Peterson (1974) and Stull (1974, 1975)). There were also those who felt that zoning land as a process, added certainty and value (Speyrer (1989); McMillen and McDonald (1991); Munneke (2005); Schiller (2001) and Adams et al. (1968)).

There were also those whose research showed that rezoning one type of land increased the price of another (Stull (1974); Asabere (2005)). Also those who believed that enforcement of strict zoning and planning regulation raised land prices (Fischel (1979); Downs (2002); Rosen and Katz (1981); Peiser (1989); Ohls, Wiesberg and White (1974); Hendershott and Thibodeau (1990); Courant (1976) and Stull (1974)). Most

importantly there were also those who believed that rezoning land created immediate windfalls, as argued by Gurran (2007) and Stein (2008) - the very contention of this thesis.

It would be fair to conclude therefore that an overwhelming view in the literature reviewed herein, supports the notion that zoning and planning processes change land value. The following chapter (Chapter 3) continues the critical review of the literature commenced in this chapter and focuses more closely on the subject of zoning, covering its history, typologies, use, as well as its main benefits and disadvantages. It also covers the important density debate as set out by various academics, including the arguments relating to urban sprawl. The chapter concludes with a full account of how various academics deal with zoning's ability to create and destroy value.

Chapter 3: Literature Review - A Critique of Zoning

3.0 - Introduction

For all their benefits, zoning and rezoning remain complex processes, where the stakes are often high for all sides. Yet zoning's impact is as significant to the land value debate as is its ability to change and transform urban landscapes. Zoning's certainty and potential permanency remains both its inexorable strength and its much-critiqued weakness.

The literature reviewed in this chapter centres firstly around establishing a historical setting for both planning and zoning through the documented views of a large number of experts. Zoning's role is explained, in the first instance, through both the evolution of its regulatory function in managing civic growth and its ability to concomitantly progenerate urban renewal and transformation.

This chapter critically evaluates the views of the many experts and academics who support the role of zoning as the central tool for planning and administering land use in

cities. This is relevant in establishing zoning's popularity as a system of land use and its likely enduring connection with land in the urban landscape.

To contextualise the information further, a summary of the history of planning in New South Wales is then discussed, due to its relevance to the empirical evidence contained in this thesis. The views of experts such as Starke (1966); Freestone (2007) and Orchard (1999) are reviewed to elucidate the historical evolution of planning in the state of NSW.

This is followed by a more detailed explanation of the creation of zoning as dictated by *Euclid v. Ambler* in 1926 (see Appendix 1 - Landmark Legal Cases), its main types, form and function, as explained by various commentators. Euclidean or segregational zoning is the prevalent zoning type in NSW today it is thus connected to all of the empirical evidence presented in this thesis. There is herein a full and critical appraisal of zoning's contribution to the urban landscape, including its amenity, economic and planning benefits.

The chapter then goes on to give a full account of the expert views of those who disagree with the use of zoning for landuse control. These include its planning, design, economic, social, statutory and functional criticisms. This is accompanied by a considerable discussion on the density debate, growth management systems and the current and related question of urban sprawl. These are important in establishing a connection between the spheres of zoning; density, floorspace and value.

The chapter also gives appreciable attention to the role of zoning and zoning controls in value generation. In conjunction with Chapter 2, this chapter covers literature specifically relating to the subject of zoning. A full discussion of zoning, its benefits, limitations and possible connection with value, serves as a prelude to the empirical research results of Chapter 5 and Chapter 6 of this thesis.

The chapter addresses specifically those topics relating to zoning's ability - or otherwise - to create order or respond to the changing needs of cities. It also contains a review of the main written commentary on urban growth boundaries, urban containment and their

researched effects on house and land prices. The material reviewed also traverses the urban consolidation and density arguments and their effects on land values. The chapter also defines the important concept of market value and examines the literature covering the notion of embedded value and how it might be conferred upon land through zoning and planning processes - the essential question answered in this thesis.

3.1 - Brief History of Planning and Zoning

Planning and its instrumentality of zoning, has been in place for the best part of a century (refer to *Euclid v. Ambler* 1926 in API 2.6). The principles of zoning are widely accepted as official tools for the shaping of Australian as well as British and American cities, in the public interest. British architect Sir Patrick Abercrombie (1879-1957) saw the main objectives of planning cities as being: “beauty, health and convenience, each depending on the others to avoid lopsidedness” (1959, p.104).

Healey (2006) had a different perspective, believing that modern planning is derived from a curious mixture of evangelism, formal institutional practice, scientific knowledge and academia. Healey believed that the Germans were first, using a type of zoning as early as the nineteenth century, to regulate urban growth, by relating it to infrastructure provision. Regulatory planning intervention should be more direct, according to Healey, who cites the unsuccessful example of Los Angeles, where zoning was first brought into the city, not as a landuse control mechanism but as a type of market regulation. Aimed originally at protecting “community builders” providing serviced plots from competition of speculators selling unserviced plots, zoning in cities like Los Angeles was deemed to have failed in its civic role of creating order (2006).

Both zoning and zoning change are elaborate processes because the social and aesthetic assessment of a zoning outcome may be highly divergent between proponents, the community and administrators (Knaap, 1985). Yet zoning’s impacts on value are as significant to the debate as is its ability to change and transform urban landscapes in cities around Australia and the world (Mant, 1994).

Ruming (2008) used Actor-Network Theory (ANT) to describe such interactions in planning negotiations. Ruming saw the negotiations in both the planning and rezoning processes, in terms of theoretical actors and intermediaries enrolled for the purpose of securing outcomes. Thus, policy negotiation, according to Ruming, is a systematic practice of network translation where competing “actors” mobilise other “actors and intermediaries” to secure outcomes closer to the “network” objectives. This is a reasonable correlative representation of how rezoning and planning outcomes are negotiated and describes to a degree, the process achieved with the 20 examples contained in this thesis. Ruming’s explication provides a valuable theoretical framework for the ensuing explanations of the rezoning examples in Chapter 5 and the intense negotiations that inevitably take place before a rezoning or a DA outcome is finalised and approved through the statutory process.

Historically, zoning has always had a strong underlying objective: the prevention of the possibility of one landowner harming a neighbour whilst engaging in an incompatible land use. The segregation of uses, as intended through zoning today, according to Revell (1999) began in 1916 in response to the increase in nuisance cases resulting from the growing garment industry. It was New York City that instituted the first zoning ordinance in the USA (Revell, 1999). Shortly thereafter following the US Supreme Court’s 1926 ruling in *Euclid v. Ambler* (refer to Appendix I - Section 1.2.6), all but five of the then forty-eight states, passed legislation that allowed their municipalities to enact zoning ordinances (Revell, 1999).

It is apposite to note that the concepts of functional incompatibility and the public desirability for more rigid zoning controls are not new. Nor is the perceived connection between such rigidity, strong planning regulation and supported value standards. As early as 1934, Swan advocated strong land regulation, believing that the unregulated mixing of residential and industrial uses would bring a city into anarchy. According to Swan, all cities require proper zoning to stabilise land values, and also for ensuring that different sections within a city follow a pattern of orderly development. Swan believed that the mere enforcement of a zoning ordinance was a positive factor for land values.

Does the maintenance of permanent land investment values in city real estate necessitate stricter planning control over building development or is it best left to the free market? Swan felt it necessary both for regulating new building construction, as well as facilitating long-term mortgage arrangements (Swan, 1934). The then-emerging regulation of height and area in zoning ordinances in the 1930s was lauded by Swan who felt it pivotal in replacing the previous rules-of-thumb with a more scientific understanding of the laws of light and air so as to develop better-planned communities. This regulatory setting has evolved over decades and has become arguably the essence of Euclidean zoning controls. So is such regulation part of land-value creation? How do the spheres of zoning and value intersect? Is regulation through the planning or zoning process itself the means by which land value may be changed in both the US and in NSW?

It is important first perhaps, to elaborate on the most-common types of zoning, before examining the documented views expressed towards its efficacy.

3.2 - The Main Benefits of Zoning

So how can the main benefits of zoning be summarised? A logical grouping of the views of zoning's main benefits is set out in the three sections below.

3.2.1 - Civic and Amenity Benefits of Zoning

Zoning, as it has come to be implemented, restricts activity in certain parts of an urban area to eliminate incompatibility of uses for adjacent land, such as factories in residential areas or urban uses within the rural countryside. It may also prevent the erection of buildings which are disharmonious with their surroundings and provide for variety such as retail or recreational uses at appropriate locations.

Another stated objective of segregational zoning, is the preservation of neighbourhood character. Many zoning codes and ordinances proclaim this goal as the main reason necessitating regulation, primarily the assimilation and grouping of homogeneous land

uses for aesthetic and visual reasons (Rosen and Katz, 1981). This is a view that enjoys considerable support in the literature covered throughout this thesis.

Zoning can also be positive in aligning complementary land uses - for example, siting dwellings, schools, shopping facilities, car-parks and bus termini in strategic proximity to each other, provides increased amenity for residents and convenience for commuters (see provisions of the industrial IN1 zone in Standard LEP Practice Note in Appendix II).

Jack Harvey (1996) believed in centralised planning, arguing that the provision of large-expenditure items, such as roads, bridges, car parks and national parks, must always be the responsibility of the state; and because such infrastructure often necessitates permanency, it requires zoning control. Such civic projects often embody a near-irreversibility of land use, either on account of the cost of replacing a fixed asset, or the difficulty of unifying and reordering future uses. Can we imagine, for instance, Hyde Park in central Sydney being recreated today from an area already covered by buildings or rezoned to another use? Probably not.

Also as David Harvey (1985) puts it, the market may be slow or incapable of responding to changes in demand or supply even if the need for change is obvious commercially. For instance, an increase in industrial activity in a given area, may necessitate additional labour. Due to the shortage of suitable housing in the district however, a ready workforce may not be easy to attract. Here the planning authority can respond better than individuals, according to Harvey, by ensuring that industrial development is complemented by new housing, through rezoning or the granting of new approvals.

Mark and Goldberg (1986) suggested three primary reasons for the universal acceptance and pervasiveness of zoning, as a system of landuse control; namely, its perceived ability in dealing with negative externalities; its efficiency in creating reliable development patterns and its definitiveness in dealing with the impacts of speculative cycles. Conventional zoning as Arendt (1992) puts it, has been highly successful at

separating incompatible uses, and establishing amenity standards such as maximum density and minimum setback requirements.

To its advocates, zoning has been defended as a highly-appropriate tool of broader, comprehensive urban planning (Babcock, 1966; Nelson, 1977). Equally, Delano (1931) believed that the segregational effects of zoning were a positive for developing cities. He argued that separating land uses was not only important in amenity terms for residential areas, but also for industrial districts and preserving function in cities for all zones. This strong pro-zoning claim by Delano (1931), reiterates its irrefutable appeal to the many experts who see the obvious amenity benefits in segregating incompatible land uses.

3.2.2 - Economic Benefits of Zoning

Zoning's proponents have collectively offered several rationales for its purpose and usefulness. These have included its perceived ability to protect, stabilise and enhance property values, particularly the values of single-family homes (Babcock, 1966). Accepting this rationale, zoning would effectively guard property owners from the many possible negative externalities of new developments. Without the rights and obligations conferred by zoning (or some form of landuse regulation), residential property owners would conceivably have to endure falling property values should a development with significant negative externalities, such as a copper smelter or tanning factory, move to a neighbouring location. The mere notion that such development could move into any locality, it has been argued, would depress the value of existing residential property (Karkkainen, 1994).

An obvious benefit in having zoning, according to Daniels (2002), is its ability to protect productive farmland from the economics of urban intrusion. Implicit in the Daniels methodology is the concept of higher rezoned values. He warns that the loss of farmland to other higher-valued uses was not widespread in the United States until the late 1970s but that it has become an “important consideration today” (Daniels, 2002, p. 1).

Economically, zoning was favoured by Daniels (2010) for its definitive nature, which he believed contributed to value creation. Zoning provides an effective planning mechanism for productive lands surrounding a city. It also permits economically for compensation to be passed on to farmers who forgo economic benefit in rezoning their productive rural land to higher values. Delano was another ardent subscriber to zoning's economic benefits. He believed that zoning served to "stabilise property values", and to "guarantee to home owners a considerable security in their investments" (1931, p. 40).

Crecine et al. (1967) found that placing restrictions upon private development in urban markets, assisted in the provision of public services such as streets, sewer and water. Accepting the segregation of high-density and low-density land uses as necessary for harmony, Crecine et al. saw the economic advantages to zoning in its ability to permit cities to confine the construction of large-scale public projects to high-density regions whilst economising in low-density areas. Thus Crecine et al. felt that municipal zoning contributed to the attainment of economic efficiency by allowing and controlling urban growth.

3.3 - Planning Benefits of Zoning

Zoning has also been touted to confer planning benefits upon property. Planning and zoning obviously play a strong role in the way land is permitted to develop, function and produce. According to Jack Harvey (1996), planning and building regulations must not be regarded as being negative. By imposing conditions on proposed development, they can be used to minimise externalities, such as road congestion or fire hazards and therefore impart a sizeable positive impact on safety and amenity.

According to Harvey (1996), public processes, through planning and zoning, are more effective than private action at guarding against the total effect of many negative externalities because the persons affected, cannot often be identified for the purpose of co-ordinated action, especially those long-term or complex decisions relating to land use. It is thus through public processes, such as zoning, that such negative externalities are best mitigated and commensurate amenity benefits are maintained for residents and businesses (J. Harvey, 1996).

Critics like Janssen-Jansen et al. (2008), believed that in most developed countries, solving planning problems, was the role of the state and not the free market. Thus, without the state legally defining property rights, zones, permissible uses and entitlements, as well as development potential, there would be no property market at all.

Others like Huxley (1994) agreed with the segregation notion, claiming that zoning has helped contain many environmental depredations, improving living conditions by separating land uses. Zoning ordinances, in Australia as in the US, remain the primary tool for enacting the landuse and development policies of a municipality's comprehensive plan (Stein, 2008), implemented at the local level.

Logically, a planning system incorporating zones and development control should create methods that permit greater systemised efficiencies. Though this is plausible theoretically, any case-by-case examination of applications for planning permission should then lead to efficiencies in arriving at decisions. Delays which are both frustrating and costly to the system and the community are thus better identified so as to minimise the wasteful use of the finite processing time and land resources of a community (Stein, 2008).

3.4 - Arguments Against Zoning

There are also many critics of the zoning system. One of the most well-publicised shortcomings of zoning is its purported rigidity. Compared with taxation for instance, which is easy to introduce and amend, planning and zoning lack flexibility. This applies particularly to the zoning of larger areas through structure plans (or LEPs), according to Jack Harvey. It is thus structurally difficult for the planning system to properly respond to the changing needs of cities in a timely manner through zoning (J. Harvey, 1996).

Other unintended effects can occur when certain uses are restricted in intensity through zoning regulation (e.g. by stipulating lower FSRs), in order to reduce traffic congestion. Decentralisation may thus occur through zoning, but that very dispersal generates extra vehicle trips, which become necessary to maintain contact between decentralised

locations. In addition, public transport, at greater public cost, has to overcome the difficulty of serving more scattered destinations (J. Harvey, 1996).

Over the past eighty years, there have been well-voiced criticisms of Euclidean zoning (Ellickson, 1973). These include poor aesthetics, poorer design outcomes, the diminution of economic activity, weaker social cohesion, interference with city building and most importantly the imposition of zoning's "dead hand" in stifling a city's creativity and ability to transform and regenerate (Stein, 2008). These are further elucidated in the discussion below.

3.4.1 - Planning Arguments Against Zoning

Zoning is too static and too rigid, according to Mant (2006). He argued against the use of segregational zoning to plan cities, preferring multi-use zones and greater mixed-use zones. Doing away with zones and describing outcomes through a "Desired Future Character" of an area by reference to its historical development, would be one way to overcome many of zoning's shortcomings (Mant, 2006). Mant found current rezoning practices anti-dynamic, particularly in New South Wales, leading to maintenance of the status quo, because the applicant has to always demonstrate that what is being proposed is congruent with what is already there.

The zoning solution for incompatibility, has always been to divide the municipality into regions so that industries are sited near other industries, commercial enterprises near other commercial enterprises, and residential properties are suitably juxtaposed to other residential properties (Karkkainen, 1994). This rationale has some intuitive appeal, based on the real or imagined horrors of entirely unregulated development but overlooks the transport issues that must be solved as a result (Westerman, 1998).

Godschalk (2007) observed that for decades, residential development patterns in the US have been shaped by homogeneous zoning categories based on allowable density and housing types. He points an accusatory finger at Euclidian zoning, as one of the villains responsible for auto-dependent suburban sprawl. Godschalk found conventional zoning to be too rigid and unresponsive. He also warned that those communities unwilling to

embrace new zoning methods, because they have been conditioned into the long-standing urbanisation patterns of the past, will be destined to repeat those errors into the future.

Zoning must ideally be able to react to market forces of both supply and demand for land however. According to Skosey (2006), any zoning code should have sufficient flexibility to adapt to changes in market demand for land use so as to best serve a city's changing needs. For instance, many warehouses in the inner city, may have outlived their use as industrial spaces and should undergo a rezoning to allow their conversion into housing.

On the issue of zoning segregation, Jacobs (1961) had concluded decades earlier that zoning had become so deeply enmeshed into traditional planning, that it was no longer possible to observe the harmony in which different uses can live side by side in many dense city environments, without forced segregation, as they had done for many decades before zoning came into force. In support of the Jacobs' view, other critics have also long argued that in many smaller communities that have not been able to afford their own planning agencies, zoning was rarely accompanied by comprehensive planning, rendering it ineffective (Fischel, 1981). Further in many larger cities that do have planning departments, planners often find zoning time-consuming and a highly-technical distraction from more important city-planning duties (Karkkainen, 1994). Malloy (1987) found this was true especially where large developments were concerned as they preoccupied municipal planning departments for inordinately-long periods of time. Malloy argued that traditional zoning seemed to only play a relatively-minor role in city-planning terms. Others such as Siegan (1970) have pointed to the city of Houston, Texas, which has never had a zoning ordinance, and is argued to have an active and effective planning regime, totally without zoning. This, Siegan believed, was the best indication that traditional zoning may not be so necessary as a component of successful urban planning.

Zoning was not favoured by Swan (1934) either, who found it an unreasonable and unwarranted limitation on property, in both its prescription of use and intensity of use. Zoning's misplaced appeal, according to Swan, stems from the fact that cities and

municipalities, have been conditioned to believe that unregulated suburbs would inevitably result in anarchy and landuse chaos.

3.4.2 - Design Arguments Against Zoning

There has equally been considerable criticism of the design limitations of segregational zoning, including its rigid application of floorspace requirements, heights and enforcement of homogeneity in its built-form outcomes. The chief criticism, one that is perhaps common to all prescriptive zoning codes, is labelled “Rezoning by Plan” or “Design by Zoning” as some have put it. This is where jurisdictions, with highly-prescriptive zoning codes, enforce simplistic envelopes producing unintentionally low-aesthetic qualities in new construction, because of the inability of environmental planning instruments to create greater flexibility or scope for creative architectural input (Wiggins, 1991).

These “Design-By-Zoning” practices have been the primary culprits in proliferating such maligned architectural landmark forms as the “Three-Storey Walk-up” apartment blocks in many of Sydney’s suburbs (Stein, 2008). This still-highly-prevalent building form, is one such example of design through planning stipulation, rather than architecture (Wiggins, 1991). With the design envelope tightly-defined by the development controls, developers are left no latitude but to simply “pour the building” into the planning envelope as dictated by the numerics of the code. This has had the unintended effect of producing a typically box-like apartment block-building form, characteristic of the 1970s and 1980s. Readily observable in Sydney, the resultant architecture is generally of three-storey brick-and-concrete buildings within rigid setbacks and underground basements (no ground floor parking) and typically without an elevator. Hence the name: the “Three-Storey Walk-up” building.

In Stein’s view, segregational zoning which has been the main planning mechanism in Australia since the introduction of the Environmental Planning and Assessment Act 1979 (NSW), has had to rely on “spot rezonings” to achieve diversity, hard-fought amongst the unrelenting “homogeneity of the built form” produced by the existing zoning system (2008, p. 35). Reinforcing the Stein view, all of the examples (twenty in total) used in Chapter 5 of this thesis are “spot rezonings”.

Other criticisms of segregational zoning, centre on its manifest inability to adequately create building and street-design aesthetics, particularly in finer-grained urban environments and complex cityscapes, where specific architectural built-form elements have required specific functional redress (Mant, 2006).

Jane Jacobs (1961) in her seminal work *The Death and Life of Great American Cities*, was highly critical of the Euclidean landuse segregation into single-use districts. This, she believed, had produced a stifling effect on the diversity and the cross-fertilisation of ideas and experiences, so vital in creating a safe, liveable and workable city. Jacobs thought that rigid rules fostered lazy thinking when it came to creating a functional, and well-designed urban environment.

Jacobs (1961) was an ardent advocate of mixed-use districts rather than homogeneous zones with many varied uses such as housing, offices and shops, all blended together in a singular civic setting. The zones preferred by Jacobs were heterogeneous and could thus accommodate a diverse range of people and occupations, spreading out their activities over long periods of time. This, Jacobs believed, was the only way to activate city streets in a safe and lively, yet liveable pattern. Her views on segregated, single-use districts were scathing and relentless. She strongly believed that single uses were the antitheses of thriving city streets and thus found enormous fault with the Euclidean model both in its inability to allow the mixing of landuses and in its forced street separations, perpetuated through large setbacks and isolated private open spaces.

3.4.3 - Economic Arguments Against Zoning

A significant portion of the criticisms of segregational zoning are those relating to its economic impacts on land supply, affordability, untimeliness and impacts on transport and employment patterns in cities. Zoning through planning is also said to take insufficient account of certain benefits which may already be present in existing landuse situations (Jack Harvey, 1996). For instance, LEPs, regional plans and structure plans dealing with the environmental problems of inner-city areas by complete rebuilding, may not fully allow for the loss of opportunities which may have existed due to low

rents, the higher cost of travelling to work, the extra cost and inconvenience of obtaining odd-job services, the loss of local incomes or the elimination of diversity.

Zoning serves many more purposes than pure economics however. It is also more than simply a safeguard against harm to neighbours arising from new development according to Richardson et al. (2002). Though modern zoning is set up to regulate uses to achieve public benefit, it can serve to maximise property values in a locality (Richardson et al. 2002). The exclusionary nature of Euclidean (segregational) zoning, with its overprescribed requirements in many local municipalities, is a well-sanctioned and effective way according to Richardson et al., to “drive up the cost of housing” (2002, p. 3) in a zoned locality.

Ross (1972) also subscribed to zoning’s influence on property rights and values. Ross pointed out that the value of a parcel of land is ultimately the value of its potential use. This is a major tenet of the theorisations contained in this thesis, namely that zoning affects the value of land, by changing its productive capacity as dictated by its use.

Thus, by prescriptively setting permitted and prohibited uses upon all property in a zoning ordinance, the zoning authorities come to exercise tremendous power over the wealth that can be generated by property owners vesting such prodigious power in governmental bodies. This is an economic indictment of zoning, according to Ross (1972), who believed that the procedure lacks established standards, essential in preserving property rights and the notion of equity. Ross contended that the influence of zoning over property values was real and that those who were invested with the responsibility of making economically-significant decisions, such as local government, were often poorly accountable or not held to account at all.

Quigley and Rosenthal (2005) believed that excessive land restrictions theoretically limited the buildable supply, thus forcing the market towards lower densities and larger houses that are more expensive which in turn adversely affected affordability and raised land and house values. Quigley and Rosenthal found in their US research that the use of zoning and development restrictions such as development caps, density restrictions, restrictive zoning limits, urban growth boundaries and long delays in permit processing, all contributed to increases in housing prices but that the “landuse and growth-control”

studies examined, showed little or “no effect on price” where local regulation was symbolic, ineffectual, or weakly enforced (2005, p. 69). This emphasises once again the issue of enforcement.

Another criticism of zoning on economic grounds was put forward by Mant (2006). This included its impact on real estate values, especially where no compensation was afforded to owners due to down-zoning or adverse effects of surrounding rezonings. There is inherent inequity, according to Mant, in the lack of recourse to governmental compensation due to either lost opportunities or a directly-sustained diminution in property value, arising from the capricious action by authorities in zoning and rezoning land (Mant, 2006). The converse is of course also true, the public may demand betterment taxation for upzoning to be administered. Notwithstanding, neither compensation nor betterment due to zoning, applies in NSW today (see Legal Cases Appendix I, Principle IV as demonstrated by *Baker v Cumberland County Council* 1956 1 LGRA 321) because it does not constitute a compensable item or as the Americans put it a “taking” unless resumption of the land actually occurs (see Appendix I, Principle I).

This view on compensation in the Australian context, as supported by Stein (2008), is in direct support of the views expressed in this thesis. Namely that downzoning property produces value losses as upzonings might produce gains (refer to Chapter 5). The lack of recourse to compensation is covered in Appendix I in *Baker v Cumberland County Council* (1956) 1 LGRA 321 (Appendix I - Landmark Legal Cases Section 1.4.1 - Legal Principle IV).

Others like Fischel (1979) concluded however, that the monopolistic effect of zoning was a Scots’ Verdict³⁵: not proven. Notwithstanding, the Fischel research showed that the housing price premium, alleged to result from the monopoly effect of zoning, was all too real but the “effect” was considerably less than 50 per-cent benchmark, which he measured his research against.

³⁵ A Scots’ Verdict is a term meaning “not proven” derived from the fact that three verdicts are available in Scottish Law in a criminal trial: “guilty”; “not proven” and “not guilty”.

Dowall (1984) found that landuse regulation such as zoning had become so complex in the US in past years so as to cause the housing industry to become more concentrated into fewer but larger builders. Such oligopolies Dowall believed, have come to have undue influence in the US residential land sector, to the detriment of the community. The practice of zoning was largely to blame, because of its profound ability to artificially constrain the market through regulation.

Ellickson (1973) went one step further than Dowall (1984) suggesting doing away with traditional zoning altogether. It is nonetheless difficult to see how it could be better to deal with landuse problems through nuisance law, as Ellickson postulates. That, in most cases would be far costlier, more complex and less efficient than the application of zones in a city. Ellickson believed that since “the paramount purpose of zoning is the segregation of land uses into different districts”, that it was this segregation that caused inefficiencies requiring frequent and expensive zoning amendments (p. 766). There is probably wider agreement with the malady than the remedy, as prescribed by Ellickson.

The unzoned US city of Houston is often cited as the main example for the no-zoning argument as it does not use zoning to prescribe its landuses. The unique Houston setup is discussed by both Speyrer (1989) and Stein (2008)). According to Ellickson (1973), landuses in Houston, where there is neither zoning nor a fine system, appear to be as spatially segregated as in most zoned cities, achieved without the need for statutory codification. Ellickson uses such a success to suggest that zoning is not needed at all for the proper functioning of cities.

Unlike Ellickson, Hibner (2002) did not advocate zoning’s elimination but saw the main problem with segregational zoning was a greater dependence on motor vehicles. Hibner found zoning segregation restrictive. Even where zoning did not prohibit mixed uses, Hibner found that its economic effects were negative. The combination of bulk, height, density and design controls often rendered meritorious and much-needed development economically infeasible, according to Hibner (2002).

Many experts have also drawn a connection between density control and value. Mills upon evaluating Fischel, concluded that “residential landuse controls that pervade US

metropolitan areas, were deliberately intended to limit densities” (2005, p. 571) with all of the economic consequences of such an effect. This is arguably also their function in many other places including the state of NSW.

Zoning in the US, Skosey (2006) found to be one-dimensional and certainly not a panacea for all of a city's economic ills. Going even further than Mills or Hiberner, overly-restrictive zoning Skosey found, would lead to problems such as economic stagnation, deserted city centres and social decline and was thus not in favour of zoning at all.

Garrett's (1987) main criticism of zoning was for its wealth-redistributional effects in favour of upper income earners. The Garrett presupposition was that upper income groups gain control of the political process and use it to exercise Exclusionary zoning for their own benefit and to increase their own property values. Garrett believed that zoning's main shortfalls were that it often resulted in creating zones that were clearly sub-optimal for the majority of city dwellers and users. Implicit in the Garrett view is zoning's ability to affect value, an important conceptualisation for the purposes of this thesis.

In a theoretical appraisal, Bailey (1959) similarly argued that urban renewal under restrictive zoning had the effect of constraining the available supply of cheaper housing stock and holding up prices and rents particularly in slum areas. Bailey posited that when certain activities hold property values and rents artificially-high in slums, they eventually lower the real income of the whole local community. This may be a particularly instructive reminder of the law of unintended consequences and a cautionary view of the pitfalls of systems, including zoning, that might limit the buildable land supply, if indeed the Bailey view holds true.

Economically, Cooley and LaCivita (1992) found that zoning had both an effect on land values and a role in wealth redistribution. Growth controls, they believed, imposed a form of reallocation of wealth from new residents of a locality to older residents, thus fulfilling the classic exclusionary city model of a wealthy, heavily-zoned and environmentally-attractive living place. The equity aspects of this, Cooley and LaCivita concluded, are best expressed by the Latin “Cui bono” (meaning “who benefits”). That

ancient Roman adage is apposite, thus indicating that the parties effecting a change may be the very ones who derive a benefit from it; and herein lies one of the main problems with any growth control system in a city, including zoning and its manifestations.

This was also the view of Wachter and Cho (1991) who concluded from their research, that the main “winners” from additional local landuse regulation, were existing homeowners, while “losers” were prospective residents, current renters, and land developers. This was because, in suburban communities, when applying additional restrictive landuse controls, existing resident homeowners have traditionally been the politically-dominant group. This usually means, according to Wachter and Cho, that the additional built-form and “look” requirements in an established locale, typically burden the rest of the community with extra costs through more onerous requirements which they try to pass on to newcomers.

Downs, as critiqued by Fischel (1991), conducted a 1990-survey of over 70 landuse studies, and found that the use of growth controls in the 1970s lead to many suburbs “pulling up the drawbridge” once they had met their housing quotas (1991, p. 1141). Also, that Inclusionary zoning schemes actually raised the average price of housing everywhere across the rest of a city. Thus according to Downs at least, restrictive zoning practices of municipalities do increase the price of housing. This is consonant with the views of many other researchers such as Wachter and Cho (1991), Cooley and Civita (1992), Bailey (1959) and Garrett (1987).

According to Rosen and Katz (1981), the economics of land is much more related to supply and demand than other factors and despite an enormous supply of vacant land in places like the Bay Area around San Francisco, the region was always asphyxiated with restrictive zoning and an insufficient supply of residentially-developable land which has led to price increases.

Even discounting for the fact that some land is undevelopable because of topography or environmental constraints, a large portion of the vacant land supply is said to be constrained from development by local landuse regulations (Dowall and Landis, 1982). Some Californian authorities, Dowall and Landis believe, have created supply-scarcity

intentionally, by zoning much of the available land on which development is possible, for large-lot, low-density housing. This is one very simple yet sanctioned methodology, according to Rosen and Katz (1981), of producing desired land-supply constraints with a minimum of effort for the life of an ordinance, which may be five or six years.

Grieson and White (1981) were unequivocal in their research findings which showed that the market effects of zoning restrictions generally depended upon the extent of monopolistic restriction on quantity. If such monopoly existed, they found it to impact all land values equally across all uses. Allowable-use zoning which restricts quantity for example, affected land values across all uses. Large-lot zoning was deemed equivalent to a two-part tariff which influenced land values equally across all uses.

Grieson and White (1981) found that in practice, the effects of zoning were often complex and the overall impacts of many restrictions were frequently combined, e.g. suburban zoning that prohibits all uses except single-family residences can impose lot-size requirements as well. Other urban policies such as urban consolidation and adaptive re-use were found to be helpful in allaying affordability constraints which may accompany the implementation of urban growth controls but were found by Grieson and White to be equally complex in effect (Gurran, 2007).

Despite its ease of application, Ellickson (1973) questioned zoning's economic cost and efficacy and pondered the theoretical price of segregation. He also questioned its efficiency of administration. Also whether segregated land uses, offered sufficient flexibility to encourage economic activity in growing urban environments.

A much more fundamental question remains that of market price equilibrium. Though planning seeks to improve the working of the market price mechanism, it may instead interfere with the urban land market and the local land economy, because it artificially changes the supply-demand dynamic already set by the market (Jack Harvey, 1996). This is consistent with the view that zoning and planning affect land value, as postulated in this thesis. Consider for instance, how the value of a site may be affected by the restriction of building density. In essence, such restriction limits the allocation of capital which can be applied to a given site (Jack Harvey, 1996).

A significant problem with Jack Harvey's value rationale for zoning however, is the view held by some, that it was difficult to support with empirical evidence the extent, if any, of how zoning alone might translate into higher residential property values (McMillen and McDonald, 1991). The evidence presented in this thesis answers this question in part, by showing that a change in zoning does increase property values if the land is "upzoned" to a more profitable and marketable use.

3.4.4 - Social Arguments Against Zoning

There has also been much criticism of zoning along social equity lines. It has been proffered that many of the Euclidean segregational landuse patterns prevalent in the United States, have contributed to the development of a surprisingly-broad range of long-term, societal problems, attributable mainly to segregation. It has been argued that, in combination with current, prevailing practices of local government, the artificial pecuniary, socioeconomic separation caused by segregational zoning, perpetuates itself by channelling both the affluent and the penurious into separate areas over time. This then results in many undesired effects including civic disintegration, overcrowding, crime, vandalism and accelerated infrastructure decay.

So is it as Briffault (1990) puts it, that zoning serves within local government only to reinforce certain economic interests, by excluding any potential new residents who would bring down the local wealth average - a crucial part of the purported public-benefit of zoning.

Most zoning regulations today require that homes and buildings be limited to a maximum floor-size or be built on minimum lot sizes and have controls for height and minimum landscaping. This methodology is widespread across NSW but is perhaps, not entirely exclusionary. What is exclusionary is that many localities, as found in the Briffault (1990) research, exclude multi-family housing, mobile homes and all forms of subsidised housing from most of their residential zones. Such prohibitions Briffault believed, have been deliberately designed to ensure that newcomers have wealth as great as existing residents, in an attempt to produce a positive effect on price for all existing homes and land parcels.

Monk and Whitehead (1999), as critiqued by Dawkins and Nelson (2002), also found as did Briffault, that zoning constraints in one local area pushed up prices in all areas and not just in the area of the constraint. Anecdotally this rings true. That is because, as Ellickson (1973) suggests, growth controls increase the price of entry for people moving into an area, allowing an area's residents to discriminate against outsiders by prescribing new development that is less dense than their existing neighbourhoods. So the strongest social criticism of zoning remains the socio-economic segregation precipitated by the administration of strict local government controls. These all have flow-on impacts on land value (Dawkins and Nelson, 2002).

3.4.5 - Statutory Arguments Against Zoning

There have been other criticisms of zoning. Scholars like Gurran (2007) believed that though stability was the most important asset of zoning, its best effects on the real estate pattern of land and long-term value, were not properly delivered through rigid statutorily-empowered zoning controls. Both Ross (1972) and Ellickson (1973) were also fierce critics of the purported certainty that zoning bestows upon owners, due to its failure to guard against harmful externalities in a code-segregated community. Zoning designations, within the broader statutory planning context, were poorly managed by local bureaucracies, Stein (2008) felt and an inefficient means of guarding against externalities, in a complex and contrived legislative framework understood by few.

This view was expounded by Whitehouse (2012) who believed that the virtues of planning and zoning controls were buried in unnecessary complexity and perfunctory overtures, propounding policies and zoning controls that have become so qualified as to deprive them of effectiveness. As zones are administered through local plans authorised and empowered by the Act, the current emphasis in NSW of constantly changing rules, laws and inventing new policies (such as the plethora of SEPPs that currently exist), has been a poor substitute for better statutory control of the zoning system and its administrators.

3.4.6 - Functional Arguments Against Zoning

One other ubiquitous criticism of zoning has been its gross inability to properly respond to the ever-changing metropolitan needs, casting its thereby dead hand on the form and function of cities, towns and even suburbs. Thus it has been posited by critics such as Ross (1972) and Jacobs (1961), that the certainty of zoning, as depicted in codes, maps and ordinances translates in effect into an unresponsive rigidity that fails to satisfy the many diverse and dynamic landuse needs of a functional and changing city (Brugmann, 2008).

The use of zones in city planning, Starke (1966) found to be too rigid, particularly their comprehensive prescription of permissible and non-permissible uses. This lack of flexibility, Starke believed, assumes a scientific exactness, which cannot be accomplished using zones. Starke also felt that a city's constantly-changing visage, made broad zoning classification obsolete too quickly.

Stein (2008) identified two main functional criticisms of zoning. The first was that landuse segregation shifted employment away from residential zones, resulting in increased travel times, congestion and pollution. Secondly, that segregational zoning delivered an unresponsive, reactionary and slow change to a community's evolving needs. Zoning, according to Stein, is simply too slow in delivering change, once needs are identified.

To highlight zoning's segregational impacts on land uses, it is useful to quote the words of Justice Sutherland, in endorsing zoning as a permissible practice for the town of Euclid, in 1926. Segregation of land uses was considered essential at the time for amenity and safety. These words may be decades old but they ring as true today as they did in the early part of the last century:

The exclusion of buildings devoted to business, trade, etc., from residential districts, bears a rational relation to the health and safety of the community. Some of the grounds for this conclusion are... aiding the health and safety of the community by excluding from residential areas the confusion and danger of fire, contagion and

disorder which attach to the location of store, shops and factories (Village of Euclid, Ohio v. Ambler Realty Co.; 272 U.S. 365 (1926) at 394).

As is logical, English planning law has provided foundation and a direct bearing on the nascence and development of planning law in Australia. Originally, according to Whitehouse (2012), the rationale underpinning planning legislation in the United Kingdom was the desire to regulate the public health and welfare of the late Victorian towns. This was achieved via the creation of the first UK planning legislation: the Housing, Town Planning etc Act 1909 (UK). Even though the 1909 UK Act was intended to address housing matters, it also gave local authorities the power to draw up planning schemes in suburban areas. Though not initially popular with legislators, this represented an early deliberate reaction to development control (Booth, 2003).

This was later extended to include interim development in the Housing, Town Planning, etc Act 1919 (UK). This was extended further when the Town and Country Planning Act 1932 (UK) came into force by permitting local government to prepare planning schemes for any land in England and Wales, not just suburban land (Whitehouse, 2012). The first planning legislation in New South Wales was the Local Government (Town and Country Planning) Amendment Act 1945 No 21 (NSW), which inserted into the Local Government Act 1919 (NSW), a new Pt 12A entitled “Town and Country Planning Schemes”. The Act was then amended in 1947 by the introduction of the Local Government (Town and Country Planning) Amendment Bill 1947 (NSW), which in the words of the then-minister for planning J. Cahill was intended to inter alia:

“The preparation of town and country planning schemes by the municipal and shire councils, including the Municipal Council of Sydney, and county councils constituted for the purpose, with the assistance of committees to be specially appointed by them and of professional town planners holding qualifications which will be prescribed by the ordinance”.

This was the legislative beginning of planning as we know it in NSW today, the system that empowers and administers zones, with the aim being the creation of better amenity,

convenience for local areas (Freestone, 2007). Segregation of land uses was thus deemed essential for both public function and civic harmony in the early years of zoning. This is still largely the view held today with respect to the application of rigid boundaries between landuse zones in NSW.

Across the Pacific, Hibner (2002) also took umbrage with zoning's inflexibility a great inadequacy which produced a skewed and distorted suburban housing mix, bringing more challenges for balancing outcomes in new urban and urban infill areas. Davis (1963) even questioned whether it is necessary to have zoning ordinances at all, suggesting that cities may function equally well without any zoning.

Even though there have been many critics of segregational Euclidean zoning over many decades, it continues to be the overwhelming zoning method used in all of Australia's major cities and towns today. To that end, it carries widespread favour with both authorities and the public and has stood the substantial test of time.

After discussing zoning's main advantages and disadvantages, it is now important to examine the rationale for zoning and how it might be implemented for landuse control across Australia through the prevailing literature on the subject.

3.5 - Planning Rationale and Current Use of Zoning in Australia

In an Australian context, Forster (2004) outlines some important historical facts about the patterns in Australia during the Long Boom³⁶ governing zoning rules. This tremendous and unique period of economic and social change became the basis for a new orthodoxy during the three decades after the Second World War, an uneasy blend of the interventionist ideas of Keynes and free-market theory (Stilwell, 2006). The years of the long boom when, for the advanced industrial capitalist nations like Australia at least, produced prodigious economic growth and full employment, finally ending in the 1970s. This also heralded in Australia a shift in values with urban policy and regulation. It was not until after World War II however, that a set of explicit town

³⁶ The Long Boom is defined at the period of continuous economic growth from 1947-62 finally ending in the oil shocks of 1973/74.

and country planning regimes emerged at the state level. In time, this saw municipalities regulate health and housing standards, and in the post-war period began to adopt town planning as a regulatory function (Gleeson and Low, 2000)

Enforced by local councils, regulations began to prohibit in the majority of cases, the building of anything other than detached houses. Municipal councils also enforced minimum dimensions and standards of construction. This, according to Forster, created an artificial supply constraint that helped underpin land prices in the major cities around Australia. Accordingly, houses in Australia have become larger and better-appointed over time, even with the modern demographic trend of shrinking households, namely due to the desire to maximise economic value. Modern dwellings (since the 1990s especially) have also become more diverse in size and style than during the 1950s and 1960s because of its economic importance as a major asset; but the conventional detached dwelling still predominates as a mode of living in Australia, as in the US (Hall, 2010).

In their study Monk and Whitehead (1999) observed that most state planning systems in Australia effectively constrained development density, with allowable densities barely changing for several decades. Westerman (1998) found some explanation for this in the fact that policies such as those relating to increasing density, were often dependent on public acceptance, which rendered their implementation difficult. To use Westerman's words: "change in the structure of cities and regions is slow: it moves like syrup, and long-term planning is needed to ensure that individual actions add up to long-term integrated benefits" (1998, p. 31), as density remains an intense topic of debate both in NSW and around Australia.

A lack of will to intensify the built-form as well as the ready availability of land, has resulted in post-war Australia in the patterned proliferation of the traditional "dormitory" suburb with tracts of low-density development producing both high levels of residential amenity, as well as longer travel distances and an increased social isolation of families (Thompson, 2007).

This persisted for decades until the 1960s, according to Gurran (2007) a period of great social and political change and a time whence planning became regarded as an irrational

science. There was also a nascent public distrust of bureaucratic processes which did not yet include much community participation. Simultaneously, Australian cities witnessed significant suburban development and growth in this period, according to Gurran (2007), placing further pressure on regulators to find solutions for the ever-complex issues of housing affordability; liveability; urban sprawl; allowable densities and growth management. This very pressure often prompts land rezoning to occur and a new suburban vision for a change of use to be accommodated within the zoning rubric. This was also evident in the direction of the then-new Sydney Region Outline Plan (1970-2000 A.D.), advocated to guide Sydney's future urban development as a growing city.

More recently since the 1990s, the compact city ideal has seen development of new greenfield areas on Sydney's urban fringes change through NSW Department of Planning input, with new policies raising the desired gross residential densities from 10 dwellings per hectare to 15 dwellings per hectare (NSW Department of Urban Affairs, 1995). This was an attempt to create a larger buildable land supply, improve affordability and aim for a more compact city footprint. This policy exemplifies similar initiatives around Australia. It is very rare however, even with the best of intentions, that the optimal land subdivision density of 15 lots per hectare, is ever achieved in NSW (Gurran 2007; Ruming et al., 2010).

Notwithstanding the latest NSW efforts, it would be amply justified to observe that zoning land in Australia has evolved historically and has proliferated the overall, generally low-density patterns of housing and uses. It is with the more prodigious post-war growth that the need to reallocate land uses has become more necessary, as is the case today (Forster, 2004).

It is now apposite to look at zoning and planning in the context of the state of NSW, where the empirical research of this thesis is based.

3.6 - History and Process of Planning and Zoning in NSW

This section further focuses the discussion on zoning by considering its application in the state of New South Wales, where all the empirical examples of this thesis are centred. Planning schemes in New South Wales followed standardised techniques of landuse control such as zoning, an imported US construct (Starke, 1966). The main purposes justifying zoning have always been: to protect amenity; to stop abuse in land development; to encourage appropriate uses of land; to avoid the undesirable mixing of land uses (e.g. industrial uses in a residential area); and to plan for the future needs of the community, whilst making adequate provision for existing uses (Starke, 1966). This standardisation is important to acknowledge in the context of how both zoning and city planning, might serve to foster a setting for the creation of land value.

According to Williams (2007), planning instruments around Australia have followed the broad trend of statutory planning in the nation's largest state: New South Wales. There are two main types of statutory plans produced under the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act) in NSW: State Environmental Planning Policies (SEPPs), and Local Environmental Plans (LEPs). These have served, in tandem, to create the framework for both zoning and policy regulation for the state of NSW for the past 30 years and are mirrored by similar legislation around Australia (Gurran, 2007; Burnley and Murphy, 2002; Forster, 2004). This is discussed in greater detail in Chapter 4 of this thesis.

Nonetheless, planning remains a generally controversial practice in Australia, particularly on the issues of zoning and rezoning. The most contentious NSW State policy changes, since the early 1980s, have all centred around the concept of higher residential densities (Burnley and Murphy, 2002), manifested in the approval of more apartment buildings and increased lot yields in new release areas. This has included such state-based policies as State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 and SEPP Major Development 2005, as elaborated upon in Chapter 4.

Planning and zoning have a most interesting history in the state of New South Wales. As an American system that has been embedded within an English planning system, NSW planning is perhaps best described as a hybrid that sits midway between British-

style statutory landuse regulation and the more strategic American-style policy interventions (Freestone, 2007).

In 1927 local councils were, for the first time, empowered to approve applications for the erection of new buildings to take into account stability, height, and design. In NSW, the most significant planning legislation occurred after WWII when comprehensive town planning legislation akin to its English parent, was passed in New South Wales. The enactment of the Local Government (Town and Country Planning) Amendment Act 1945 inserted into the Local Government Act 1919, a new Part 12A bearing the title “Town and Country Planning Schemes”, allowing councils to define portions of their areas within which the erection of buildings could be prohibited unless their external walls were constructed of brick, stone or concrete. This restricted form of zoning was introduced, allowing councils authority to decide on which portions of their municipalities would permit the erection of new buildings, taking into consideration height, materials, stability, and design. The Greater Sydney Bill of 1931 followed, providing, *inter alia*, a town and regional planning scheme for the Greater Sydney area embracing the whole of the County of Cumberland but the Bill failed to become law (Whitehouse, 2012).

The post-war period then saw local councils add planning to their other responsibilities, often as an adjunct to the work of municipal engineers (Kelly and Mant, 1994). This is a function they retain today. The 1945 Act was largely based upon the provisions of the English Town Planning Act 1932, but it was in certain respects less rigid than its model.

Then came the County of Cumberland Planning Scheme and the Local Government (Amendment) Act 1951, which related to a new county composed of a large number of local government areas, including those of metropolitan Sydney and its suburbs, and the fringe local government areas adjoining these suburbs, such as Camden, Liverpool, Penrith and Windsor (Freestone, 2007). The Cumberland County Council was the responsible authority for administering the Scheme which made provision, amongst other matters, for the reservation of land for open space (termed the “greenbelt”) and county roads.

The inspiration for the greenbelt lay partly in Sir Patrick Abercrombie's mid-1940s plans for London, adapted to local Australian conditions. The Cumberland County Council's strategy was soon tested however, by both private and public desire for building and housing sites and much of the green belt was decimated. An important consolation prize was a new requirement for developer contributions to infrastructure provision (Starke, 1966), which remains in s.94 of the EP&A Act today.

As Freestone (1988) points out that Sydney's short-lived Regional Plan Convention in the 1920s attempted to establish a new basis for a metropolitan plan but the plan did not gain political approval. Instead, there was far greater obsession with creating an upgraded radial road network, including crossings of the Parramatta River.

There was an attempt at a metropolitan plan for Sydney by the later-dismantled Cumberland County Council, a post-war blueprint emulating British planning. Within it could be seen the influence of Patrick Abercrombie with its structured uses and designated greenbelt. Ultimately this all proved naïve and unpopular but a new commitment to planning better cities was already afoot.

Starke (1966) points out that both the Cumberland County Council and the Northumberland County Council, were dissolved by 1962. This was followed by the State Planning Authority Act 1963, which provided for a three-tiered administrative structure, consisting of the Minister; the regional planning committees and local councils (Wilcox, 1967).

The legislature created the State Planning Authority of NSW in 1963 to take over the basic functions of the Cumberland County Council and the Northumberland County Council, to replace the Town and Country Planning Advisory Committee and was granted powers previously reserved for the Minister. Its main objective was to ensure that development that was State significant was planned and coordinated at a level above that of local government and was also empowered by Part XIIA of the Local Government Act, 1919 to be able to service, subdivide and also acquire land compulsorily (Wilcox, 1967). In some ways the State Planning Authority could be viewed as a success as it was able to prescribe and change planning schemes and

controls quickly and pioneered new planning initiatives such as the Macarthur Growth Centre at Campbelltown at Sydney's outskirts, in the 1970s (Whitehouse, 2012).

This is broadly how today's planning hierarchy still functions. The State was and remains the most powerful entity but local councils have effectively become partners with the State Government, and no longer simply its agents. This also saw many renewal projects covering extensive tracts and there was a palpable increase in take-up including for high-rise public and private housing. This proved a lasting pattern that transformed Sydney's inner-city landscape into denser regions over decades to come, with the County of Cumberland Scheme being at the heart of the plan. As capital city, the seat of the NSW Parliament, Sydney was now growing at an unprecedented rate adding more than half-a-million people between 1947 and 1954. Its archetypal macro view promoted a new spatial order on the urban landscape. The strategy soon felt pressures from private and public developers for green-field housing sites and much of the green belt was decimated (Winston, 1957).

Delegated powers to local governments also increased as did the complexity of delivering built form. According to Freestone (2010), many projects became entangled in a planning system accentuated by inflexible planning rules, conceived in a more benign era of slow growth and without community participation. The 1970s brought about a continued commitment to low-density suburbanisation; the narrow focus on land use persisted, but by now landuse planning began to incorporate, more explicitly, community views (Yiftachel, 1989). The most far-reaching planning reforms were eventually initiated in the form of the NSW Environmental Planning and Assessment Act in 1979, incorporating environmental objectives and participatory provisions (Orchard, 1999). This was also a transformational moment for changes to New South Wales' urban landscape, as now any planning or zoning changes required greater public acceptance than in previous decades.

Since the late 1980s however, the dominant Australia-wide policy trend, has been neo-liberal in philosophy, with renewed emphasis on free markets for achieving social ends, including the deregulation of business practices and an appetite for the privatisation of public assets. Although both major political parties in Australia now subscribe to

“small government” ideologies in urban planning (Gleeson and Low, 2000), there is still a large amount of official intervention. This has manifested in larger bureaucracies; greater regulation and administration necessitating the need for the fast-tracking of approvals; and the use of special-purpose development corporations. According to Gleeson and Low (2000), this has also necessitated the need for insulating critical decisions from community inputs and an increase in the number and scope of public-private partnerships.

To that end, and to the extent that such evolutions can produce a better balance, Wiggins (1991) found that the current segregational system of zoning in NSW has many advantages in that it has prevented several undesirable changes, without a large degree of conflict. Wiggins valued the certainty that planning brought about for the “development industry, local residents and planning officers” (1991, p. 74) but criticises the current system for its inflexibility and rigidity. This view was shared by Murphy (2004) who points out that, planning in Australian cities must accommodate a myriad of economic and social considerations, whilst minimising impact on citizens.

There is also the “monopoly zoning” hypothesis as postulated by US academics Fischel (1979) Ellickson (1973) and Godschalk (2007), who suggested that zoning is an ideal mechanism for communities to manipulate their living environments in order to increase the wealth of existing residents at the expense of outsiders. Typically this has been done by restricting the supply of new housing, which in turn purportedly raises the value of existing homes. Zoning has thus been accepted as a useful tool in creating and preserving land values (Godschalk, 2007). Also zoning has proven popular in the last century due to its perceived stabilising effect on the living and working environments. Ellickson found that of all US cities with over 250,000 people only Houston, Texas, had not enacted a zoning ordinance. Zoning is also universal in all major cities and towns in New South Wales (Troy, 1995).

Could a slow-changing system be a positive for value? Could the difficulty in amending or eliminating a zone in New South Wales be part of the reason that rezoning may create or destroy land value? These questions are discussed further in the literature below

3.7 - Considerations in the Rezoning Process

Part of the value proposition for rezoning, is in converting the old and outdated into the new and the modern. Zoning is perhaps more a facilitative mechanism for change, rather than an imperative placed on the market, but the essence and need to rezone land is often financially based on the obsolescence of areas or built products, whose productive or functional purpose has come to pass. For a multiplicity of reasons, there are occasions in the chromatic yet fluid evolutionary journey of every city when a change of zoning becomes a necessity (Stein, 2008). This is akin to the gentrification effect (Ley, 1986). Paradoxically, a value proposition may dictate the necessity for a zoning change; but without such a zoning change, the value transformation would not occur.

There are many other considerations however. A zoning change in Australia, frequently referred to as a “rezoning”, is a complex process. In New South Wales today, rezonings have become increasingly common with most initiated by the private sector, not government. The most treacherous part of the rezoning journey, remains its inherent uncertainty. This, as Stein (2008) points out, is because a planning authority permits a rezoning solely at its discretion.

Stein (2008) also argues that it ought not to be necessary to show an urgent, unsatisfied demand for a new use in order to justify a rezoning (as is currently the case) and that a potential need should be sufficient. Rezoning land, due to its value-creation potential, heightens the tensions in the zoning process even further. There is also greater reluctance today, according to Stein, for local councils to rezone anything at all. It would be fair to assume that the rigidity of local controls and the time and cost involved in effecting a zoning change are also factors. This can further be seen in terms of ANT Theorem and the negotiated outcomes discussed by Ruming (2008).

To that end, most rezonings do require careful justification, especially to statutory authorities and the community, if they are to gain public acceptance (Marshall and Zehner, 2007). Today’s urban community, as Stein (2008) points out, frequently cares less about financial or employment benefits, than its immediate fear of change. This

has made local politicians more influenced by well-rehearsed local objections, than by the economic benefits that a new zone might bring to an area.

Garrett (1987) argued that such diversity of contributory views makes reaching a rezoned outcome difficult. Zoning should be more flexible, Mant (2006) suggested, because zoning ordinances cannot possibly apply to each parcel of land in a zoned district. Thus negotiations between authorities and the developer should be encouraged in order to create better built-form outcomes (Marshall and Zehner, 2007). This is demonstrated by the fact that all of the examples used in the research in Chapter 5 of this thesis are negotiated outcomes, where the results of each approval including both the rezoning and DA examples, all synthesise contributory views from public utilities, consultants, the approval authority and the land owner.

Ryan (1988) agreed with Garrett (1987) that as rezonings are complex and emotive, they therefore necessitate a higher level of assessment, including the impacts of traffic; increased servicing needs; zoning conflicts; flooding and suitability of intended uses. The economics of a rezoning, often dictate the final uses, according to Ryan; this necessarily includes the siting, compatibility and functionality of the rezoned land in relation to neighbouring uses. As the examples in Chapter 5 also demonstrate in consonance with the Ryan view, the economics of a rezoning remains its most significant factor. Without the viability of the new uses, a rezoning does not take place, especially given the complexity and costs involved, as is stressed by Garrett and Ryan.

To illustrate modern zoning's complexity, it is worth emphasising that local municipalities in NSW had, by the end of 2007, enacted over 3,100 zones with thousands of uses and definitions across some 152 local government areas. The introduction of the Standard Instrument Order 2006 ³⁷provisions, were still not fully

³⁷ Pursuant to s.33A of the EP&A Act 1979(NSW), the Standard Instrument (Local Environmental Plans) Order No 155 of 2006 (NSW) was gazetted and commenced operation on the 31st March 2006. It included matters previously covered by s.71 of the EP&A Act 1979 (NSW) creating a template LEP for all councils in NSW to use in the preparation of their LEPs (Whitehouse, 2012). Most NSW councils had completed the transformation to what is now known as the Standard Instrument format by 2011.

enacted by all New South Wales councils by 2012; they have since been reduced to only 34 standard zones but with many exemptions permitted to each Council (Stein 2008).

At the heart of zoning's benefits are the arguments of permanency, reliability and security of tenure. According to Stein, zoning has not been readily open to challenge to date in Australia, mainly because an individual "cannot sue a planning authority for negligence in its decision not to amend a planning scheme, because an owner is not owed a duty of care by the planning authority" (2008, p. 15). Stein also subscribes to the unwritten rule that the highest zoning status is conferred upon residential zones. The planning system works around reducing negative externalities on residential areas, aiming at least in theory, to the concomitant preservation of land values and the guarantee of improved amenity for living areas in residential zones.

Ryan (1988) saw the first step in a rezoning as being the demonstration of a public need for a zoning change. In Ryan's view, the necessity for a rezoning must not only be obvious, but the range of relevant considerations needs to be broader than those applying to development control. Ryan (1988) also reminds us that at the core of planning must remain a balance between competing interests; so the rezoning of any site, should aim to result in nett community advantage and improved overall amenity. This, Ryan argues, would also give a rezoning a greater probability of success.

According to some critics, it is design that is the most important part of the built-environment rather than planning, urban growth controls or density (Mant, 2006). This view certainly has intuitive appeal. Arguably all of the above-mentioned controls are important and interrelated. Design however, visually and functionally embodies many of zoning's numerical measures such as site coverage, floor space ratios, setbacks, mass, bulk, height, orientation, solar access and streetscape. These elements all conglomerate to create imposed civic planning controls. Density is but one numerical measurement that fits under the overall zoning methodology and continues to be a popular, well-defined measure used to govern growth, particularly at the local level.

It is probably true to say that it is not possible to justify the rezoning of most parcels in a given urban landscape. Most zoned land parcels remain under their original zoning and

have viable or continuous existing uses. On this very count, Stein (2008) observes that if a zone had maintained a consistent character over time, it is unlikely that its zoning designation will ever change. This is generally the case with many established low-density residential areas, which are often able to withstand such pressures as population growth and not convert to areas of higher density. Such areas, Stein suggests, rarely change because of the way that the planning system is constructed.

3.8 - The Density Debate

Density is arguably zoning's most powerful mechanism. Density controls are also the most common devices used to restrict the built-form in NSW (e.g. Randwick City Council LEP as well as Examples 1, 16 and 17 found in Chapter 5 of this thesis). Changing density for a land parcel is normally only achieved through a rezoning of land (Examples 1-8, 10-12, 14, 15, 18-20 of Chapter 5). Increasing allowable densities can normally only be achieved through the "up-zoning" of a parcel (Stein 2008, p. 82).

It is perhaps due to its strong impact on the built-form that density remains a very sensitive community issue in NSW, as is allowable height. Current codes according to Stein (2008), show a strong predilection for limiting height and density for all new built-forms. The underlying reason Stein believes, is because height is often confused with visual appeal and the effects of a building's bulk and the claim that it is out of character with its surrounds.

Delano (1931) was very deliberate in his theoretical review of zoning densities in city centres. He exemplifies the divide between critics on this very subject. There are those who believe density to be the problem, like Delano, and others who believe it to be the solution for many ills. Density remains an essential ingredient for the creation of vibrant cities according to both Landry (2000) and Jacobs (1961), without which, it is argued that it is impossible to have healthy city centres and efficient public transport systems.

On the issue of density, Jacobs' (1961) preoccupations and civic ideologies, were starkly at odds with many of the firmly-held tenets of segregational Euclidean zoning.

Such zoning restricts urban densities, ostensibly in order to reduce congestion, crime and other urban ills. Jacobs (1961), on the other hand, embraced density as an essential ingredient in creating great streets, suburbs and cities. Research by Hibner (2002) highlights however, that many communities in the US have developed strong aversions to infill development. New construction is thus frequently deemed too dense and “out-of-scale” with its surrounding urban form (Hibner, 2002, p. 3).

Dowall (1984) thought the question of density fundamental in solving the suburban squeeze issues in US cities. Of course, segregational zoning does make many residents accustomed to higher levels of homogeneity and isolation, which has been a veritable part of both the American and Australian suburban detached-housing dream for decades.

In further illustrating the divergence between the segregational Euclidean vision for cities and that advocated by Jacobs (1961), it is worthy again to note the comments of Chief Justice Sutherland on residential densities and apartment buildings representing an accurate measure of the mood that publicly prevailed in the 1920s towards taller and denser apartment structures. His Honour opined that: “Very often the apartment house is a mere parasite, constructed in order to take advantage of the open spaces and attractive surroundings created by the residential character of the district” (*Village of Euclid, Ohio v. Ambler Realty Co.*; 272 U.S. 365 (1926) at 394).

Whilst it remains a challenge to convince many communities, including those around Australia, that both higher densities and greater mixed-use development are both needed to provide housing choice and preserve environmental quality, financial and space imperatives will soon need to be faced. This is a very real challenge for coming decades.

3.8.1 - Density as a Means of Limiting Sprawl

It is fair to say that density remains a significant parameter in the urban debate. Its advocates see it as one useful tool in containing the ills of unsustainable sprawl and protecting both agricultural land and open space. Farmland, Daniels (2002) argued, is necessary for both food production as well as its aesthetic and amenity attributes.

Equally, zoning rural uses, supports productive rural lands and can be planned to keep parcel size in line with that required for viable rural industries.

According to Daniels (2002), America has sustained real costs in allowing sprawl and the permanent rezoning of farmland. He contends that density and stricter zoning and urban growth boundaries could redress this issue. Sprawl has led to the economic and social patterns of disinvestment in inner American cities as seen today. This was not only negative for cities presently but the long-term trend of movement to the suburbs would keep increasing urban sprawl to ever-greater limits (Daniels, 2010).

So is it better to go upwards or outwards? It is important to concentrate settlements in higher-density areas to facilitate proper accessibility to public transport, as well as for other economic and social reasons. It is also imperative in order to make better use of existing urban areas, including the reuse of obsolete, former industrial and brownfield sites. Even in new-release greenfield areas, urban consolidation can take the form of smaller lot sizes and have denser dwellings such as villas and townhouses, responding to the changing demographics of smaller households (Gurran, 2007).

According to Mills (2005), downsizing is presently a world-wide phenomenon and contributes to lower density outcomes. Cities, including Sydney, therefore do face the inexorable realisation that both household and population growth needs to be accommodated in the most appropriate way. Mills quips that if downzoning persists as a practice, the result might be cities of streets but no buildings!

To advocates such as Burnley and Murphy (2002), higher density provides a simple yet effective solution for reducing demand for new land, increasing the utilisation of services and improving the viability of public transport. Burnley and Murphy believed strongly however, that given the changing demographics of Sydney and many other cities and the increased housing demand of the past 30 years, that higher-density housing, will become a category of choice and is here to stay.

Jacobs (1961) who had espoused the benefits of density almost four decades earlier, argued that most residential areas that she had studied in US cities, had blocks that were

too large rather than too dense, with insufficient mixed uses within them. These, she had argued, were not failures of density but of planning and zoning.

Daniels and Lapping (2005) believed that government involvement in land preservation was essential in reaching both density and growth goals whilst limiting US urban sprawl and reshaping America's cities and their suburbs. "Sprawl can take many forms, including expanding suburban areas that intrude into the surrounding countryside" (Daniels, 2001, p. 271).

Suburban America according to Daniels (2001), suffers from almost intractable problems caused by sprawl. These include issues of land use such as the separation of where people live from their place of employment, a condition often ossified by local zoning and over-designed and elaborate road networks to serve auto-dependent lifestyles. Expensive infrastructure such as sewer and water facilities, schools and roads must also be built to accommodate the new suburban development of expanding cities. This "pattern of urbanisation cannot be economically, environmentally or socially sustained in the long term" in many of the USA's burgeoning cities (Daniels, 2001, p. 272).

Daniels (2002) also found that density was administered by many small local government entities in the US through zoning codes, which made them generally more reluctant to cooperate with each other. The main reason for this, according to Daniels, was that local governments relied heavily upon local property tax revenue (known as rates in the UK and Australia) and were thus more interested in increasing land uses that expanded the tax base, producing low-density, uncoordinated landuse planning and increased urban sprawl.

Similarly, subdivision controls in planning schemes in NSW, are usually enforced through minimum-lot-size planning and zoning controls, thus giving an area its density of dwellings. Minimum area is the primary subdivision control mechanism. If rural or rural-residential areas are to be created or maintained for instance, lot size is commonly the controlling mechanism. It is also used for maintaining exclusively-residential, rural-residential and large-lot residential zones (Stein, 2008). Opponents of densification

however, have come to see density as reducing amenity and interfering with natural population limits that define liveability in both brownfield and greenfield areas. Many urbanists, such as Troy (1995) and Forsyth (2003) objected to the compact-city ideal. Troy objected on the grounds that it threatened the established egalitarian values of distributing good-quality housing to the working classes, who can generally only afford cheaper areas at city fringes.

Density controls are an important way by which cities can control growth Forsyth (2003) believed. Despite the fact that land and infrastructure costs were observed to be increasing continuously, the public remained in favour of low density housing with an implicit assumption of its positive effects on the living environment. Prevailing attitudes seem to still perpetuate this notion, Forsyth felt, with high densities still regarded as inherently undesirable and low densities as seemingly good.

Mills disagreed with the Troy view concluding from his Chicago observations on density that density controls made city residents “uniformly worse off” causing “residential sprawl” in metropolitan areas which needed to be more compact (2005, p. 576). Conversely, critics of density have pointed to the squalor of blighted cities and have linked density with ugliness, congestion and over-crowding. Such critics were less convinced that well-designed higher densities could achieve positive environments and could conserve land, or save on energy and infrastructure costs. There are also the adverse effects of high-rise buildings such as overshadowing and pressure on open space to consider and balance.

3.8.2 - Growth Management Systems, UGBs and Urban Containment

There have been different attempts to control urban sprawl, employed by many cities throughout the world. The use of Urban Growth Systems is one of them, encompassing the notion of urban containment and urban growth boundaries or UGBs. This is conceptually the same as the permanent green belt contained in the Greater London Plan of 1944, as envisaged by famed English town planner Sir Leslie Patrick Abercrombie.

Growth Management Systems (also known as Urban Growth Systems) and Urban Growth Boundaries (UGBs) are both methods used to shape, channel, curtail and

contain the growth of cities. In that sense, they loosely resemble zones and like zones, are empowered through planning systems. Before commencing this part of the literature review on Growth Management Systems, it is important to clearly define what is meant by an Urban Growth Boundary. UGBs have been in use for several decades and have been touted as a successful tool for managing urban sprawl.

Urban Growth Boundaries were first implemented around Lexington, Kentucky in 1956 according to Daniels (2002), and have since been successfully used in northern California, in Lancaster County Pennsylvania, and in several other communities around the United States. They are also used in many places around Australia such as in the city of Townsville in northern Queensland.

An Urban Growth Boundary is a type of zoning restriction that can be defined as: “a line drawn between urban and rural lands defining the limits to which the urban area will grow” (South Carolina Department of Health and Environmental Control, 2010). Urban Growth Boundaries (UGBs) are also defined as limits on land development beyond a politically-designated area, aimed primarily to curb sprawl, protect open space, or encourage the redevelopment of inner-city neighbourhoods (Staley, Edgens and Mildner, 1999). Urban Growth Boundaries can also be described as those boundaries which “allow a unit of government to publicly declare that a specific area surrounding a municipality, will be the target for urban growth, and thus indicate that areas beyond that boundary will not be supported with public infrastructure services” (Michigan State University, 2000, Executive Summary).

Nelson et al. defined Growth Management as the “deliberate use of the planning, regulatory and fiscal authority of state and local governments to influence the pattern of growth and development” to meet identified needs, including the use of zoning, subdivision regulation, property taxes and development fees (2002, p. 2). So zoning is an efficient way to implement growth management, according to Nelson et al., who blame the rapid suburbanisation experienced since World War II in the US and elsewhere, for many of the problems faced in today’s large cities.

Another definition is proffered by Porter also an advocate of UGBs, who states that “urban growth boundaries restrict urban growth to a specific area around a community

and prevent the spread of development into the surrounding countryside” (1997, p. 44). Porter also found that growth boundaries were typically based on twenty years of projected development and “intended to promote more efficient use and extension of infrastructure systems, encourage more compact development, and preserve open space and natural resources in rural areas” (1997, p. 44).

It has been said (Forster, 2004) that “civilisation follows the sewer line”, and since uncontrolled sprawling development is both expensive and wasteful of agricultural land, Daniels (2002) found that the use of UGBs does encourage more compact civic form which could both discourage sprawl and preserve productive farmland. Daniels also found that growth should ideally combine zoning regulation with design and economics to create a broader regional perspective. Daniels (2002) believed that urban growth boundaries could promote good urban design within properly-defined limits, that serve as edges to cities.

Burrows also believed in Growth Management Systems such as UGBs, for their orderly “designation of urban growth areas” and the demarcation of where growth should occur, with a boundary line, establishing the “geographical extent to which development is permissible” (1978, p. 73). Burrows also agreed with Porter (1997) that the success of UGBs was in the creation of “an indirect means of controlling growth “channeling development rather than limiting it” (p. 73).

Similarly, Gleeson (1979) examined both zoning processes and growth management systems in Brooklyn Park, New York and Petaluma, California and concluded that: “a growth management system can concentrate development, preserve agricultural land” and reduce public expenditure (p. 364). In another appraisal of the effects of Urban Growth Boundaries, as implemented in Portland, Oregon, Phillips and Goodstein (2000) examined critically its application as a form of zoning “designed to control sprawl” (p 334). They presented anecdotal evidence that UGBs increased housing prices by putting “upward pressure on land and thus housing prices” (Phillips and Goodstein, 2000, p 334). Notwithstanding, they observed that land inside the UGB then becomes privileged compared with the land outside which, at best, can only ever become rural-residential. So zoning for growth and urban containment, at least

according to Phillips and Goodstein, do have the effect of increasing property values in the contained areas.

Dawkins and Nelson (2002) also examined the effects of using urban containment on land and housing prices but found no clear effects of urban containment on new or old residents. Their research showed that “urban containment programmes do affect land prices” but that the “demand side of the housing market may be a stronger determinant of prices than local urban containment policies” (2002, p. 1).

Nelson et al. were yet another advocate of growth management systems, which they believed broke the “chain of exclusion by incorporating policies that increase housing densities” (2002, Executive Summary). Also by improving the mix of housing types, they felt that urban growth systems served in promoting regional goals on housing and other inclusionary housing elements rendering housing more affordable, by lowering public infrastructure costs and minimising regulatory delays. Nelson et al. (2002) examined in great detail the effects of zoning and UGBs on affordability and housing prices. Separately, Nelson et al. found that the strength of the housing market was the single most important influence on housing price whether growth management systems were employed or not (2002, Executive Summary). Nelson et al. suggested that macroeconomic factors had a greater impact on price than either growth controls or zoning.

Notwithstanding, in his own research Nelson (2000) found that the urban growth measures introduced around San Francisco to contain urban sprawl, did raise land and housing prices by constraining land supply. Growth-control he argued however, had numerous other benefits to residents arising from such planning restrictions. This could be in the form of increased house prices, which capitalise the value of suburban amenities, so if urban containment is successful in preserving open space, then house values in neighbouring suburbs do rise (Nelson, 2000).

Fischel (1991) made a connection with value, concluding that California’s 1970s home-price explosion was due to the proliferation of growth controls, which legally removed

significant tracts of suburban land from development, hereby creating an artificial scarcity.

Dowall (1984) was reviewed by Landis (1992) and also found that local growth controls increased housing prices by raising the cost of new construction through extra subdivision and development costs and delays. Such controls also limited new housing supply, allowing both vendors and builders to charge higher prices (Landis, 1992). Landis concluded that local Californian growth controls contributed to regional housing shortfalls and to rising housing prices and declining affordability. This is mildly correlated with the findings of Nelson et al. (2002) and in consonance with the findings of most reviewed critics, including Ellickson (1973) and Monk and Whitehead (1999).

Levine (1999) estimated that there were over 1500 local growth-control measures in California at the end of 1992. He concluded that such manifestations of zoning as growth-control measures, by removing land from development and by requiring less intense development, definitely reduced the available housing stock. Further, Levine found that pro-growth policies, did not have an equivalent effect in increasing housing production, as did growth controls in reducing or displacing it.

Grieson and White (1981) found that allowable-use restrictions unambiguously raised all land values. By contrast, Ohls et al. (1974) concluded that their effect was ambiguous. Grieson and White (1981) used Grieson's landuse model, in which a closed urban land area was assumed, with all land within it entered at equal value. Density restrictions on one type of structure, affected all land values equally, Grieson and White found. They concluded that if landowners could gain control of the zoning process, then density restrictions would raise all land values.

Knaap (1985) also researched the effects of UGBs on property values. According to classic economic theory, any land policy that changes the allocation of land in a given free market, should impact value. Knaap tested for such impact in Portland Oregon, where zoning regulated land use both inside and outside UGBs. Only land inside a UGB could have urban uses. Land outside was preserved for non-urban uses until the date of review of the UGB.

Knaap (1985) found that land values were higher inside the UGBs even if they were still non-urban in zoning simply because they reflected expectations of future urban zoning and hence future rents. The data used by Knaap was that of every single family homesite sold between 1979-80 in Clackamas and Washington counties. This was about four years after the Portland UGB had been implemented. Knaap's results showed that urban land was clearly higher in value than non-urban land. Non-urban land inside a UGB was also higher in value than the similar non-urban land outside the UGB. Additionally, Knaap found that where urban land was found on both sides of a growth boundary, it had a similar value inside as outside the boundary.

Downs (2002) found that there were no large instant changes in housing or land prices when Portland's UGB was adopted. Downs found containment programs such as UGBs do not, on their own, influence a region's rate of housing price increase. UGBs were more likely to have influence however, if combined with strong surges in local incomes or employment and therefore on housing demand. Zoning's effect on land (and by deduction house) value, is demonstrated by the research in this thesis to be complex and not simply triggered by urban containment policies, that may affect the supply of land in a specific area.

Equally, Sivam and Karuppannan (2009) found that urban growth outside of North America, such as in parts of Europe, had not had the benefit of proper control through the use of such zoning manifestations as UGBs in the last few decades. This has led to a number of physical problems such as unprecedented growth of urban areas, contributing to an acute shortage of building space and a rise in the price of urban land.

The literature reviewed also strongly supports the hypothesis that urban zoning affects land values in a multi-faceted way causing price increases both inside and outside UGBs (Knapp, 1985; Phillips and Goodstein, 2000) and that zoning is an important factor in the determination of land value (Hagman, 1978; Grieson and White, 1981; Glickfeld, 1978). Therefore, it can be seen that the density debate is both extensive and ongoing. Ideology on the city is split between those who believe in compactness and those who support the less-dense historical patterns of earlier cities and towns. The

density debate does unequivocally demonstrate however, that denser cities will be more prevalent in ensuing decades than in past ones. The many views expressed herein also indicate a connection between density controls, zoning restrictions and increased land values.

3.9 - Zoning and Planning - How Value is Created and Destroyed

So the next fundamental question must be that of how land value is created and destroyed by the reapplication of the rules of planning and zoning. It is important to proffer an explanation at this point, of the similarity of effect of both planning approval (development consent) and a change in zoning regulation, though of course, these are not the same in legal or statutory terms. In reality though, a planning approval, however procured, that permits a land parcel to carry out activities that were previously not permitted without consent by the zoning regulations, produces a de facto zoning change, without the comprehensive formality of the statutory process. Equally a planning approval development consent over a parcel creates value by the sheer certainty of creating a future income for the land. For the purposes of this chapter and this thesis, the effects of rezoning and planning approval on a parcel of land's economic capacity to create capital value, are being treated as similar.

Hence, the most profound impact of zoning (or planning permission for that matter), is equally the development it prohibits as that it permits, both being necessary concomitants of value creation and destruction - they are invariably two sides of the same coin. The same land then, under varying degrees of permissibility and prohibition, acquires the innate ability to create and destroy land value, which is back-derived from the total quantum of final value that the land is permitted to produce. Thus when land is zoned for a more lucrative use than its existing one, the value of the land typically increases. Conversely, when land otherwise suitable for development, is zoned for a less profitable use or reserved for a public use where its economic capacity can never be commercially realised, the land's potential market value is ordinarily reduced.

3.9.1 - Market Value of Land Defined

The Market Value of land, can be defined as the price at which a land parcel would exchange between a willing purchaser and a willing vendor, in an arms-length transaction, given sufficient marketing and with neither acting under duress. Implicit in this definition of value, is the notion that the Market Value would include an increase in quantum, where there might exist a reasonable expectation by a purchaser regarding future land capability, based on present and future landuse plans and planning regulations that might be expected to govern the land.

This definition incorporates within the ambit of the willing and informed purchaser, the notion that such a buyer would pay for a property, a value based on the profitability of using it in various ways and the likelihood of the permissibility of such land uses. This essentially means that the market typically prices into the land-value equation, the certainty of all apparent future income and value-creation possibilities, based on the probability of such value being realised. This concept of value and embedded future expectations is discussed by Knaap (1985) and is defined in *Spencer v The Commonwealth of Australia* (1907) 5 CLR 418, quoted and discussed in Appendix I of this thesis and expounded in the Legal Principle XII -“Concept of Market Value is Value to the Owner” (Section 4.5.1 of Appendix I).

In land-value terms, a zoning designation might give the land a certain value proposition and an expectation of future value, based on what is permissible within the zone embodying such tangible controls as floorspace and height, and in the case of large land blocks, minimum subdivision size. Changing the zoning for a given parcel, thus changes the market’s reasonable future expectation of its ability to generate income or capital. Equally clear however, is the certainty of quantifiable future economic capacity, conferred upon the zoned land, via a local development approval or a previously-operable state-based (former) Part 3A consent (refer to Chapter 4, Section 4.4.2). Such approvals confirm with even greater certainty, what the zoning can reasonably be expected to produce by creating a more defined economic outcome for the land.

The value that is created or lost by these applications and manifestations of zoning or planning, necessarily encompasses the privileges of land ownership and its intrinsic “exchange value”, both of which define land as an asset in accordance with its degree of fullest exploitation, in its definable trading sense.

Zoning thus sets the stage for both the land’s actual, as well as its possible, development thereby creating uplift in its value, via the facilitation of the sum total of all opportunity for the approval of uses in the development of the land parcel. When that approval is granted under the system of development control, the value is re-rated and the parcel acquires new benefits, added to the asset.

It is also paramountly important to highlight that the value of the landed asset does not exist solely by virtue of its incumbent zoning and allowablility of development, as conferred upon it by a pseudo-statutory or planning approval. Rather, it has a value beyond these, produced by the certainty and legal dependability of the planning system (e.g. in New South Wales), which provides both permanency and legal dependability as to outcome. It is traded as a commodity defined by the equilibrium between supply and demand.

The rights conferred upon an owner, once zoning or planning approval is instituted however, are such that both zoning and development consent continue with the land indefinitely, even if the land is sold. In reality both zoning and planning limitations do exist, including such matters as zoning reviews and time limits for planning approvals (refer Chapter 4, Section 4.8.3). In general however, the market largely rewards the unequivocal economic certainty of both of these processes, by increasing land value (Hagman and Mischynski, 1978).

Any planning approval in NSW for instance, can be traded as a benefit, adding value to the land and this may be passed on to other subsequent owners to exploit. Thus, the approval is said to “run with the land”, hence adding to its quantifiable value. Accordingly, many free-market advocates caution that for the proper functioning of a planning system to occur, the system should not interfere with those intrinsic property privileges that it has created (Grey and Edgeworth, 2010).

The concept of zoning change creating land value is a fundamental part of this thesis and though not often discussed or documented, is nonetheless not entirely alien to landuse studies carried out in the western hemisphere. In their research into the effect of zoning on land values, Hagman and Mischynski (1978) looked at the various landuse systems in the CANZEUS countries, namely Canada, Australia, New Zealand, England and the United States.

Their discussions of land value increases and diminutions, due to landuse change or development approvals, are thus highly relevant to the topic of this thesis. According to the Hagman and Mischynski (1978) definition, land value increases or decreases, must be other than those caused by the land owner or by general inflation. These tests of value-change have been used with the rezoning and planning examples presented in Chapter 5 of this thesis.

Hagman and Mischynski (1978) also believed that such observations would be more accurate if they related solely to land rather than to improved properties. This is the case with almost all the examples used in this thesis (refer to Chapter 5) and specifically in the derivation of the Empirical Value Change Equation (Section 5.8).

Value is also related to scarcity and the comparative difficulty of obtaining consent for those processes deemed to add value. On this point, stricter landuse controls, according to Hagman (1978), are symptomatic of a new more-pervasive, slow-growth, general environment. Hagman clearly subscribes to the view that zoning changes can both build and erode land values. This is concurrent with the conclusions of this thesis.

According to Hagman (1978), it was the “environmental decade of the 70s that produced most of today’s restrictive subdivision and zoning regulations” and it was the seventies also whence planning became more pervasive and overtly regulatory. Though the reference here is to US patterns, Hagman’s comments apply equally to Australia and perhaps world-wide. It was during this seventh decade of the last century that statutes in the US (and Australia) were created specifically for environmental planning or amended to allow the enforcement of stricter local regulation.

In the US, Hagman (1978) points to the transformation of when many states enacted laws termed environmental protection acts. These had the added effect, which remains today, of granting the states powers to require governmental agencies to enforce environmental laws, empowered by environmental planning statutes. Hagman rightly finds that such regulatory changes, have had the overall effect of artificially inhibiting land development all over the United States, for ensuing decades.

This also bears particular relevance to Australia and New South Wales and the current interaction between planning statutes and land supply. Thus the above citation of Hagman's explication, parallels most closely many observable conditions in NSW and is relevant in developing a more detailed practicable explanation of both how and why land value may be created and destroyed by zoning and planning.

3.9.2 - Zoning Change and Embedded Value

The notion of embedded value, is not widely discussed in published literature on the subject of zoning. It is well covered by US academic Mischynski (1978) (quoted above) however, who certainly concurs with the conclusions of this thesis that zoning can alter both land and property values. Zoning change, in the Mischynski research, is explicitly identified as affecting land value. He postulated that a parcel that is initially zoned for single dwellings, when rezoned for multiple dwellings, would increase in value and that the increase is generally attributable to the zoning change. This is a concept embodied in and central to the research contained in Chapter 5 of this thesis.

Similarly, across the other side of the Atlantic, Britain's prestigious Uthwatt Report, also found that changes in landuse controls, which alter the relative importance of employment centres and housing areas, do create both windfalls and wipeouts in a city, directly in relation to the landuse change (Mischynski, 1978). Mischynski found that zoning policy in a growing city, does ordinarily exert a considerable influence on land values, even if substantially more land is zoned for a particular kind of use than is required at a point in time.

In Australia, this notion of zoning creating and destroying land value was also 0 by the County of Cumberland Plan, when ruling that no compensation was to be afforded to land owners experiencing loss due to “downzonings” or those gaining value due to the “upzoning” of their land. The NSW Land and Valuation Court held, that since the imposed zoning prescribed set uses within the greenbelt, any new buildings in the greenbelt could neither be erected nor used for the purpose of dwelling houses without consent at any rate. Therefore zoning was deemed to be non-compensable, unless it prohibited a use of land in some way unrelated to buildings (*Baker v Cumberland County Council* (1956) 1 LGRA 321). There is a full account of this case in Appendix I, Legal Principle IV Section API 5.1.

It may also be objected however, that property value is directly related to cashflow income derived from its rent. This was the very essence of Alonso’s (1960) Bid Rent Theorem and those of Evans (1985), E. Clark (1995), Vernon (1964) and J. Harvey (1981 and 1996), which have been discussed more elaborately in Chapter 2, in Sections 2.2.1 to 2.2.7. The value of a parcel of rural land according to these theorisations may be assumed to derive from the total discounted stream of farm rents that it might produce until eventually developed, plus the discounted stream of urban rents that it might produce after development, less the discounted amount of any development costs and taxes that are incurred in achieving this outcome.

This would only be true one assumes, in the case of growing cities. It would be unlikely to apply if an urban area is experiencing decline or a dwindling population as such circumstances should not warrant consideration of embedded value based on the likelihood of future development or urbanisation. Also, it is fair to say that the growth in capital values of property is not always related to the discounted cashflow of rental income, and equally that some owners may wait decades and still never experience capital gain. This would be due to a property’s restrictive zoning, its lack of uniqueness or the decline, over time, of areas surrounding the land.

It would also be fair to assume that there would exist many circumstances where capital gain is experienced, not due to the presence of rental income but quite conspicuously in its absence. Examples include the last property boom in Sydney’s residential prices, where nett annual rental yields were less than 2%, but capital gain ran annually at over

12% (Housing Institute of Australia, 2003). Here low rental yields of less than 2% did not deter purchasers, rather they encouraged them due to other factors such as strong employment, the ready availability of credit and strong market conditions for capital growth (Housing Institute of Australia, 2003).

Additionally, there are also situations where in some localities, individuals may own a large-enough share of the local buildable land supply, that they can intentionally withhold part of this land in order to help artificially maintain higher prices in market conditions more akin to oligopolies and cartels than those of the free market. The small tightly-held property market of Townsville (in northern Queensland) is a good example of such market behaviour³⁸. Such market complexities, should suggest to even the most stolid free-market advocate, that the market for land is often much more complex in its dynamics than economic theories are able to describe or predict. It is also often filled with local imperfections and special conditions.

This notion is further expounded by Mischynski (1978), who resorted to the theoretically-purest conceptualisation of market efficiency introduced by Vilfredo Pareto (1848-1923), an Italian engineer and statistician, who proposed that economic efficiency was possible only if it was realisable and able to create a circumstance within a given market whereby some participants were better off, without causing others to become worse off in this period. Thus, in zoning terms, a Pareto-optimal system would mean the enactment only of those zoning ordinances that would create some windfalls for some, without harming anyone else.

Curiously enough the world of landuse control has attempted to embody such Pareto-optimal notions in both its strategic planning and zoning practices, as well as in its compensation principles (refer to Legal Principle I, Section API 5.1 of Appendix I). These Pareto and social formulations of efficiency, have unintentionally or otherwise, come to involve the new and somewhat murky concepts of welfare. Interestingly, planning changes in NSW, now readily encapsulate the notion of a neighbour's welfare and community values, both of which are used as benchmarks before planning changes are introduced universally, within local or state jurisdictions (see Chapter 4, Section

³⁸ Based on the author's own professional experience with a rezoning conducted in Townsville 2009-12.

4.4.4 on planning assessment of impacts). This is also explained in Appendix I under Legal Principles “Zoning and the Concept of Nuisance” and “The Coty Principle” in Section 5.1. The main failing of the Pareto-optimal method of evaluation, has been and remains however, the obvious inability to accurately measure welfare (Miszynski, 1978). There is usually no practical way of evaluating, for any given public action, whether a given change was “efficient”, “optimal” or not. This, in most cases, is the judgement attributable to implemented changes over time.

There are varying ways of viewing this issue of Pareto-efficiency of outcome, as applied to planning in a city, with a veritable multitude of intermediate positions, which may also be deemed realistically tenable. The first viewpoint is amply expounded by the Coase Theorem, whose originator, Ronald Coase theorised in 1960 as to the most efficient means of resource distribution in a system, in the presence of external factors. Coase was the first to argue that all externalities created an equal reciprocal reaction, which must also be applied to the assessment of the impact of any new activity.

In a planning sense, an example may be the impact of odour emissions from a new factory, which may be deemed deleterious to a nearby homeowner. Coase rightly points out, under such circumstances, that impacts should be assessed under the rules of duality that apply to the symbiotic relationship of the odour impact on the resident and the operation of the business (Miszynski, 1978). Thus, smoke emissions from the factory may be deleterious to the resident but by preventing the factory from emitting smoke, its capacity to operate is harmed. This produces a dual-harm relationship that could impact either party. Hence, the more correct question for efficiency analysis, according to Coase, is whether permission should be granted to the factory, thus harming the resident, or whether the system should regulate to allow the resident to harm the factory, by expressly imposing a prohibition on emissions (Miszynski, 1978). Coase suggested in his well-healed theorem that, where harms are obviously reciprocal, that balance needs to be brought to the table, in deciding whether the new development should be allowed and who should be made to bear the cost of prohibiting or restricting new development.

This complex question posed by Coase, was also answered by Glickfeld (1978), who argued that though a government can grant or deny requests for change in statutory landuse control, its primary function was to regulate development permission, in the public interest. Glickfeld thus argued that the right to develop upon land, should always be owned and controlled, by some level of government and that it should never be a right of any property owner. Further, that the decision to permit development, should always be a discretionary function of government or, as has occurred more recently in NSW, a function of statutorily-delegated professional panels (see Chapter 4, Section 4.4.4 on assessment of impacts).

In essence, the question relates to sub-Pareto gain of value by some and the possible loss of value by others, as a direct result of statutory changes implemented by government, in the course of the ordinary metamorphosis of a city. It also relates to one of the fundamental canons espoused by this thesis, namely that the rezoning of land actually changes its value, granting a nett monetary benefit to its owner.

To this end, it is useful to note support of this notion, put as early as 1967 by Marion Clawson, an American resource economics prodigy, who had recognised that rezoning land augmented its value (Glickfeld, 1978). Commenting on the prodigious gains of some property owners made through zoning, Clawson concluded that, even if loss had not occurred to other parties in the course of such changes to the regulations, rezoning land was, in a functional democracy, a high-pressure process that needed to be carefully guarded so as to produce outcomes that are beneficial to all parties involved.

Hagman (1978) recognised the effect on value of rezoning a property but suggested that, in order for greater social equity to prevail, government should redistribute the resultant economic benefits via an ad valorem (in proportion to value) tax on the land. This notion, as introduced originally in The Land and Development Contributions Act 1970, required land owners to pay a levy of 30 per cent of the “increased price or value of re-zoned land...on the sale of the land or on the issue of a development consent” (Roseth 2003, p96) but was subsequently abandoned.

Schnidman (1978) argued almost the opposite, recognising zoning's iniquity of value creation and artificial inflation of land values and its ways of giving benefits to some land owners and not others. Nonetheless even in his condemnation of rezoning as a means of readjusting the city landscape, Schnidman implicitly recognised the value-changing attributes of land rezoning.

3.10 - Conclusion

This chapter has examined much of the available academic literature on the subject of segregational Euclidean zoning in an attempt to capture its main strengths as well as the criticisms levelled at its deficiencies. These have included criticisms of its efficacy, design, economic and social outcomes. This chapter has also summarised the prevailing views on landuse systems, as practiced in parts of the western hemisphere. These necessarily include Growth Management, Urban Growth Boundaries and Urban Containment policies in their various manifestations. The zoning literature reviewed, also contains detailed notes of the zoning process, and a summary of both the criticisms levelled at zoning as well as arguments put forward in its favour. The chapter includes a review of literature explaining the function of growth management systems as administered through zoning, in the context of planning and zoning where such systems are largely conceived and administered. The chapter concludes with an appraisal of the concept of land-value change through zoning, as seen from different academic perspectives, including a wide range of views of how land value may be created or destroyed by zoning or planning change.

It can be concluded from the vast amount of literature reviewed herein that zoning and rezoning have a significant and measurable effect on land value and that this value change actually occurs due to the zoning (or planning) change itself rather than other economic factors.

Thus there is considerable direction in the literature on the notion of land-value change, caused by rezoning, with varying conclusions as to how to deal with the redistribution of the resultant land value capital gains or losses arising from the rezoning process. This thesis is not concerned with who might be the ultimate beneficiary of rezoning

gains but rather with whether such windfalls actually occur as a result of zoning and planning processes and how such value changes are empowered and given effect. To that end, there appears to be a unanimity of view within the literature examined in suggesting that planning and zoning changes, in fact, do have a strong incremental (or diminutional) effect on land value. This view is consonant with the research presented in Chapters 5 of this thesis.

Chapter 4: Zoning and the New South Wales Planning System

The intention with this chapter is to both document the important technical aspects of rezonings and development applications (DAs), as well as to highlight the complex statutory nature of both processes. It is this complexity as well as the time, cost and uncertainty of the final outcome that arguably invests rezonings (and also DAs) with value. It is the land value here that is being changed by a change in permissibility. It is also worthy of note at the outset that due to the large number of acronyms contained and used in this chapter, the standard practice of defining terms once and then using the acronyms throughout, has been balanced by using the fuller expressions in various parts of the text. This was considered helpful for enhancing readability and improving clarity of expression.

4.0 - Introduction

This chapter will review in some detail the New South Wales Planning system. It will commence by elucidating on the Environmental Planning and Assessment Act 1979 (NSW), which governs all land in NSW, and gives effect to all of its zones. In particular, the more relevant sections of the Act are explained with special emphases on those parts of the Act connected with zoning, rezoning and development approval, namely Part 3, (former) Part 3A, Part 4 and Part 5.

The chapter attempts to set out the basis of the statutory and bureaucratic processes by which planning affects value in NSW. There is discussion herein of the instruments of

the Act used in plan-making, including the State Environmental Planning Policies (SEPPs), Regional Environmental Plans (REPs), Local Environmental Plans (LEPs) and (former) Part 3A which governed those projects deemed to be of state or regional planning significant between 2005-2011.

The chapter describes plan-making under Part 3 of the Act, particularly the former s.54 - s.70 of the Act. There is also discussion of the Gateway process for making new local plans or amending existing local plans (LEPs) under the present s.56 of the Act. Discussion is concentrated on all those sections of the Act deemed relevant to the aims of this thesis, primarily in order to elucidate the methodology and the statutory steps involved in the ability to rezone land and approve development upon it.

Part 4 of the Act is also discussed as it is the part of the Act empowering the approval of DAs, which is also connected to several of the examples used in Chapter 5 of this thesis in expounding the notion that zoning creates value. This is also relevant in creating the necessary pretext for the methodology used in arriving at the Empirical Value Change Equation (Chapter 5, Section 5.8). The main purpose herein is to show how the planning system can effect a rezoning or grant approvals that create value.

The chapter also attempts to explain the way in which the planning system actually operates in NSW and the method by which zoning changes are given statutory effect. It also explains the certainty gained in the marketplace through both the zoning and the development approval processes. As land values frequently constitute a large proportion of a project's total value, they often represent a very critical financial component of any feasibility.

There are typically many different stages in value-creation with respect to land specifically and projects generally. It may be meaningfully conjectured that in recent times some of the most significant land-value outcomes in NSW (and also Australia), in the residential, commercial and industrial development sectors, have been those where the value created was achieved through zoning changes, development approvals and

subdivision plan approvals, under prevailing zoning controls³⁹. That was and remains the basis for much of the activity of the development sector.

Many developers, large and small, in the past 20 years have typically sought land sites that had already gained statutory determinations. For such certainty a premium is usually paid; this highlights the complex New South Wales approval process, particularly where projects are financially large or technically complex. This is undoubtedly due to two main factors: time and definitiveness of outcome. A statutory consent allows immediate project construction, and also gives a project a certainty of built-form outcome, rendering it easier to cost, quantify, assess and finance.

This chapter gives a full explanation of the way landuse zoning is administered in the state of NSW. There is also an explanation of how land is rezoned both through the Council-initiated Gateway process (previously the s.54 process) and through the then-important Part 3A legislation and State Environmental Planning Policy (Major Development) 2005 instrument, where certain projects were identified and declared by the Minister as Major Projects. This part of the Act is now repealed. Unlike rezonings affected through the Council-sponsored process, these projects are assessed by the Planning Department and subsequently determined by the Planning Minister. Importantly, (former) Part 3A of the Act (prior to its repeal in April 2011) allowed a project that was wholly-prohibited by the zoning controls to be approved and built because it was deemed to be of state or regional planning significance. This has the same effect as a rezoning in market terms.

The reforms introduced in April 2011 saw (former) Part 3A of the Act repealed and the reversion to the Planning Assessment Commission of many of the determination functions of the Minister for Major Development. It was deemed important to cover (former) Part 3A and its details in full, as a large number of the examples used (Examples 2, 4, 6, 7, 8, 10, 11, 12, 14 and 20 in Chapter 5) in the derivation of the

³⁹ Before land can be used for its commercially-intended purpose, it is necessary for it to firstly be appropriately zoned, then for the owner to gain a further Development Approval (DA) to carry out the intended built form. There is also an intermediate step of Masterplanning the site after rezoning, which is in essence an overarching design and envelope control document. Zoning, DA and Masterplan approvals can all add value to the land as they alter the land's ability to generate income.

Empirical Value Change Equation, contain an approval granted under this section of the Act.

This chapter's key contribution to the thesis is in the explanation offered of how the planning system gives rise to value and value-change, as it relates to development and land generally and also to the 20 rezoning case study examples used in this thesis specifically (refer to Chapter 5). The planning system and its complex set of rules and instrumentalities, is and remains key to unlocking land value, particularly in the state of NSW.

The main items of legislation relating to the rezoning and development approval processes in the state of New South Wales are detailed below.

4.1 - Planning in NSW: The Environmental Planning and Assessment Act 1979 (NSW)

The Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act) was enacted by the then Wran Government to encourage the proper management, development and conservation of natural and artificial resources for the official purpose of promoting the social and economic welfare of the community including a better environment. With the EP&A Act also came the advent of the Land and Environment Court and new and open standing provisions allowing for community involvement and enforcement. These legislative changes were once described as “trail-blazing” (McBride, 2008), but are certainly accepted by all parties today.

4.2 - Planning, Zoning and Local Government

Due to its importance in the approval process for both rezonings and DAs, it is important to explain briefly the role of local government and its function. There is often much at stake for all parties under the statutory over-complexities and political and legal machinations of changing landuse zones in New South Wales today. There is, by

anyone's definition, a plethora of government rules and regulations at both the State and the local levels.

The municipal level also involves accentuated political and community influences. This dictates that community expectations for most large projects need to be effectively managed and the process adequately, publicly and politically explained, in order to achieve a satisfactory final outcome for both proponents and the public (Williams, 2007). A very common complaint by governments and industry alike, is that even the best projects, when requiring a land zoning change, are not able to be approved in an appropriate timeframe.

As of 2012 in New South Wales, there was a total of 152 Local Government bodies, of which 43 covered the Sydney Metropolitan Area. These all legally and jurisdictionally exercise planning and municipal functions and powers over their geographically-defined territories. By legal design, all local government in NSW operates at both the elected and bureaucratic levels and implements an intentional "division of responsibilities" in the operational sense. This involves the segregation between publicly-elected community representatives, who usually possess no legal, technical or planning expertise, and non-elected officers with technical qualifications who are vested with the responsibility of assessing planning and rezoning proposals and reporting them to the elected officials, headed by a Mayor. This, for the best part of 30 years, has been the method by which landuse planning, zoning and development has been administered and given legal force in NSW.

Yet planning cities like Sydney for perfect functionality, utility and beauty is a near-impossible pursuit. In the life-cycle of a city, planning can at best, only assist in creating the patterns required for a proper social order and functional harmony to occur within the geographical space. Filling the voids that constantly appear in an ever-evolving and burgeoning planning system, is manifested more in the political and financial shortcomings that result from the inevitable undervaluing of the future by short-term decisions. Effective planning, as numerous commentators have expressed, should be strenuously obliged to both longevity and comprehensiveness, a prodigious challenge given the comparative brevity of both political and budgetary cycles. So is

state-wide planning best-suited to a state-based act like the EP&A and the local government system, or has delegated planning proven an unabridged failure?

Some like John Friedmann (1965) posited that to uphold the principle of comprehensiveness, functional programmes must be consonant with a city-wide system of delegated planning and subordinate reporting as is the case with planning's current administration through the EP&A Act today. Gans (1970), a strong believer in state-wide planning controls, predicted an ideal where zoning ordinances would create order, efficiency and beauty; such planning, he believed, would eliminate poverty and socio-economic stratification, social pathologies, pollution, improve public services, whilst simultaneously advance better decentralised patterns of urban living. Whether an indomitable success or an abject failure, the EP&A Act 1979 was introduced in 1980 to formalise equitably such civic ideals.

4.3 - Defining Planning and Zoning in the Context of the EP&A Act

4.3.1 - Environmental Planning and Assessment Act 1979 (NSW)

It is perhaps necessary, given the reliance of this thesis on examples based in NSW, to look at how landuse zoning and development control is treated within the EP&A Act. Landuse zoning in NSW is pervasive and is administered largely through Local Environmental Plans, all empowered by the EP&A Act. The Act first began operating in its current form in 1980. Whatever the rationale for a zoning amendment, it must be carried out under the auspices of the EP&A Act, which empowers all LEPs and governs all zones in New South Wales.

The Environmental Planning and Assessment Act 1979 (NSW) was somewhat of a revolution when first enacted by the Wran Labor Government in 1979. It was the first statutory enactment of its kind in Australia to attempt structured landuse management for both land development and environmental protection. To that end, there is probably little conjecture that such a statutory enactment was necessary for creating more ordered landuse patterns and higher levels of certainty for the community. It has also arguably formally defined the ability of land owners to have clearer guidelines for development

permissibility, through both the zoning and development approval systems. Also, in another first, the EP&A Act of NSW also introduced the advent of merit-based appeals in a new independent Land and Environment Court. The NSW EP&A Act was in many respects, a historically-defining legislative event in the evolution of Australian environmental planning law, primarily due to the fact that it introduced a large range of legislative measures, that have not only stood the test of time, but have since been emulated all around Australia (Gurran, 2007). This legislative definition of rights and obligations is readily exemplified in the landmark judgements handed down by JJ Cowdroy, Stein, Cripps and Preston (Such as Justice Preston's ruling in *Meriton Apartments Pty Ltd v Minister for Urban Affairs And Planning* (2000) ⁴⁰107 LGERA 363; [2000] NSWLEC 20).

Firstly, it was successful at agglomerating many disparate planning and environmental issues into the one piece of legislation. Secondly, it expanded the focus of planning decisions into social and environmental concerns. Thirdly, it made mandatory the carrying out of environmental assessments for projects, likely to significantly affect land or its surrounding amenity. It also properly allowed for certain "designated developments" to require more expanded assessments such as Environmental Impact Statements (EISs) and public-body referrals. Equally, other developments, if deemed State Significant Development (SSD), would be assessed by the Department of Planning (DoP) and determined by the Minister. Further, it brought the enforcement of planning and environmental regulations by public agencies, under the auspices of one assessment process and also one court, the Land and Environment Court of NSW.

⁴⁰ In this case the issue of lawfulness of an LEP was challenged. It related specifically to the provisions of the South Sydney LEP 1998-Green Square and the Green Square Affordable Housing DCP, which required developments approved by the Council, to impose as a condition of consent a new affordable housing contribution, in the form of cash or apartments. Cowdroy J found the provisions to be invalid because the imposed provisions were beyond Council's powers and could not have been reasonably adopted to fulfil the LEP's statutory objectives as it was so widely drawn in including a field of operation quite disconnected from the objectives of the LEP and therefore beyond its power".

The EP&A Act is administered by the NSW Department of Planning⁴¹. The Minister responsible for the Act is the Minister for Planning. The main purpose of the EP&A Act, is to set out the process for making local and State plans (strategic planning), and to establish rules for the assessment of development applications. The NSW EP&A Act, empowers all State Environmental Planning Policies (SEPPs) and Local Environmental Plans (LEPs). These all derive their legislative and operative powers from the statute itself. Together these constitute the enmeshed fabric of landuse planning in NSW, and are relevant to this thesis because they all relate to the ways in which the rezoning and planning examples were approved.

The EP&A Act also enabled legitimate public objection to have a legislated right of review on the merits of decisions to which they had objected. This was especially important in the case of Designated Development. The EP&A Act also clarified Ministerial power allowing ministerial “call-in” of any development application lodged with a local government body. The Minister usually would do so however, only if such projects were deemed to have state or regional significance.

The EP&A Act is accompanied by the Environmental Planning and Assessment Regulation 2000 (NSW) (EP&A Regulation). The Regulations provide much of the detail to support the provisions of the Act. While the Act is primarily constituted of legislation made by the Parliament, the Regulation is “delegated legislation” and is made by the Executive arm of Government. Provisions in Regulations are more easily introduced and changed.

In 2008, major amendments to the EP&A Act 1979 (NSW) were introduced. These were aimed at both simplifying the plan-making process and investing it with greater flexibility. A new “Gateway determination” process was established to streamline both the planning and plan-making processes. This has probably been a positive amendment, with the Gateway currently functioning as a “planning triage” to effect a preliminary

⁴¹ The NSW Department of Planning was the name applicable to the department responsible for administering the EP&A Act 1979 (NSW) and responsible to the Planning Minister in NSW during the time of authoring of this thesis and also the period of time governing the empirical evidence presented in Chapters 5 and 6 of this thesis. The name applicable to the Department has changed several times since 1979 but its function and administration of the Act has remained the same.

assessment of rezoning and LEP amendment applications. Example 18 (Chapter 5) Jacaranda Ponds, is one such example of the use of the Gateway process in a rezoning. Examples 13 and 17 are examples of applications which were approved by the JRPP⁴². Also Examples 7 and 8 were both determined through the PAC⁴³ process. Examples 13 and 17 are examples of applications which were approved by JRPP. These all exemplify the connection between the 20 case studies used in this thesis and various parts of the Act. The amendments to the Act introducing the Gateway process, the PAC and the JRPP can be summarised as follows:

- Creation of a new “Gateway” process for the making and amendment of Environmental Planning Instruments, introduced to speed up LEP amendments and gazettals;
- Formation of a new body, known as the Planning Assessment Commission (PAC), to advise the Minister on proposed developments and (former) Part 3A applications and if so directed, determine certain applications;
- Establishment of Joint Regional Planning Panels (JRPPs) to act in place of councils in relation to regionally-significant development and to determine applications for developments greater than \$10 million in value (more recently \$20 Million);
- Standardisation of State-wide Exempt and Complying Development Codes for residential and commercial development; and
- Introduction of tighter accountability mechanisms for private certifiers.

These reforms were still all operative as of April 2012 and were highly significant because they invested (former) Part 3A and Part 4 powers of determination regarding development approvals, with professionally appointed panels rather than elected bodies. Although Part 3A was formally repealed in April 2011, it was deemed important to

⁴² The JRPP is a Joint Regional Planning Panel as defined under s.23G (1)(g) of the EP&A Act as a consent authority appointed by the Minister for the approval of DAs.

⁴³ The NSW Planning Assessment Commission (PAC) is a statutory body established under the EP&A Act (s. 23G (1)(f) in November 2008. The Commission’s functions include the determination of development applications if matters are delegated to it by the Minister, and the provision of independent expert advice to the Minister.

include in the analysis of the Act, as it relates to many of the examples covered in this thesis.

4.4 - Morphology of the Act

By 2011, prior to the repeal of (former) Part 3A, there were thirteen parts to the EP&A Act. The ensuing table encapsulates the broad provisions in each of the main parts of the EP&A Act 1979 that relate to the themes of this thesis. These are as follows represented in Figure 4.1:

Figure 4.1- Planning and Development Approval Regime in NSW

PART 3 Land use planning	PART 3A Major infrastructure and other projects	PART 4 Local development	PART 5 Environment Assessment
Provisions to update local environment plans – consistent with LEP template – all updated in 5 years. Provides for one DCP per site – may apply across LGA or a specific site. Provides timeframe for determining DCP or applicant can lodge a staged DA.	Provides for integrated assessment of major projects – removing need for separate approvals. Concept approvals for major projects, plans and programs. Critical Infrastructure projects require concept approvals and no appeals. IHAPs provide for increased rigor and independence of assessment – provide for public hearings.	Clarifies and strengthens staged DAs provisions – can replace need for DCP. Extends integrated approvals to mines and petroleum production.	Extends determining authority role to integrated assessment. Exempts from s.111 routine works undertaken in accordance with approved code.

Source: NSW Department of Planning, 2005

When commenced in 1980, the EP&A Act 1979 (NSW) contained nine parts that covered the making and assessment of plans and development in NSW. The most relevant parts of the EP&A Act, as they relate to planning, zoning and development assessment, as may be relevant to the examples contained in Chapter 5 and approved

under the various sections of the Act, were Part 3, 3A (which covered Major Development in NSW 2003-2011), 4 and 5. These are summarised in the sections below in order to better explain the main statutory mechanisms giving rise to value creation through the changing of zones or granting of development or Major Project consents.

4.4.1 - Part 3: Environmental Planning Instruments (EPIs)

In Part 3, the Act details the governing statutory rules for the making of environmental planning instruments. It is through environmental planning instruments, that zoning is given force in NSW. Part 3 also deals with the power within planning instruments for the declaration of Designated Development; Advertised Development; consents; concurrences; and prohibitions. The standardisation of planning instruments is also covered extensively in Part 3 of the Act. The ability of Environmental Planning Instruments (EPIs) to suspend laws in order to enable development or contain certain provisions for the enforcement and administration of desired outcomes, is also set out in this part of the Act. This includes the plan-making processes for Local Environmental Plans and State Environmental Planning Policies and also the statutory processes for the repeal, review and staging of Environmental Planning Instruments. The plan-making provisions of the Act under Part 3 bear relevance to all the rezoning examples in this thesis, particularly Examples 1-8, 10-12, 14, 15 and 18-20.

The Act in this Part also deals with the public advertising of instruments and the special consultation required when threatened species are identified in an area. It sets out the necessary provisions for developing land in areas covered by the Sydney water catchment; the validity of instruments; the hierarchy of instruments; the resolution of inconsistencies between instruments; with particular emphasis on the methodology by which EPIs may be amended.

Part 3 also deals with the legal formulation of State Environmental Planning Policies (SEPPs); Local Environmental Plans (LEPs) and Development Control Plans (DCPs) by authorities, including consultation and the powers of delegation able to be exercised by the Minister. Sections 56-59 of Part 3 bear specific relevance to the rezoning of land in

NSW and describe how planning authorities, or the Minister, can make or amend environmental plans. Section 56 covers the request to make or amend a local plan in a process known as the Gateway, discussed further in Sections 4.6 and 4.8.3 of this chapter.

4.4.2 - Part 3A: Major Infrastructure and Other Projects (Repealed 2011)

Though now repealed, (former) Part 3A was another significant, and once commonly-used, part of the Act. It applied to the approval of all major development and infrastructure projects in New South Wales. In (former) Part 3A, the Act set out in some detail, the assessment process for major infrastructure and other projects considered by the Minister to be of regional or state planning significance.

Within (former) Part 3A, Section 75B of the Act, described the type of projects that could be declared by the Minister as projects to which (former) Part 3A of the Act applied, namely:

1. Developments declared under (former) Part 3A;
2. Developments declared by a State Environmental Planning Policy; or
3. Developments which by order of the Minister, were published in the Gazette.

It is also important to explain that former Part 3A of the Act set out a separate procedure for assessing and approving major projects than that administered under Part 4. The intention of this part of the Act, had been to make the implementation process for significant projects more efficient. It, amongst other things, removed the requirements for obtaining other authorisations in order to carry out an approved project. Unlike Part 4 approvals, the Minister had to approve a former Part 3A project, before development could occur and it had to meet minimum Capital Investment Value (CIV) thresholds for each category of development. For large residential and commercial projects, such developments had to have a CIV excluding land, of over \$100 million.

The former Part 3A was originally introduced in conjunction with amendments to SEPP (Major Development) 2005 (now repealed). One of the aims of the SEPP had been to identify those developments to which former Part 3A of the Act would apply, including the identification of critical infrastructure projects. The most important clauses in this SEPP included Clause 6, anecdotally referred to as the “Declaration Clause” because it was the clause that the Minister used to declare that a project was one to which former Part 3A of the Act applied. The Major Development SEPP defined those developments that may have been assessed as Major Development, for consideration under former Part 3A of the Environmental Planning and Assessment Act 1979 (NSW) and determined by the Minister for Planning, rather than local authorities under Part 4 of the Act.

The SEPP set out in detail, the criteria for the type of development which may be deemed as a (former) Part 3A project. This included development that, in the opinion of the Minister, was development of a kind referred to in Schedule 1 (Classes of Development) or Schedule 3 (State Significant Sites) declared to be a project to which former Part 3A of the Act applied. Amongst the main advantages of such a declaration, projects acquired a more-defined pathway and hence a shorter and clearer assessment timeframe. The process, unlike Part 3, had appeal rights for land owners at certain junctures and the assessment included more centralist objectives so as to be less influenced by local opinions and views. Examples 3, 5, 12 and 17 as detailed in Chapter 5 of this thesis, are examples of projects to which former Part 3A of the Act had applied.

The SEPP also set out statutory planning provisions for those special areas deemed by the Minister to be State Significant Sites. The SEPP additionally identified those local consent functions that may be carried out by the Joint Regional Planning Panels (JRPPs), who were given Part 4 powers to determine projects with a value of over ten million dollars (later twenty million dollars). This was a role which had previously been reserved for local councils.

A full list of all the types of development that the SEPP considered to be Major Development to which former Part 3A applied, are listed in Appendix IV SEPP (Major

Development) 2005. It clarifies in part, the categories under which the former Part 3A approvals discussed in Chapter 5 were gained (see Table 5.13).

The SEPP defined in greater detail, these specific classes and types of developments, to which the development assessment and approval processes under former Part 3A of the Act would apply. The SEPP divided former Part 3A projects into the following categories:

1. Projects listed in Schedule 1 (e.g. hospitals, universities and ports).
2. Specific sites listed in Schedule 2 (e.g. coastal areas, Chatswood Railway Exchange, Newcastle's Honeysuckle and Sydney's Fox Studios).
3. Developments on State Significant Sites listed in Schedule 3 (e.g. the Sydney Opera House, the Luna Park site, the Channel 7 site, The Redfern–Waterloo Authority sites and the Barangaroo site).
4. Critical infrastructure projects listed in Schedule 5 (e.g. Kurnell Desalination Plant and the Royal North Shore Hospital redevelopment site).
5. Schedule 6 projects which made the Minister the consent authority for Part 4 development for sites such as those of the Sydney Harbour Foreshore Authority sites.
6. Schedule 7 Development that did not require consent under Part 4 (e.g. Port and related employment lands such as: Glebe Island).

Fundamentally, the introduction of (former) Part 3A of the Act allowed the new provisions and those of the Major Projects SEPP, to over-rule any Local Environmental

Plan so that all large projects would come directly under the control and consent of the Minister. Parts 4 and 5 of the Act did not apply to these projects.

Former Part 3A also applied to all projects relating to critical infrastructure. Once approved by the Minister, projects such as major roads, gas-fired power stations and desalination plants, were not subject to appeal. This could either be viewed as a great benefit in terms of economics and speed of approval, or conversely a dangerous autocratic process, lacking democratic balance.

Under former Part 3A, the Minister could approve either a Project Application or a Concept Plan for a project. A Concept Plan approval granted proponents the certainty of an approval and acted much like a masterplan. Subsequent more detailed project approvals would still be required for each of the stages of the project and these could either be approved by the Minister or sent to the appropriate Local Government body for the granting of development consent. Concept Plans were not able to be challenged by third parties.

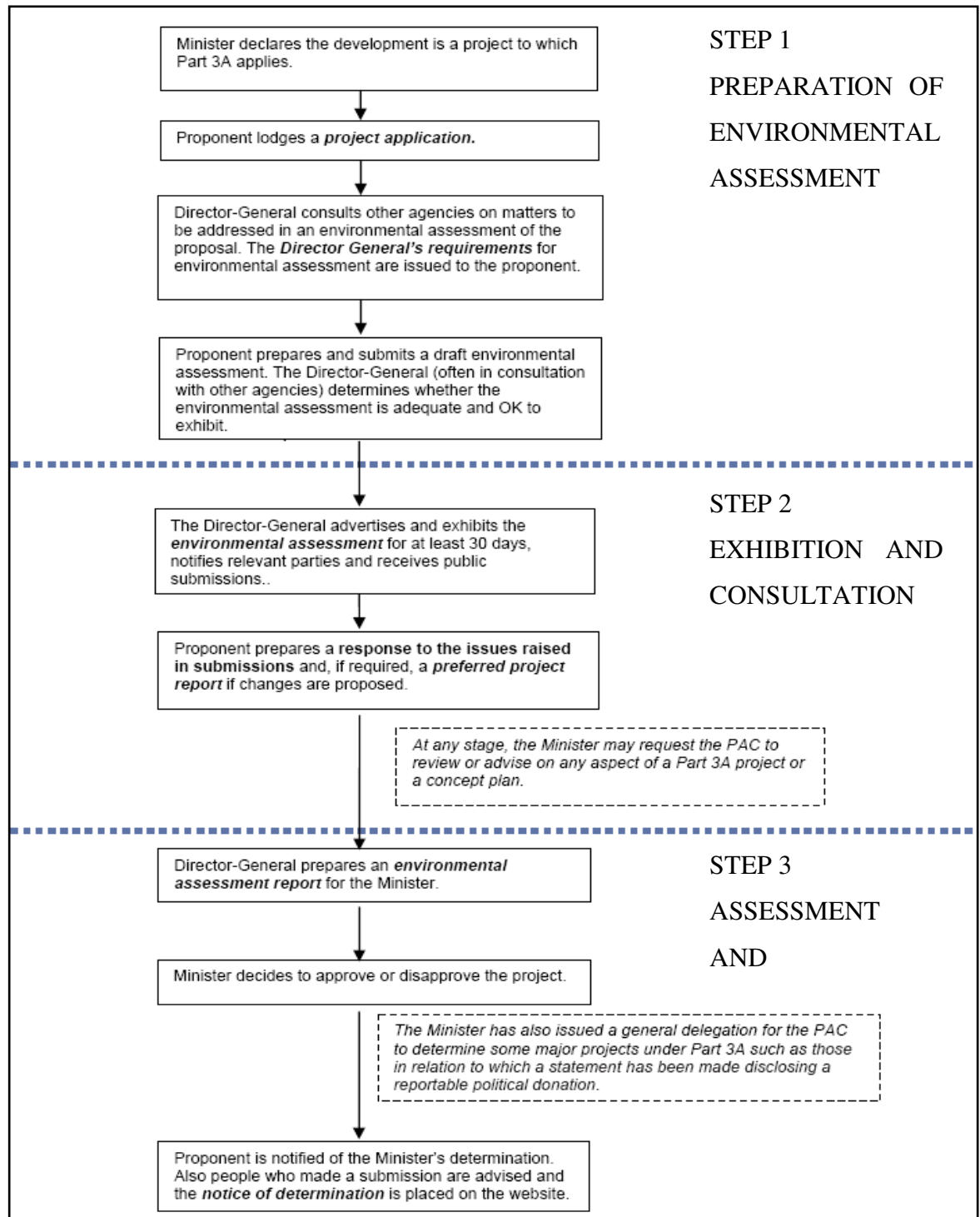
Having both local and state systems of assessment can perhaps be credited for improving the efficiency and certainty of assessment for individual proposals, with arguably fewer assessment delays. It also afforded significantly-sized projects another approval pathway, better suited to their size and value. Proponents and the government were both able to draw on the greater resources of Departmental staff and systems, as opposed to the more limited assessment abilities at the local level. The benefits arising from Departmental assessment, according to some, included a better-defined and more timely evaluation process. Despite both public support and criticism of former Part 3A, there is probably strong anecdotal evidence to suggest that it had produced measurable improvements in the processing and approval time for large projects, including those of state infrastructure. It had almost certainly also created greater state government input into economic development, with significant potential time savings for employment and capital-intensive projects.

Amongst the many criticisms of former Part 3A, were the loss of appeal rights, reduced public involvement and the lack of transparency of the decision-making process (Carr, 2007). Also, due to the concentration of power in one person, namely the Minister for

Planning, it had arguably made the process more susceptible to influences which may promote corruption. This, of course, may be equally true of both the Council-based approval and rezoning process(es) under Part 3 and Part 4 of the Act respectively.

The below diagram (Figure 4.2) delineates the three major sections that a project application which had fallen under previous part 3A of the Act, would have needed to proceed through, from project declaration to ministerial determination.

Figure 4.2 - (Former) Part 3A Project Assessment: Typical Steps



Source: NSW Department of Planning October 2009b, p. 4

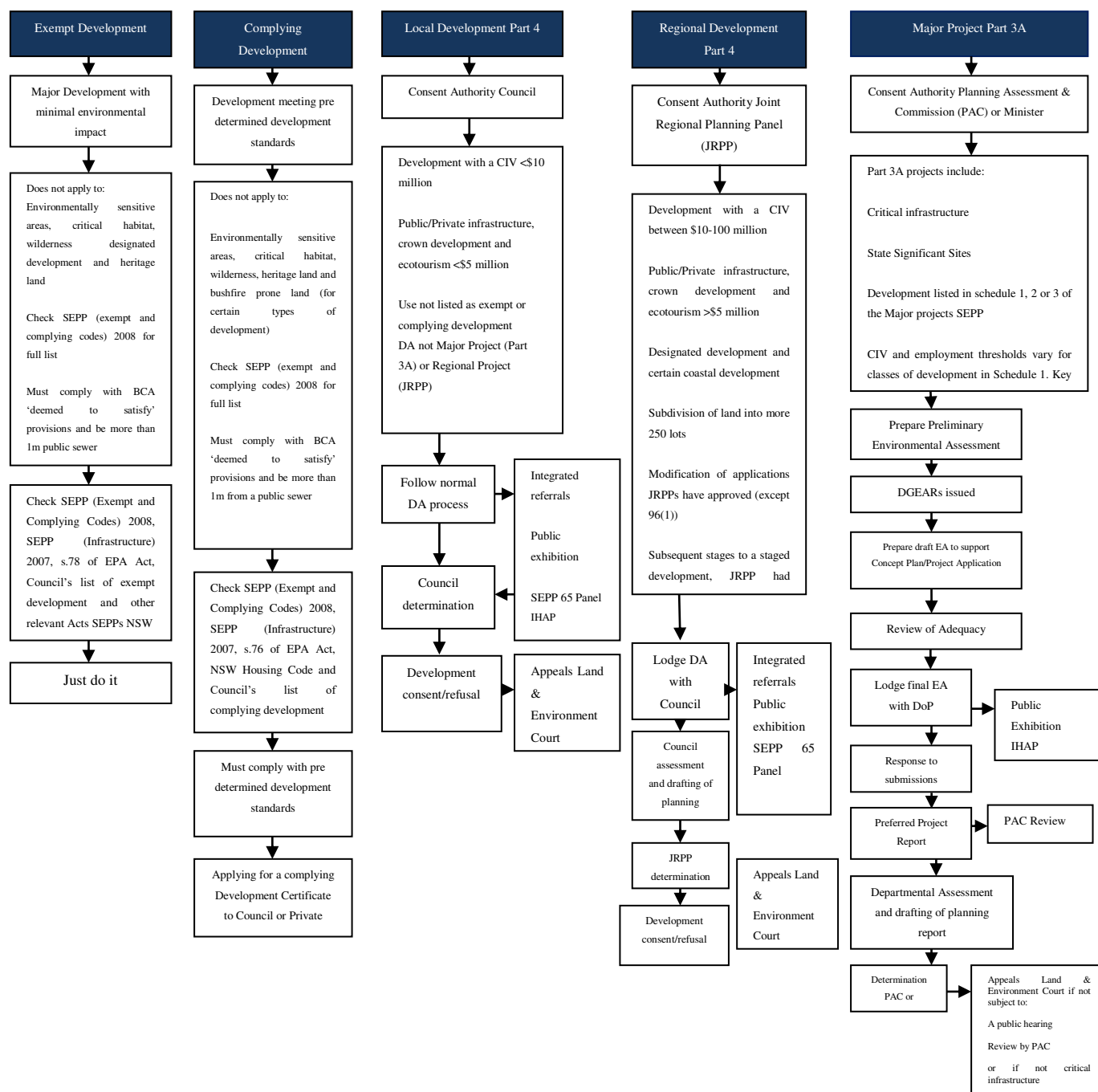
4.4.3 - Part 4: Development Assessment

Development Assessment has always been a very central part of landuse planning and indeed of the EP&A Act. In Part 4, the Act sets out the process for assessing and approving development in NSW. This part of the Act describes development which requires development consent in accordance with its zoning, as set out in the Local Environmental Planning Instruments of local councils. Part 4 outlines the process of assessment for all development including that which may be approved with consent; that which does not require consent; or that which is prohibited. An Environmental Planning Instrument such as a Local Environmental Plan, is used to determine whether a development falls under any of the above-three classes. When an EPI is made, the following elements must be considered: the impacts of different types of development; the ability of a particular area to support development including its impacts; and the desirability of different forms of development on particular parcels of land.

Some development that requires consent may be deemed Complying Development. An EPI or DCP specifies whether or not a certain type of development is Complying Development, usually if it meets set development standards. If a proposed development requires consent however and it is not a Complying Development, the submitting party must make a development application to the consent authority. Development may require development consent but also more than one other approval from other authorities. This is known as Integrated Development. This was another category introduced into the EP&A with the aim of making the process of obtaining multiple approvals, more efficient.

As Figure 4.3 overleaf shows, there have until recently been five ways in which development assessment can take place in NSW. These are the taxonomies of: Exempt Development; Complying Development; Local Development; Regional Development; or if the application had been deemed a Major Project.

Figure 4.3 - Development Assessment Process in NSW



Source: Urbis Pty Ltd, 2010

4.4.4 - Part 5: Environmental Assessment

Part 5 of the Act sets out the process for the environmental assessment of certain activities where the proponent is a public authority, requiring no DA to be lodged but requires some form of approval. Part 5 also includes the provisions for activities carried out by government agencies and public authorities. Under Part 5, assessment is generally needed if a project requires approval by a public authority. With applications for activities under Part 5, the Act requires determining authorities to stipulate that an Environmental Impact Statement (EIS) is undertaken prior to the granting of any approvals under Part 5 which are likely to have a significant effect on the environment. This Impact Statement, prepared by the proponent, must be carried out to determine whether the proposal negatively affects the environment, critical habitats or threatened species, before consent may be granted.

Although Part 5 did not play a part in any of the approvals granted for the 20 case studies examined in Chapter 5 of this thesis, it is nonetheless important to mention briefly, because EISs are sometimes required by rezoning authorities, particularly if the land is contaminated or threatened critical ecological habitats exist on the land or surrounds. For rezonings, the usual requirements were for (1) a Local Environmental Study (LES) previously; now: (2) a Planning Proposal (PP).

4.5 - Zoning in New South Wales

In the general context of the overly-complex nature of plan-making within Australia, the focus of this thesis is directed specifically towards zoning and zoning change within the state of New South Wales. Elements of planning within NSW, both strategic and statutory, are applied through Environmental Planning Instruments (EPIs). Every local instrument is conferred status by the all-encompassing Environmental Planning and Assessment Act 1979 (NSW) and these “are legally binding on anyone applying for development consent and of decision-makers” (Ed. Farrier and Stein, 2006, p. 67).

As both strategic planning and the implementation of zoning are directed through the two main environmental planning instruments, the SEPPs and the LEPs, these are the

main focus of this thesis. SEPPs govern both projects and sites that are deemed significant to the state and people of the state of New South Wales, but SEPPs do not necessarily contain zones or zoning maps. A full list of the main SEPPs currently in force in NSW can be found in Appendix III. This list includes State Environmental Planning Policy (Major Development) or SEPP (MD), which was repealed in 2011.

Lower in the hierarchy are LEPs, which guide local planning. These universally incorporate the mapping, definition and administration of land use zones, specifically detailed and delineated for each Local Government Area (LGA). It is the highly-legalistic and complex nature of LEPs which dictates that for a new plan to be successfully made (or amended), significant resources must be placed into its creation and any follow-up amendment. This is equally true of all zoning changes, as they all constitute amendments to statutory instruments.

It is perhaps this very complexity and difficulty of change that confers upon zoning part of its value and why rezoning land to “Higher-and-Better” uses may give the new zoned land a value uplift (Misczynski, 1978).

4.6 - The Rezoning Process in NSW

As discussed earlier and in Chapters 2 and 3, both the appropriateness of zoning and of categories within a plan, are understandably an on-going subject of debate. There is, in every healthy and evolving system, a continual need for the review of zones and plans, both for individual parcels and also periodically. Given this generally-accepted requirement for statutory renewal, it is certainly the case that all 152 LEPs in NSW no longer use the same original LEPs or ordinances that first came into operation (Ed. Farrier and Stein, 2006). This phenomenon of statutory zoning amendment is more commonly referred to as a “rezoning” and has proven itself to be both necessary and common in the context of all Australian planning systems including those of New South Wales.

A rezoning or amendment to a Local Environmental Plan, is a legal planning process which, when complete, may alter the type of activities permissible (with or without

development consent) on a site. The process for rezoning land is formally set out within Part 3 of Environmental Planning & Assessment Act, 1979 (NSW), as amended.

Rezoning is necessary perhaps not only because a specific land use needs changing, but also because they are made imperative by the financial incentives of property, an important driving force of a free market⁴⁴. Thus as a landowner finds that a use or development becomes financially attractive by new market conditions, but is prohibited in its zone by a planning instrument, the only option is to obtain an approved zoning amendment (Stein, 2008). Most rezonings however, depending on the state of Australia and the Local Government jurisdiction they are under, can take several years to be effected. Stein points out the means of achieving a rezoning in the following terms:

...the steps in the rezoning process vary in each state but generally consist of an initial decision of the local council to advertise the proposal, then advertising for submissions in the newspaper or on the site, the receipt of submissions, the creation of a draft planning instrument if the planning authority decides that the proposal has merit after the submissions, a *report on the proposal by the planning authority's experts*, and finally a submission of the draft instrument to the Minister (2008, p. 41).

As outlined above, the traditional process for a spot rezoning is de facto, that of the creation of a new LEP, only on a smaller scale. This ultimately means that there must be a great amount of detail contained within all spot-rezoning LEP amendments. More recently however, there have been amendments to this traditional statutory process, with the recent introduction of the Gateway process (introduced in 2008). This has repealed Sections 55-70, of the EP&A Act which had previously governed the LEP-making process. The amendments reduce the amount of initial documentation required, before a determination is made to proceed with a new LEP (or amendment to an existing LEP).

⁴⁴ It is important to also point out here that rezonings occur for a range of non-market reasons and not just those of financial incentive. These include rezoning for open space, community outcomes and others. Here the value transformation is not as important.

The Gateway process is more fully explained in Section 4.8.2 and Figure 5.6 of this chapter.

Both the traditional method (known anecdotally as the “s.54 Process” of rezoning because it commenced at s.54 of the Act) and the newer Gateway process, necessarily involve public consultation, during the exercise of amending or making of an LEP. This is a statutory requirement under the EP&A Act 1979 (NSW). The advertising period is usually 30 days (as stipulated in Part 4, Section 79 of the Act).

4.7 - Rationale and Ways of Rezoning Land in NSW

It is indeed fair to assume that within NSW, rezonings are regularly carried out for a number of reasons. Firstly, this process of rezoning land clearly occurs because there are various and changing demands that arise within a growing city and many jurisdictions within it. Many councils may not have allowed or planned for new development, across several use categories, to take place within the boundaries of their municipalities. Rezoning also takes place because the plan-making process is designed to encapsulate revision. This ensures that LEPs remain legally in line with SEPPs, Departmental Circulars and Section 117 Directions (directions by the Minister; see Section 4.8.5), thus eliminating any obvious inconsistencies that require documentation and justification, at the plan level (Ed. Farrier and Stein, 2006). They also occur for a variety of community, public benefit and other non-profit-based reasons which will not be covered within the auspices of this thesis.

The NSW Department of Planning also typically allows a number of individual LEP amendments by local councils every year, on this very account, namely orderly book-keeping. These are sometimes assessed against set criteria but most are judged on individual merit. The following chapter in this thesis (Chapter 5) looks in greater detail at some well-documented case studies of where land has undergone such a zoning change by both local and state authorities from a value perspective, many of which are termed as “spot rezonings”, through both the state and local approval processes.

There are two main ways that have governed the rezoning of land in NSW in recent years: the first was, and remains, through the lodgement of a formal planning proposal resulting in a request to amend an LEP by a Council. This was formerly known as a s.54 process. Alternatively a rezoning could have occurred through a Major Project declaration by the Minister under (former) Part 3A of the EP&A Act, whilst that part of the Act was operational.

The planning system in NSW relies primarily on empowering Local Environmental Plans, which carry statutory force, to implement and guide land use. These plans determine the areas in which various types of development can be permitted and the ultimate uses to which the land should be put, including the density and form of the outcomes. Local Environmental Plans (LEPs) also specify which areas are to be dedicated to open space and those requiring conservation or protection. It is the planning controls empowered by these LEPs that permit development outcomes on land and hence the creation of value.

It is generally through LEPs that the principal planning instruments permitting amendment for a zoning change, are given legal force. There were also for many years Regional Environmental Plans (REPs), which provided another layer of planning control over land. These ranked higher than LEPs and despite being recently repealed, some remain in force, continuing to operate as deemed SEPPs. In addition to LEPs and REPs, there are always SEPPs whose requirements also need to be fully satisfied. It is important to highlight that SEPPs override REPs and LEPs in the planning legislative hierarchy.

Today the rezoning of a land parcel (with or without improvements) in New South Wales, is performed under the Gateway process (Section 56 of the Act) but was previously administered under the “Section-54” process. This and the other methods of rezoning land are discussed in the ensuing sections of this chapter.

4.8 - Land Rezoning Process Prior to Gateway, 2009

In July 2009, the NSW Government changed through legislation both the way in which LEPs were prepared and approved. The new system, which continues today, is known as the “Gateway” plan-making process.

Rezoning land effectively involves changing delegated legislation such as LEPs. In the case of either a statutory body such as a Council, or simply a landowner initiating and completing a rezoning, the process is almost identical, as the planning instrument must still undergo formal amendment. Prior to the introduction of the Gateway process, the older Section-54 method of amending an LEP, dictated statutory steps which typically followed the process outlined below. These steps are valuable for comparative purposes and for completeness of the analytical commentary under the rubric of the land rezoning process. It is also relevant to some of the examples used in Chapter 5 of this thesis.

Under the old Section-54 rezoning process, a proposal typically underwent the following steps:

1. Applicant gains control of land via option, joint venture or outright purchase. If the applicant is a council, the council must formally resolve to apply for a rezoning under s.54 of the Act.
2. Applicant then decides on the merits of a zoning change and may prepare a detailed Local Environmental Study (LES) that outlines the justification of the rezoning, as well as documents setting out the architecture, planning, traffic, hydrology, fauna and flora, parking, heritage, community consultation and other technical supporting documentation for the rezoning.
3. Applicant then submits a rezoning proposal to Council staff, who commence the technical assessment of the rezoning. A rezoning proposal is a formal request to amend an LEP and involves strategic and statutory planning as well as technical considerations.
4. Council officers complete the merit assessment and report the proposal to the elected officers of Council for ratification.

5. Council's elected officials consider the overall technical and public interest merits of the rezoning and vote on whether to proceed with the preparation of a draft LEP (a Section-54 Certificate under the NSW Environmental Planning and Assessment Act 1979 is requested from the Department of Planning).
6. A Section-54 request is then sent to the New South Wales Department of Planning, who decide whether the requested rezoning should be permitted and advise Council to discontinue the process or proceed to the exhibition stage (under Section 65 of the Act). If the decision is not to allow the Section-54 step to proceed, then the rezoning is sent back to Council for review.
7. Council staff then assess the application further and refer it to various government and statutory authorities for comment under Section 62 of the Environmental Planning and Assessment Act 1979 (NSW). These typically include the Roads and Traffic Authority (RTA) (now the Roads and Maritime Services or RMS), Sydney Water, Energy Australia, the NSW Office of Environment and Heritage (OEH) and the Environmental Protection Authority (EPA).
8. A Report to Council to consider the exhibition of the Draft LEP is then made under Section 65 of the Act.
9. If Council votes to approve the Section 65 request, then this is sent to the Department of Planning for permission to exhibit the amended plan (Draft LEP). This is typically referred to as the "Section-65 Certificate" or the "Certificate to Exhibit" an LEP.
10. Council is then formally notified of its ability to do so and exhibits the Draft LEP for a statutory 28-day period during which it receives public comment.
11. Following public and statutory comments, a full report is then presented to the elected councillors who vote on whether to adopt the amended LEP or not or whether to amend it further.

12. Council then sends a request to the Department of Planning asking permission to exhibit the draft new LEP under Section 65 of the Act. The Department then grants permission for exhibition under Section 66.
13. A report is then prepared under Section 68 to the Director General of the Department of Planning summarising the consultation process with the public and the statutory authorities.
14. After an internal legal team known as Parliamentary Counsel checks the legal veracity of the amended instrument, the Director General of the Department of Planning prepares a report under Section 69 to the Planning Minister.
15. The Minister signs the amended instrument (LEP), forwards it to the Governor for signature and asks for the new instrument to be published in the Government Gazette.
16. The new LEP is then published in the Government Gazette, giving legal force to the new amended zone. This final step is commonly referred to as “Gazettal” of the instrument.

This rezoning methodology, practiced for almost 30 years prior to 2009, was amended by the Gateway process. Nonetheless, it is important to understand this plan-making process as it gives greater insights into Gateway and what it aims to accomplish through its newer statutory methodology of amending and making local plans. The former “Section-54 Process” for LEP-making, in all of its steps, is represented by the ensuing flow chart in Figure 4.4.

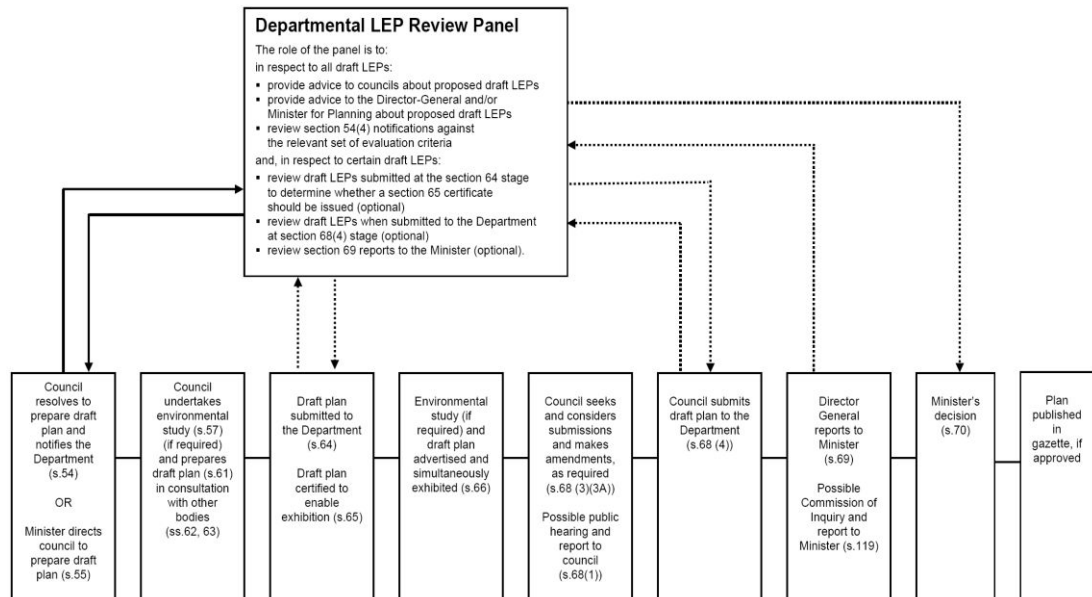
Figure 4.4 - Section-54 Plan-Making Process

Section of Act	Respective roles of authorities
Section 54	Council resolves to prepare LEP. LEP considered by LEP Review Panel.
Section 57	Council prepares environmental study (if required).
Section 62	Council consults relevant agencies that might be affected by draft LEP.
Section 64	Council provides copy of draft LEP to the Director General of the Department of Planning.
Section 65	Director General issues certificate enabling draft LEP to be exhibited.
Section 66	Draft LEP is publicly exhibited.
Section 68	Council considers submissions received in response to public submissions. Council may amend draft LEP in response to submission or call a public hearing. Council may re-exhibit draft LEP if changes warrant it Council submits draft LEP and report to Director General recommending plan be made. An opinion on whether the plan may be legally made is sought from the Parliamentary Counsel.
Section 69	Director General submits a report to the Minister recommending whether the draft LEP should be approved The LEP Review Panel will in some instances review the LEP
Section 70	Minister decides whether to approve the plan

Source: NSW Department of Planning 2007, p. 29

This traditional Plan-making process can be diagrammatically represented as set out in Figure 4.5, showing the older plan-making process. This was the main way environmental plans were made in NSW for many years until the Gateway amendments in 2009.

Figure 4.5 - Flow Chart of Traditional Plan-Making Process



Source: NSW Department of Planning 2006, p. 5

As may be evident from both the table and diagram above, the traditional LEP-making process clearly defined statutory steps, which an LEP proceeded through in order to be amended. These steps represented by the boxes in the diagram, are summaries of the various sections of the Environmental Planning and Assessment Act 1979 (NSW). The diagram shows how a past plan commenced its formal journey for change either through Section-54 or 55. It then needed to proceed through the various sections until finalisation with ministerial approval coming under section 70 of the Act.

The diagram also shows the various roles which the Departmental LEP Review Panel (established in 2007) have more recently played within the plan-approval process. The diagrammatic arrows indicate, the iterative requirement of a plan to return to this panel showing the highly-bureaucratic nature of the past process. It also shows the complex compositional elements of decision-making and the legislative nature of stakeholder engagement throughout the plan-making process in NSW. These are all still present, though theoretically reduced, under the Gateway process.

In plan-making terms, the above diagrams (Figures 4.4 and 4.5) both demonstrate that all rezonings necessitate an amendment to a statutory plan - the LEP. Council can decide not to support the preparation of a draft LEP and may decide not to proceed with the rezoning, even if it had initially supported the preparation and exhibition of the draft LEP. The approval of the Department and the Minister is also required before a final plan is made or amended.

Significantly, if a rezoning application is refused, the Act does not provide applicants a right of appeal against Council's decision not to prepare a draft LEP based on the merits of the application. There are also no appeal rights for applicants or councils against the Department's decisions to not allow an LEP to be made or not allowing exhibition under Section 65 of the Act.

After an LEP goes on exhibition under Section 65 of the Act, public comment is sought and documented. The Council is then obliged to formulate a report based on the submissions and to include responses from the applicant and its own comments in a rezoning report made in relation to the draft LEP. In certain circumstances a public hearing may also be held where an independent panel is asked to preside over the merits of the rezonings and furnish the Minister and the Department with its own assessment, including all public comments.

As the above plan-making process clearly demonstrates, rezonings are not only procedurally complex, but do also necessitate a large number of technical reports, which typically involve large costs and long timeframes. These factors have always been and remain an integral part of plan-making. They are also relevant to the concepts of value-creation and certainty that may be conferred upon a parcel of land after a formal rezoning takes place (refer to Chapter 5 Table 5.12, Examples 1,3, 5, 9, 13, 15, 16, 17, 18, 19).

4.8.1 - Differences between s. 54 Process and Gateway

In July 2009, the NSW Government changed the way in which LEPs were both created and approved. The new system, which continues today, is known as the "Gateway" plan-making process.

In procedural function, Gateway as a legislative process (described more fully below), is not too dissimilar to the previous s.54 plan-making process, so the integrity of the Act and its inherent characteristic structure, are inherently maintained. The ostensible legislative differences between the older s.54 Process and the Gateway, rest mainly in the fact that the new process starts at s.55 and ends after s.59 (refer Figure 4.6), rather than s.54 to s.70 as previously. Even more interestingly, the previously-essential sections of 61-72 (inclusive) which had incorporated the consultation provisions and Ministerial sign off under s.70, have now been repealed.

In timeframe terms, a simple rezoning application under a Section-54 process would generally, if all the necessary information is provided, take at least nine months from lodgement until the new zoning is given legal force. This timeframe can be much longer for more complex applications. The size of the land involved and the issues covered by the rezoning, are often determining factors in the time required and the probability of success of the application. As may be self evident, this is particularly the case if the rezoning being sought is controversial. The rezoning timing for large or publicly-contentious applications, is more likely to be years rather than months. For a Gateway determination and rezoning, this timeframe is touted to be speedier for simpler rezonings but is probably similar for larger and more complex LEP changes. The timeframe required to effect the rezoning in the case study examples in Chapter 5 of this thesis are shown in Table 5.4 and range from 0.4 years to 4.7 years.

4.8.2 - The Gateway Process

The Gateway process as for the Section-54 Process before it, can apply to any rezoning application for land, where an EPI is requiring amendment. It also applies to the making of new LEPs. The differences between both processes are technical and procedural rather than substantive and for the purposes of comparison and discussion, both processes as they might relate to the traditional rezonings covered in Chapter 5 of this thesis including examples 1, 3, 5, 15, 18, 19, are being treated as more or less the same in both intent and effect.

The Gateway process is simply the nomenclature assigned to a new way of dealing with plan-making through Sections 56-59 of the Act. The Gateway describes how a draft

local environmental plan, which has been prepared, may be submitted to the Department of Planning for review and ultimately approval as a new or amended EPI. This “Gateway” process allows a Planning Proposal (PP) seeking a planning amendment to be reviewed at an earlier stage than otherwise, so that an earlier decision can be made as to whether it should proceed, with or without variation, or whether it should be re-submitted for review, including the level of community consultation required. The Gateway also encompasses the extent of input from State and Commonwealth authorities, the necessity for a public hearing by the Planning Assessment Commission or other statutory bodies (EP&A Act, s.56), and the ability or otherwise of the new plan to come into law based on the status and legal nature of the PP submitted. The Gateway is thus designed to ration the time spent on proposals that would not pass the “Gateway” i.e. those requiring a statutory amendment to a local plan. Ordinarily LEP amendments are initiated by either a local council or a land owner but also, less frequently, by the Minister (EP&A Act ss.54-55). Whether it is an LEP initiated by local government or one requested by the Minister, the body responsible for carrying out the process is known as the Relevant Planning Authority (RPA). For council-initiated LEPs, the RPA is almost-always the council itself. Where the Minister has initiated the process, the Minister can decide if the council should carry out the assessment as his delegate. Equally, the Minister may appoint any person or body as prescribed by the Act, including the Director-General (DG) or a Joint Regional Planning Panel (JRPP), to be the RPA.

The first step in creating a new LEP, is the preparation and submission to the RPA of a Planning Proposal (PP). A PP typically includes an explanation of the intended effects of the proposed LEP changes and a justification for the statutory change intended, as per s. 55(1) of the Act. A PP can be prepared by any RPA or by a proponent. The following steps are the sequential components of a Gateway determination:

1. Planning Proposal Preparation - The RPA prepares the Planning Proposal, which explains both the effect of the new LEP and the justification for the plan. If initiated by the Minister, rather than council, the Minister can also appoint the DG of the Department of Planning or a JRPP to be the RPA.

2. Gateway Assessment - The Minister (or delegate) then determines whether the Planning Proposal should proceed and whether the plan-making process should continue. The Gateway thus assesses if the proposal is justified before further studies are commissioned and resources are allocated to the preparation of a new plan. A community consultation process is also determined at this time. Consultations occur with both public authorities and the community.

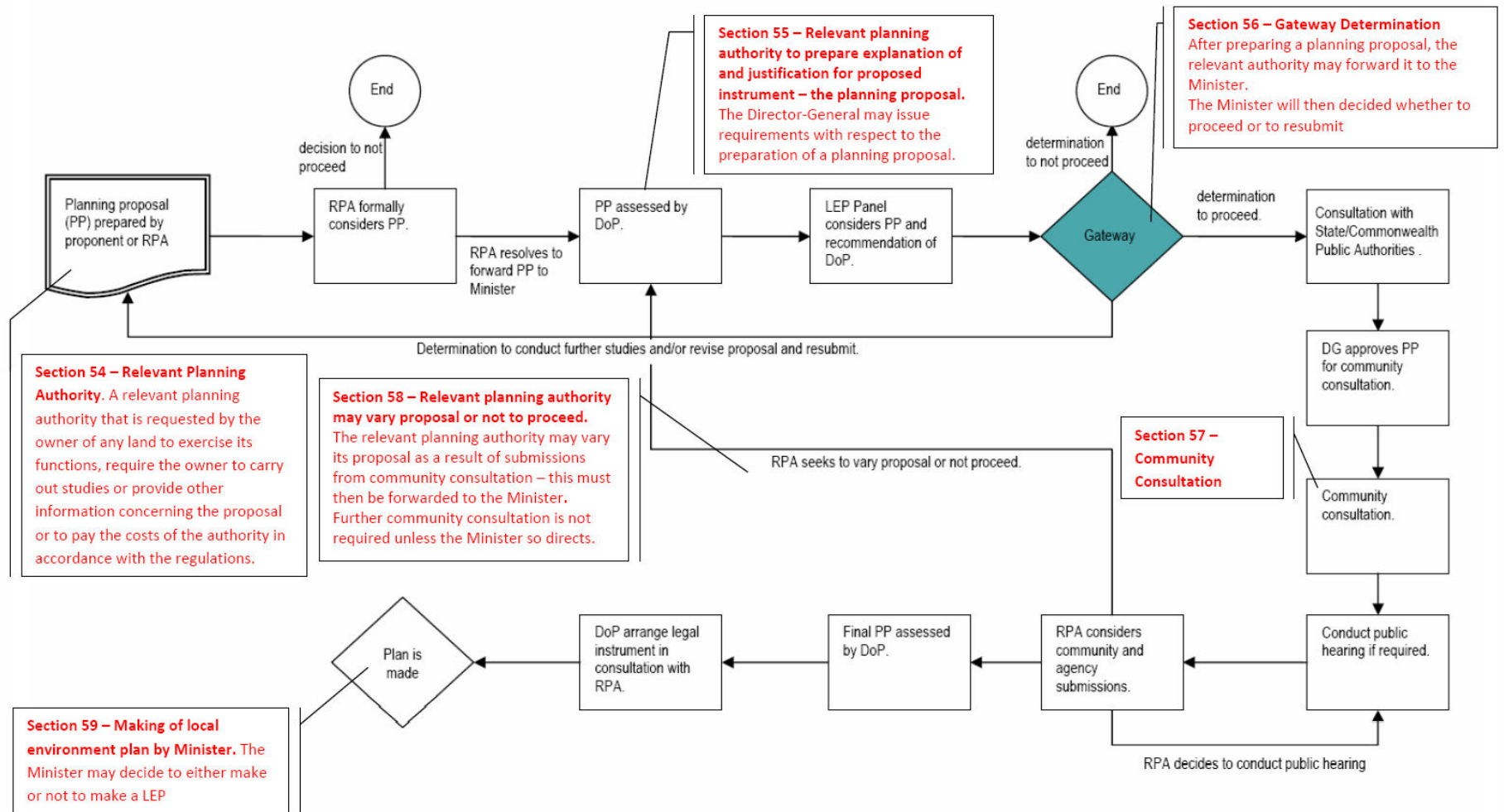
3. Public Consultation - During the assessment of the PP, the Proposal is publicly exhibited (generally for 14 days for lower-impact proposals, otherwise for 28 days). Submissions arising from the public consultation process are subsequently assessed and collated.

4. Assessment of the Planning Proposal - The RPA then assesses the PP including the public submissions and may recommend variations to the proposal. The final version of the PP, as amended, is then forwarded to Parliamentary Counsel (PC) for the preparation of the legal instrument in its final form.

5. Ministerial Decision on Planning Proposal - The Minister (or delegate) then decides whether or not to sanction approval for the PP. The Minister must sign the final instrument before it can come into law. If granted, the new plan becomes law and is published in the Government Gazette and displayed on the NSW Legislation Website.

Diagrammatically, the process of amending an LEP and the making of a new instrument, through a Gateway determination can be represented as follows (Figure 4.6):

Figure 4.6 - Making an LEP under Gateway



Source: Department of Planning, 2009a. Modified by Geha, 2012

Figure 4.6 shows the current LEP-making process under Gateway, summarising the stages through which an LEP must proceed in order to be amended or be made. As with the old process (refer to Figures 4.4 and 4.5), the diagram orders the steps in the manner required by the legislation. The key difference is the “Gateway” stage, which represents the new assessment pathway in which a plan needs to progress before it can be formally made.

4.8.3 - Matters Addressed in a Planning Proposal

A PP seeking to rezone land, must always include the matters set out in s. 55(2) of the Act, as outlined in Table 4.1.

Table 4.1 - Matters to be addressed in a Planning Proposal

1. A statement of the objectives or intended outcomes of the proposed local environmental plan. [Act s. 55(2)(a)]
2. An explanation of the provisions that are to be included in the proposed local environmental plan. [Act s. 55(2)(b)]
3. Justification for those objectives, outcomes and provisions and the process for their implementation. [Act s. 55(2)(c)]
 - A. Need for the planning proposal.
 1. Is the planning proposal a result of any strategic study or report?
 2. Is the planning proposal the best means of achieving the objectives or intended outcomes, or is there a better way?
 3. Is there a net community benefit?
 - B. Relationship to strategic planning framework.
 1. Is the planning proposal consistent with the objectives and actions contained within the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and exhibited draft strategies)?
 2. Is the planning proposal consistent with the local council’s Community Strategic Plan, or other local strategic plan?
 3. Is the planning proposal consistent with applicable state environmental planning

policies?

4. Is the planning proposal consistent with applicable Ministerial Directions (s. 117 directions)?

C. Environmental, social and economic impact.

1. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

2. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

3. How has the planning proposal adequately addressed any social and economic effects?

D. State and Commonwealth interests.

1. Is there adequate public infrastructure for the planning proposal?

2. What are the views of State and Commonwealth Public Authorities consulted in accordance with the gateway determination, and have they resulted in any variations to the planning proposal? (Note: The views of State and Commonwealth Public Authorities will not be known until after the initial gateway determination. This section of the planning proposal is completed following consultation with those public authorities identified in the gateway determination.)

4. Details of the community consultation that is to be undertaken on the planning proposal. [Act s. 55(2)(e)]

Source: Department of Planning, 2009a

Most rezoning applications must also be accompanied by a detailed set of technical reports to support both the rationale for change and the detailed outcomes resulting from the rezoning. The type of application that a landowner would ordinarily submit in a rezoning application, consists typically of series of detailed reports. This was indeed the case for all of the rezoning examples quoted in Chapter 5 as set out in Table 5.4. The typical list is often the same for Gateway submissions as for Section-54 submissions and comprises ordinarily of the following items, as shown in Table 4.2.

Table 4.2 - Technical Reports Submitted with a Rezoning Application

• A full survey plan of the property, drawn to scale. This needs to include all existing structures, services, contours, existing vegetation and easements. • A plan showing adjoining land uses, including existing neighbouring structures, services, view corridors, contours and vegetation. • Details of future intended land uses under the proposed new zone. • Documentation of surrounding land uses and the effects of the rezoning proposal on surrounding properties. This includes reports on amenity impacts such as traffic, noise, privacy, solar access, heritage, vegetation, view corridors, infrastructure capacity and sustainability (including environmental, economic and social). • Zoning impacts, both positive and negative, including issues such as loss of employment land or the need for aged care in the municipality. • Analysis of how the proposal would comply with the relevant aims and objectives of State policies and the LEP, which it seeks to amend. • If the proposal is inconsistent with the aims and objectives of these plans, why the applicant believes the aims should be varied for the rezoning to proceed or why they are inadequate. • Details of any substantial public benefit that would result from the proposal. • Plans showing the proposal as it may be developed under the new zoning. • Supporting studies, which typically include: 1. Traffic Report, Modelling and Analyses; 2. Transport and Accessibility Report. This could include detailed traffic modelling for larger sites including the assessment of traffic flows at road intersections; 3. Services Report covering the provision of necessary services such as water, sewer, electricity, gas and telephone; 4. Retail Impact Analysis; 5. Economic Sustainability Report; 6. Social Impact Assessment; 7. Community Safety Report; 8. Emergency and Essential Services Report; 9. Ecological Assessment; 10. Energy Conservation Report; 11. Water Sensitive Urban Design Report; 12. Use of Materials Report including recycled, renewable, and low-embodied energy.

Source: Geha, 2012

Usually matters addressed by a PP include the proponent's project-related studies. The submission, in the drafting of an LEP, must properly convey the intended effect of the PP and the scheme's greater public benefits.

Proposed LEPs also frequently include maps (such as those for heritage areas and flood-prone land). These must also be included with a PP and need to explain the substantive effect of the proposed LEP zoning. This also means identifying the effects of the PP on neighbouring properties (EP&A Act s. 55(2)(d)).

It is also intended that, at the early stages of a PP, the RPA (usually the local council or the Department of Planning) identify those issues that require more detailed investigation by the applicant, before the PP is permitted to proceed further. Typically, such detailed studies are carried out following the initial Gateway determination. The Gateway normally enunciates those studies to be undertaken and whether a re-submission of the Proposal is necessary. If the PP is deemed not to have major issues to address, it then proceeds directly to community consultation. In either event, the RPA must be satisfied that it is prepared to forward the submission to the Minister for the next step in the process, being the Gateway determination [EP&A Act s. 56(1)].

The purpose of the Gateway process, is to ensure that there is sufficient justification early in the process, to proceed with a PP. It serves as a checkpoint for planning proposals before significant resources are committed to carrying out detailed technical studies and investigations. This enables the Department to arrest submissions without sufficient merit, before large resources are committed to investigations of such proposals.

Once a Planning Proposal is forwarded to the Department, it is displayed on the Department's on-line register of Planning Proposals, where progress of the proposed LEP can be monitored by applicants and councils. It is then assessed by the Department of Planning. The Planning Proposal and the recommendations of the Department of Planning, are then forwarded to an Executive Committee within the Department, who consider the Planning Proposal before providing their own recommended Gateway determination to the Minister.

Upon the Minister's consideration of the recommendations of the DG and the Executive Committee of the Department, a Gateway determination is issued under s. 56(2), recommending whether a Planning Proposal:

- should proceed or be amended;
- requires resubmission;
- the extent of community consultation required;
- necessitates consultation under s. 34A of the EP&A Act because of impacts upon a critical habitat or threatened species populations, ecological communities or because the proposed LEP may adversely impact upon other Commonwealth or public authorities; or
- necessitates a public hearing or if it requires referral to the PAC or another body;

Under the Gateway process, the RPA is responsible for forwarding to the State and Commonwealth Public Authorities identified in the Gateway, a copy of the Planning Proposal and all supporting studies. Following consultation with public bodies, the RPA must update the PP in order to complete the section outlining the views of the public authorities consulted and forward a copy of the revised PP to the Minister or more typically the Department. Subsequently, the Minister (usually through delegation to the Department) advises whether a revised Gateway determination will be issued as a consequence of the variations, including whether further community consultation must be undertaken [EP&A Act s. 56(7)].

Importantly however, updating a PP in order to complete the section outlining the views of State and Commonwealth Public Authorities consulted on the proposal, does not in itself constitute a variation to the PP and the varied Proposal still remains a valid application. This is a major difference from the Section-54 process.

All Gateway determinations stipulate the community consultation that must be undertaken regarding the submitted PP. The consultation is tailored to the specifics of the project being proposed, which for lower impact Proposals is 14 days and 28 days for all other Planning Proposals, as stipulated by Section 57 of the Act. A "low impact Planning Proposal" is one which, in the opinion of the Minister, is consistent with the

pattern of surrounding landuse zones or is consistent with state strategic planning and presents no impact with regard to infrastructure servicing. It must also not be a principal LEP; and must not reclassify public land.

A PP should be properly supported by technical studies and investigations. A copy of the project's summary is required to be submitted for the approval of the Director General of Planning, prior to the undertaking of any community consultation. The complete PP and supporting studies, is also made available for interested members of the public to inspect [EP&A Act s. 57(2)].

Community consultation is commenced by giving notice of the public exhibition of the PP in a newspaper that circulates in the area; on the web-site of the RPA; and in writing to adjoining landowners, unless the RPA is of the opinion that the number of landowners makes it impractical to notify.

The written notice must give a description of the intended outcomes of the PP; indicate the land affected by the PP; state where and when the PP can be inspected; give the name and address of the RPA for the receipt of submissions; and indicate the last date for submissions.

During the exhibition period, the following material must be made available for inspection: the final version of the PP, in the form approved for community consultation by the DG of Planning; the Gateway determination; and the studies relied upon by the PP. The community consultation is considered to be complete only after the RPA has considered all submissions made and the report of any public hearing into the proposed LEP [EP&A Act s. 57(8)]. The function of making an LEP under the Gateway process, as in the former Section-54 process, can only be exercised by the Minister or a delegate of the Minister, who must necessarily sign the final instrument prior to gazettal.

4.8.4 - Section 117 Directions by the Minister

This is another highly-significant section of the Act for land rezoning because all development and plan-making decisions in the state of NSW, must consider the specific directions and notes given by the Planning Minister. Under s. 117 of the Act, the

Minister is granted power to direct any public authority or person to make an EPI so as to achieve aims considered relevant by the Minister or to perform tasks within defined time frames as are required by the Minister in order to reach State planning objectives, as specified in a s. 117 Direction.

The Directions cover under s. 117(2) six broad categories: “employment and resources; environment and heritage; housing, infrastructure and urban development; hazard and risk; regional planning; and local plan making” (NSW Department of Planning, accessed in June 2008).

In addition, the Minister may, using this section, direct a council to exercise its functions under Divisions 4 or 5 of Part 3, in relation to the preparation of a local environmental plan, including powers to direct government bodies to assess or determine a planning proposal, so as to give effect to such principles or objectives as the Minister may consider important. Most commonly, Section 117 Ministerial Directions are issued to councils by publication in the Gazette or on the Department of Planning website. The Minister is required by the Act to consult with the Local Government and Shires Associations of New South Wales.

All public authorities or persons to whom a Direction is given under Section 117, are obliged to comply with the Direction. Also, any PP or LEP directed by the Minister under Section 117, cannot be challenged in any court proceedings or reviewed or called into question or prevented from being made. The Minister has absolute and unfettered discretion in this regard.

4.9 - Effective Rezoning through (Previous) Part 3A Declaration and SEPP (Major Development) 2005

Part 3A of the Act was repealed in April 2011 but was for several years, the alternative to achieve a new zoning outcome in NSW, other than through a s.54 or a Gateway Process. It covers many of the rezoning examples used in this thesis and was therefore considered of relevance to cover in this chapter. Though the former Part 3A and the SEPP (Major Development) 2005 process did not physically rezone the land in the first

instance, it permitted projects to occur on the land so as to effectively constitute a rezoning. It also allowed the Minister to place on the land projects which were “wholly prohibited” under prevailing local, municipal zoning.

Historically, these ministerial functions are not specific to former Part 3A as the NSW Planning Minister has always had the power to “call-in” development applications from local councils under various instruments. In addition, there are more than 85 State Environmental Planning Policies (SEPPs) gazetted since 1979, the majority of which make the Minister the consent authority for development covered by those instruments. All these SEPPs override Local Environmental Plans instituted at the local level. Some State Environmental Planning Policies are designed to cover specific development classes such as low cost accommodation. Others have been made more specific such as those drafted for the building of tollways, such as SEPP 51.

The previous Part 3A of the Act empowered SEPP (Major Development) 2005, where the main detail for the implementation of those projects declared by the Minister was carried out. SEPP (Major Development) 2005 previously named SEPP (Major Projects), set out in great detail the type of project, its size, type and capital value, as may be required by the Act to qualify as a project to which former Part 3A of the Act could apply. One great advantage of this SEPP was that it allowed the effective rezoning of land and allowed projects that were otherwise wholly prohibited to be approved, under certain economic and planning criteria. For most projects the largest initial qualification threshold was the CIV as was stipulated by the SEPP at \$100 million. There were other lower thresholds for other types of projects however, such as distribution facilities and other categories such as those connected with aquaculture and primary production. These are discussed in more detail, along with the rationale, planning and statutory mechanisms of the SEPP, in the segments below.

The first step in a Major Development determination is usually for a proponent to demonstrate that a project meets the requirements specified in the Major Development SEPP or (SEPP (MD) as abbreviated). This was fully set out under Schedule 1 Clause 13 of the SEPP (MD) which set out the Capital Investment Value (CIV) of projects in order to establish whether a project could be deemed a Major Development under former Part 3A of the Act.

The CIV definition was set out in both the EP&A Regulation and the Department of Planning circulars, which provided guidance in establishing the types of costs that may be included and excluded when calculating the CIV of a project. These definitions are still relevant to assessments for JRPP project thresholds. The JRPP assessment threshold in NSW as at 2012 was \$20 Million. While CIV was a main trigger point for declaration of former Part 3A projects under Clause 13, the Department also assessed the reasonableness of proposals, as part of its decision as to whether to declare a proposal as a Major Project (or in later nomenclature Major Development). Land value was always excluded from the CIV of a project qualifying under former Part 3A of the Act and to which SEPP (MD) applied. It is also still excluded from the CIV project value for JRPP determinations today. It is worthy of note that Examples 7 and 13 discussed in Chapter 5, were both determined by the JRPP.

Applications for residential, commercial and retail developments which met the criteria of Clause 13 of the SEPP (MD) were broadly grouped into three types: Type 1, where the project was both permissible and complied with local development controls; Type 2, where the project was permissible under an LEP but did not comply with the council's development controls; and Type 3, where a project was wholly prohibited by an LEP and also did not comply with the local development controls.

The key development standards contained within an LEP or DCP (such as height and floor space ratio) were nonetheless still considered relevant to the assessment of a (former) Part 3A project. If the proposal was not permissible or did not substantially comply with development controls, it was necessary for a well-founded argument to be provided as to why it was reasonable to progress the proposal under former Part 3A. The type of analysis required, usually included the categorisation of the proposal as a Type 1, Type 2, or Type 3, as identified above.

There were several ways to carry out a Major Project (or Major Development) in the state of NSW. One was to lodge a Project Proposal (later called a Planning Proposal or a PP) that contained detailed information about the project. Another option was to submit a Concept Plan, which provided a broader overview of what was being

proposed. Approval of the Concept Plan would establish the framework for more detailed development of the proposal, and necessarily required further project-specific approvals. A Concept Plan, once approved however, did give certainty of outcome to a given project. The application to the Department of Planning regarding a Major Development under the SEPP, was then assessed using the requirements outlined in Table 4.3:

Table 4.3 - Types of (Former) Part 3A Proposals

Type 1	There are no additional requirements and a Project declaration under (former)Part 3A and issuing of the Director General's Requirements (DGRs) will generally be promptly dealt with without the need for additional information or justification to be submitted
Type 2	The Proponent will be required to provide justification for the variations to the key development controls To demonstrate that the variations are justified and well-founded, the Proponent should refer to the criteria in Figure 4.10 below when preparing the Preliminary Environmental Assessment (PEA)
Type 3	These proposals require the authorisation of a Concept Plan to resolve zoning or other permissibility issues. The Proponent must request the Minister to authorise lodgement of a Concept Plan under clause 8 of the MD SEPP Justification will need to be provided for non-compliance with zoning (permissibility) and development controls. The issuing of a concept plan authorisation for any project type remains a discretionary matter. The EP&A Act and Regulation precludes the approval of a concept plan for development which is prohibited development and located within an ' <i>environmentally sensitive area of State significance</i> ' or a ' <i>sensitive coastal location</i> ', as defined in the MD SEPP.

Source: Department of Planning, 2009a

It was common for the Department, as an agent of the Crown, when considering a request for a Type 2 or Type 3 proposal for a former Part 3A Project declaration, to assess the proposal against documented criteria. Proponents used these criteria as a guide for the preparation of applications under Clause 13 of SEPP (MD). These criteria, used for the consideration of a former Part 3A Project, apply to many rezoning examples used in this thesis (including Examples 2, 4 and 7) and are shown in Table 4.4:

Table 4.4 - Criteria Used for Consideration of (Former) Part 3A

Application Type	Criteria	Justification Required
2	Is the proposal compatible with key development controls in the relevant EPI, such as eight and floor space ratio? Note: It may be appropriate to have regard to any relevant Development Control Plan, or Concept Plan approval.	Examine the age and relevance of existing controls, and the extent of any non-compliance. If controls are old and no longer relevant, is the proposal acceptable in the current context? If controls are contemporary and/or relevant, the Department will address the need for greater consistency or compliance, in the DGR's
2	Is the proposal compatible with key development controls in the draft LEPs or other draft controls such as a SEPP?	Consider the status of draft controls and extent of compliance with those controls which may more accurately reflect desired future development outcomes.
2 and 3	Will the proposal assist in the delivery of key initiatives side identified in key strategic planning documents, such as urban renewal? For example, is the proposed located in an area identified in the Metropolitan Strategy, Regional Strategy, or sub-regional strategy, for urban renewal or increased urban development, and will the proposal facilitate the implementation of the strategy?	If the proposal is prohibited or there is variation to key development controls or draft controls, it is essential that the proposal demonstrate consistency with key strategic planning documents such as: - Metropolitan Strategy - Regional Strategy - Subregional Strategy - Other documents such as the Activity Centres Policy If the proposal is prohibited or there is significant variation to key development controls, and the proposal is not consistent with key strategic planning documents, a compelling argument must be provided in such cases. The Department is unlikely to support the proposal unless strong justification is provided.
2 and 3	Is the proposal likely to have an acceptable impact on its context and setting, such as the relationship of the proposal to adjoining development and any impact on these properties?	The Department will address any related issues in the DGRs.

Source: Department of Planning, 2009a

If a project was deemed a Major Development under the SEPP and one to which (former) Part 3A of the Act applied, the Director General's Requirements (DGRs) for Environmental Assessment (EA), were subsequently issued to the applicant. The DGRs specify the key issues that needed to be addressed during the formal consideration of the project and outlined both the level of assessment and the public consultation requirements.

The Department was also usually consulted during this process with other statutory bodies including the relevant local council, particularly on proposals which did not conform to existing or draft planning controls. The DGRs enabled the Department to set out all matters of significance arising from the considerations of the project criteria (see Table 4.3) and any other matters arising from the review of the project's PEA.

If a project was unable to properly demonstrate why it should be permitted variations to controls, especially in terms of the state's strategic direction for an area, the Department did not usually support the proposal. The DGRs did also typically require the Proponent to address matters of non-compliance and explicitly required compliance or greater alignment with controls when the full EA was lodged as part of an application for approval of a project under former Part 3A. Where a Project EA failed to adequately address the DGRs, the Proponent was then required to review and amend the EA prior to re-lodging with the Department. If the revised EA still did not adequately address the DGRs, the Department simply did not permit the exhibition of the proposal.

The Minister also had the power to declare a project to be Critical Infrastructure where the Minister was of the opinion that such a project was essential for the State for economic, environmental or social reasons.

Schedule 1 of the SEPP MD provided a list of the classes of development which could have been considered as a Major Project or Development under former Part 3A of the EP&A Act and determined by the Minister. A Major Development was classified under one of the following categories:

- agriculture, timber, food and related industries;
- mining, petroleum production, quarries and associated processing industries;
- chemical, manufacturing and related industries;
- general manufacturing, distribution and storage facilities;
- tourism and recreational facilities;
- health and public service facilities;
- transport, energy and water infrastructure;
- resource and waste-related industries;
- residential, commercial or retail projects (subject to ministerial discretion).

Schedule 1 of SEPP (Major Development) set out project-value thresholds for each of these categories. Similarly, thresholds applied for residential, commercial or retail projects. These were at the Minister's discretion because they had to have been in the opinion of the Minister, projects of state or regional significance, as well as having a CIV of over \$100 million.

The Minister was also the determining authority for certain development on specified sites, which were described in Schedule 2 of the SEPP (MD). These sites were considered to be important in achieving State or regional planning objectives. Such sites included Newcastle's Honeysuckle waterfront development, Penrith Lakes, Rhodes Peninsula, Fox Studios and some Sydney Harbour Foreshore Authority sites around Sydney Harbour.

Schedule 2 of the SEPP also covered specified developments within the declared NSW Coastal Zone. Major Development that had required the Minister's approval, included buildings greater than 13 metres in height or subdivisions of more than 25 lots in a rural/residential zone if proposed within a sensitive coastal location within the metropolitan coastal zone or any part of the coastal zone outside the metropolitan coastal zone. Example 4 as set out in Chapter 5, was one parcel to which the Coastal Provisions of SEPP (MD) applied due to the proximity of the land to the coastline.

Once the proponent had satisfactorily completed the EA addressing the Director-General's Requirements, the Department then exhibited the Environmental Assessment, seeking public comment for a minimum of 30 days.

The SEPP also permitted proponents of a Major Project who were dissatisfied with the determination of the Minister, within three months of receiving notification of the determination, to appeal to the Land and Environment Court against the Minister's decision. Objectors also had appeal rights in respect of the former Part 3A (Major Development) project determinations. Appeals however needed to be commenced within 28 days of the notice of determination being issued. Third party appeal rights did not exist however, where a Concept Plan had been approved for a project approved by the Minister in relation to critical infrastructure.

4.10 - Conclusion

Despite its complexity, zoning will remain an important landuse planning tool within New South Wales and Australia. Yet this complexity reflects the very challenges of separating land uses. Yet all healthy, growing cities need order and a form of regulation to ensure function and amenity. There is also, of course, a constant need for revision, renewal and reform of any governing legislation.

In reviewing the various parts of the Act that relate to the zoning and planning approval process, it is hoped that a better understanding of the mechanisms empowering zoning and development approvals have been gained. Also as all 20 case study examples used in Chapter 5 relate to value-change gained via these processes, as empowered by the above-discussed parts of the Act, it was deemed important to properly explain the intent and function of those parts of the Act, prior to the analysis of the case studies used in Chapter 5.

The EP&A Act and all of its associated Regulations, SEPPs, REPs, LEPs and Ministerial Directions, remains the single most important form of legislation governing the land approval and value-change processes in NSW. The aims of this thesis are primarily centred on the proper explanation of the link between a change of land use, as

empowered by such legislation and market value, as defined earlier in Chapter 3 of this thesis. To that end understanding the Act and its associated regulations is a powerful tool in the important journey of assessing land value and land-value change.

The ensuing chapter contains the detailed empirical data and the research conducted on examples of DAs and rezonings, that have occurred in the state of New South Wales, within the past ten years. The examples show the value change experienced through zoning and planning change. These examples demonstrate zoning changes and processes based on the EP&A Act, particularly Part 3, former Part 3A and Part 4. Some rely on SEPP (MD) for their effective rezoning and subsequent change in value, through former Part 3A of the Act. The discussions of the Act and its processes, as well as those of the State Environmental Planning Policies covered in this chapter, will be important precursors to the development and zoning examples detailed in the next chapter.

Chapter 5: Change of Land Value through Zoning and Development Control

5.0 - Introduction

As the empirical evidence documented and quoted in this chapter demonstrates, land value is observed to exhibit a nominal ⁴⁵change associated with the land's transformation through zoning and planning (rezonings and DAs, both contributing to land value change). This leads to a series of initial questions: firstly whether zoning (and also planning) change always produces a change in the value of land; secondly, whether this change is always positive in magnitude and direction and thirdly, whether this is a relevant economic consideration in the time period that the value-change occurs over.

⁴⁵ Nominal value in this context is the value of the land without adjustment for inflation or the time-value of money.

This chapter begins by exploring many of the underlying factors that constitute land value, explaining how these are formulated and derived. The general relationship between land value and land economics is explored from a planning and zoning perspective, including the more complex interaction between zoning and its manifestations on value-change.

In order to explain and understand more fully how zoning change interacts with land value, there is first a theoretical prelude in the earlier parts of the chapter, which uses two typical land parcels - the first undergoing an FSR change, the other subdivision. The aim is to explore the quantification of “the zoning effect” from a conceptual viewpoint. Firstly an equation relating to land’s market value-change is formulated and expressed in terms of FSR and GFA changes, for an urban parcel. The chapter introduces two new terms for expressing the zoning effect. The first is titled the Zoning Value Equation (Urban Renewal). A parallel equation is derived for zoning value-change for a rezoning that effects a subdivision. This is referred to as the Zoning Value Equation (Greenfield Subdivision).

These formulae build up the theoretical and deductive rationale for what is designated as the “rezoning effect” and then, using the empirical data as documented herein and summarised in Tables 5.1, 5.2 and 5.3, inter-fold into the Empirical Value-Change Equation - the main objective of this chapter and thesis. In constructing this outcome, the approach has been to use the data contained and derived from the empirical case study examples documented, to properly explore and model value-change by quantifying the movement in the market value of land and relating the quantum and direction of this value-change to either zoning or planning processes.

The quantification of the rezoning effect on land has thus been modelled by measuring the change in land value both prior and subsequent to either zoning change or planning approval and subsequently quantifying and explaining the rationale, magnitude and direction of such a change in a general relationship that could work for all zones.

5.1 - Zoning and Land Value-Change

There are several further questions that are worthy of consideration: whether a parcel of land that undergoes a planning or zoning change always experiences a market-value change, and whether such a change is instantaneous, or quantifiable?

The simplest answer to these questions is to posit that land, at least as far as the examples used in this thesis, does experience a change in value when its productive capacity is altered. This is assuming that its supply-demand dynamics are left unaltered by positive or negative externalities such as market forces or large changes to macroeconomic conditions that may directly relate to the land's desirability, saleability or productivity.

The next question worth pondering is whether land of all zonings could exhibit such behavioural patterns in terms of value-change or whether these movements are actually restricted to specific property zones such as residential (low density); rural (broad acre), or industrial (general)?

The empirical research conducted over the 20 examples used shows clearly that zoning change for every one of the 20 examples analysed produces a change in land value. The change is both significant and quantifiable (with an average value increase of 455% across the twenty parcels (see Table 5.3). This is discussed more fully later in this chapter.

It is perhaps accurate to claim that both zoning change (creating new permissibility of land use) and manifestations of zoning change, such as planning and development control (e.g. floorspace and height change), frequently produce a similar effect on price⁴⁶. Thus a parcel of land can change value through a change of zoning but can

⁴⁶ Other reasons also exist whence individuals, communities, planners, developers and others might "value" land and development that may or may not be inter-related with market values. Whilst this thesis is not focussed on such other values, except that they may be expressed via market mechanisms, it is nonetheless appropriate for any discussion of planning where the "rules" are changed, to address to some extent, the wide range of other reasons used to justify rezonings (or DAs) in a literature review and indeed practical or regulatory sense.

equally experience a change in value due to an increase in allowable floorspace or a lifting of a heritage order or the quantifiable certainty of a development approval or a statutory masterplan or new DCP controls. This is not surprising as the effects of such planning or zoning manifestations, in market value terms, are similar to those produced by a change in zoning.

The market value of land assets is necessarily related to the land's productive capacity in marketable terms and the level of certainty of achieving such outcomes. This is also contingent on the marketability of the final product made permissible by the change of controls and it being a "Higher-and-Better" use of the land compared to its use prior to rezoning. This is primarily because the same land is able to produce more sellable product that is able to be traded at a profit, in the case of an "upzoning", or a loss of such productive capacity, in the case of a "downzoning" of the land. Inferentially, most zoning changes are usually effected with full cognisance of the value upside that would be bestowed upon the land by the new zone: it is a deliberate outcome. Despite its commercial significance, rarely has this upside been able to be accurately explained, quantified or predicted to date. The Empirical Value-Change Equation, contained in this chapter, aims to do precisely that, by postulating a connection between land value and the zoning effect.

5.2 - Theoretical Examples of Value-Change

As a prelude to the Empirical Value-Change Equation and in order to advance the thinking with respect to the way value may be created or destroyed through zoning, it is probably useful at this point to discuss the concept of land value-change through two theoretical examples. These are simple yet salient and build the conceptual thinking regarding zoning and value-change in this regard. The two examples below are useful, as a prelude to the presentation of the Empirical Value Change Equation derived later in this chapter. Both have attached to them their own Zoning Value Equations as shown in Sections 5.2.1 and 5.2.2 below.

5.2.1 - Land in the CBD with New Controls

The first example proffered, is that of a commercially-zoned land block in say the Sydney Central Business District with a Floor-to-Space Ratio (FSR) of say 1:1. Assume that the land experiences a change of zoning or an equivalent change in its planning controls, so as to increase the achievable FSR from its previous numeric of 1:1 to 5:1.

The initial question that needs to be posed here, is whether this simple change in the floorspace ratio, in the absence of any physical change to the land itself, creates or augments property value? Secondly, whether this value-change is one that attaches to the land or the improvements? Thirdly, whether such an increase is specific to certain land uses such as commercial or whether it applies universally? Lastly, whether this change is specific to a city CBD parcel or unique market conditions, or whether it relates to a more fundamental tenet of zoning, inter-linking zoning change with land value?

The market situation described above is more prosaic than unique and is frequently observed in Australia, when parcels experience an increase to their floorspace controls. As the questions being posed here are theoretical however, the intention at this point is to comment on the response in more fundamental rather than transactional or empirical terms. That will come a little later in this chapter.

These are germane questions to which some appreciation must be offered. Thus, with respect to the land experiencing a floorspace increase, the answer is very simply that if such an increase is sellable in the market at a value higher than the total cost required to build it, then it is natural to assume that this will result in an increase in property value. This is because the productive capacity of the land or its ability to generate additional capital value or rental income is increased.

Of course, there could and have existed market circumstances where such a floorspace addition is not able to be delivered at a cost lower than the value it creates, but these are more characteristic of lower order CBDs in outlying areas and usually relate to periods of economic stagnation, rather than typical market conditions. Far more typically, the

extra floorspace would produce a value increase and can ordinarily be quantified as the additional value to the market of the profit attributable to the extra floorspace. Other important factors however, will also be the cost of demolition of any improvements on the land, the scarcity of the final product and the market desirability of the land upon which the zoning changes are effected.

It is also not always easy to know if the “Highest-and-Best-Use” of the land is being achieved by the floorspace changes under its existing zoning. Assuming that to be the case however, a floorspace increase, in the manner described above, will most certainly lead to an increase in the value of the property in question. This increase will relate solely to the land and is independent of the improvements upon the land. How is this quantified? In very rudimentary terms, this is typically calculated by the market back-deriving the value of the land from the value of the sellable floorspace created. This is because the new additional floorspace translates to a sellable commodity. This can be residential or commercial and is reasonably independent of specific zoning typology in this regard.

The market will therefore calculate the total additional sellable product resulting from the new gross floor area (GFA) of the buildings, resulting from the new FSR, and subtracts from that value the total cost of delivering the extra product to market and then subtracts from the result an appropriate “profit and risk” factor. The residual numeral is the nett total value of the new floorspace, as allowed by the new controls, and it is entirely added to the price of the land. The land is simply more valuable under such conditions and is commensurately re-priced as such by the market.

Many informed market commentators would also be quick in highlighting however, that there have been numerous recent examples, particularly following the Global Financial Crisis of 2008, where FSR increases were not considered valuable by the market and hence not taken-up by property owners. They would all equally admit however, that such inimical circumstances are not able to be considered as truly representative of market value. In fact, when the market eventually reverts to its normal mode, following such circumstances, it usually corrects by fully pricing-in such changes to zoning that allow increased floorspace.

From the many examples that may be cited under such circumstances, is one relating to a parcel of land in the Blacktown area of greater Sydney, some 45 kilometres from the Sydney CBD, where the Council allowed a proponent a highly flexible mixed-use zone with a sizable increase in the floorspace ratio in 2005, some years before the GFC. Due to broader market forces such as lower per-unit site values and increased construction costs for tall buildings however, the land, following such a statutory change, did not ostensibly increase in value nor was the market immediate in confirming value-change to original land pricing.

This can best be explained by the fact that the original value of the land was necessarily reflected in the price of the new apartment product. As apartments were still unproven in that market, and the land component was small compared to overall apartment costs, it could thus be suggested that the land was not yet at its “Highest-and-Best-Use” in this case. Eventually, as the market accepts apartment living at the location, land prices would rise both in absolute terms and as a proportion of total value. At this point, the statutory change will likely reflect the benefits of its new zoning and development controls. This example is consistent with and aptly describes, the theoretical value rationale presented in this chapter.

Returning to our CBD example, the change in value due to a change in zoning, resulting in an FSR and a GFA change for the CBD land parcel, can be mathematically depicted in the general zoning-value equation shown below:

Zoning Value Equation (Urban Renewal)

$$\Delta MV_L = (\Delta GFA \times P_{sq}) - C_d - M_{pr}$$

Compiled by Geha, 2012

GFA is a derivative of land area and floorspace as per the equation:

$$FSR = GFA / A_L$$

Compiled by Geha, 2012

Where:

ΔMV_L = Change in Market Value of Land.

P_{sq} = Gross Price per Square metre of GFA.

C_d = Development Cost of Managing and Constructing the project to deliver V_{ns} .

M_{pr} = Profit and Risk Margin required before the market undertakes the project.

V_{ns} = Nett Sales Revenue.

GFA = Gross Floor Area, resulting from an increase in FSR.

FSR = Floorspace ratio as defined by the equation above.

A_L = Area of Land Parcel.

The equations above describe in a simple mathematical way, the relationship that exists between changing a parcel's FSR (or GFA) and its commensurate change in value, a significant metric that most developers might use in calculating land value. This relationship should, at least in theory, be bi-directional and would necessarily require a planning or zoning change to have effect. Though this varies a little in terms of differing factors and parameters, it embodies many of the same concepts as the Zoning Value Equation (Greenfield Subdivision) shown in the following segment. The value added by an "upzoning" or an FSR increase should be identical to a decrease for a commensurate "downzoning" or a loss of FSR. Notwithstanding the above, all of the

empirical case studies analysed in this thesis show only “upzonings” demonstrating a positive land-value-change.

5.2.2 - Rural Land Rezoning to Allow Subdivision

Another theoretical example that would be of value in further demonstrating the zonal value relationship, is one of a rural land parcel that may have just experienced a zoning change. For the sake of explanatory clarity, it is assumed that there is a land parcel measuring 100 hectares, under a rural zone, where the minimum subdivision size is also 100 hectares. A rezoning of the land then takes place to allow the subdivision of the holding into 100 blocks of one hectare each.

The first important question to treat would thus be whether, *ceteris paribus*, the land would experience a value-change at all. After all, its size is actually identical under both scenarios and so are all of its other physical and locational characteristics. Would a prudent purchaser suddenly pay more for this land based solely on its new zoning and subdivision controls? The simple answer is that they certainly would. How could this be rationally explained in theoretical or market terms? The answer in part is simply that of satisfaction of market product. On an over-arching land-economics level, the market is very shallow in supply terms for a 100-ha lot with a rural zone but is highly competitive for parcels at one-hundredths the size.

This is not simply connoting that there exists a type of monopsony⁴⁷ at the higher prices but that the demand for such a large and highly-illiquid asset also becomes rarefied. There is still a more significant reason, however. The reason why a parcel containing 100 blocks is more valuable than a homogeneous 100-hectare parcel, relates much more to the use, namely the ability to support a dwelling on the block. The smaller subdivisible 1-hectare parcels, all have the capacity to accommodate a house and this is what the market is purchasing for a residential parcel; as opposed to a rural or industrial block of land. The additional land is certainly of some value but it also comes with

⁴⁷ In economics, the word monopsony is used to denote a market situation where there exists only one buyer.

additional costs and liabilities and since the 100-hectare block can only support a single home, its ability to satisfy market demand is considerably curtailed.

So it is simple to argue that a zoning change allowing subdivision into 100 parcels is far more valuable to a land owner than the larger 100-hectare parcel. Is it 100 times more valuable however? The answer is almost certainly not. The value of the zoning change is arrived at by calculating the final nett sale price of all 100 parcels, less rezoning costs, less subdivision and servicing costs, less the costs of new-plan registration and marketing. This is certainly multiples of the price of the one-single lot, but well short of 100 times.

This is because land values are generally back-derived from the price of the final product established by the maximum development possible on a land parcel, given its allowable uses. The land price can be calculated by subtracting, from the highest potential earnings, the costs associated with realising these benefits and a suitable profit-and-risk factor.

In this example, we can thus readily conclude once again, in a theoretical sense at least, that rezoning rural land to allow subdivision, certainly increases land value and the entire nett benefit derived from such a change, is added to the new price of the rezoned parcel. The value-creation here is similar to the first example discussed in Section 5.2.1, but differently configured to relate to land subdivision instead of GFA. The formula might be put as follows, shown below:

Zoning Value Equation (Greenfield Subdivision)

$$\Delta MV_L = MV_n - MV_o - C_d - M_{pr}$$

Compiled by Geha, 2012

Where

ΔMV_L = Change in Market Value of Land.

MV_n = Market Value of New Number of Lots.

MV_o = Market Value of Original Number of Lots.

and thus

$$V_{ns} = V_{gs} - C_d - M_{pr}$$

Compiled by Geha, 2012

C_d = Cost of Managing and Constructing Project to deliver V_{ns} .

M_{pr} = Profit and Risk Margin required before the Market undertakes the Project.

V_{gs} = Gross Sales Revenue.

V_{ns} = Nett Sales Revenue.

In most efficient markets therefore, the nett sales revenue resulting from the change in gross floor area less development costs, less profit and risk, will be the very quantum of the land value-change experienced on the land. Thus:

$$V_{ns} = \Delta MV_L$$

Compiled by Geha, 2012

Discussion of values derived from the above equations, are contextually necessary prior to arriving at the Empirical Value Change Equation in Section 5.8 of this chapter.

5.3 - Rezoning Examples Commentary

This thesis generally and this chapter more specifically, have postulated the existence of a direct relationship between zoning and land value. This is of course, a statement relating to the main intent of this thesis but also an attempt at confirming what is already a significant dynamic of both the real estate and property pillars of modern-day economic activity.

The rezoning and planning case studies listed below are all real examples, as distilled from the planning and zoning journeys of 20 distinct sites, each with its own story to tell. All of the examples relate to sites in New South Wales and in most cases have had their values confirmed by purchase, valuation or sale. The data used, in all 20 case studies, relate to market performance, for each of the parcels. Also, because each site has a different value-story, the taxonomic collation of all these into matrices, was deemed useful in reaching the ultimate aim of this thesis, namely the documentation of the Empirical Value Change Equation, together with a detailed description and explanation of how value-change actually occurred for each empirical example. The sites were selected to cover a range of uses and a variety of transformations. They were all examples that had changed value through zoning and planning processes. They were also all examples of land parcels that had undergone different journeys through different legislative, planning and zoning methods and whose facts and values could be verified by the author.

5.4 - Case Study Zoning Analysis

The data contained in the Case Studies analysed in this part of the thesis, relates to the 20 documented empirical examples only. The parcels analysed herein, have all undergone a value-change either immediately or shortly after their zoning or planning transformations (see **Examples 1-20** in Table 5.1). This tabulated data consists of the example number; original zoning; final zoning; original FSR; final FSR after rezoning; land price prior to rezoning; land price post rezoning; land area; and the LGA in which the land is located and the type of process the land has undergone in its value-change journey. It is important to stress here that all of the information used here has been

collated and sourced by the author but is all public information and can be verified independently through public records, albeit with a level of difficulty.

Explicit in the examples is that the land undergoes a value-change in every one of the twenty cases (refer Table 5.3 and Table 5.6). This varies from one zone to another. It also varies with the value paid for the parcel before the zoning or planning transformation occurs. Cheaper purchased parcels show a greater propensity for value increase than those where a higher value per-square-metre of land is paid (see Table 5.3). So why is this the case? As Tables 5.1 to 5.4 on the following pages show, the value-change occurs across varying uses both before and after rezoning (or planning) change for all 20 case study examples. This makes a detailed analysis and explanation more necessary. It also highlights the complexity of the rezoning (and planning) value-add process for a given land parcel.

Table 5.1 - Summary of Empirical Zoning Data

	Example	Original Zone	New Zone	Original FSR	FSR after Rezoning and Planning Approval	Land Area	Approval Authority	Rezoning/ D.A./ Masterplan
1	Pindari	Special Use 5	Residential 2(d)	0.5:1	0.8:1	8,041 m ²	Randwick City Council	Rezoning and Masterplan
2	Wonderland	Recreation and Tourism 3(e)	Employment under SEPP 59	N/A	0.5:1	59 ha 49 ha developable	Blacktown City Council	Rezoning and Masterplan
3	Mashman	Zone No. 4 (Light Industrial Zone) and 2(a) Residential	Zone No. 3(c) (Commercial) and associated Site Specific DCP	0.5:1	2.0:1	7664 m ²	Hurstville City Council	Rezoning and Masterplan
4	Rosedale	Rural 1(a) / Urban Investigation Zone	Urban	1 house per 100 ha	781 lots	187.62 ha	Eurobodalla Shire Council	Rezoning and Masterplan
5	Twin Creeks	Rural 1(c)	Rural 1(c) with amendment to LEP	1 house for every 40 ha	285 lots, including 54 x 1500 sqm lots	326 ha	Penrith City Council	Rezoning and Masterplan
6	Mount Gilead	Rural 1(a)	Rural 1(a) SEPP5	1 house per 100 ha	0.5:1	22 ha	Campbelltown City Council	Rezoning and Masterplan
7	Allengrove	Residential 2(a)	R2 – Residential	0.5:1	1.7:1	12,400 m ²	Ryde City Council	Rezoning and Masterplan
8	Whiteside	Residential 2(a)	R2 - Residential	0.5:1	1.7:1	14,049 m ²	Ryde City Council	Rezoning and Masterplan

								Masterplan
9	Little Bay	Special Use 5	Special Use 5 Subdivision DA Earthworks DA	0.5:1	0.5:1	17 ha	Randwick City Council	D.A.
10	Riverstone	Part Rural 1(a) [185ha]; Part Industrial 4(a) [40 ha]	Industrial 4(a) /Business B7 Growth Centres Commission/DC P/SEPP Amendment	1 house per 100 ha / 0.5:1	0.5:1 750,000 sqm of approved Industrial/ Commercial	235 ha	Blacktown City Council / Growth Centres Commission	Rezoning and Masterplan
11	Oxford Falls	Rural Zone 2	Rural Zone 2 / SEPP (Seniors Living)/SEPP (Major Development).	1 house per 10 ha	0.5:1	14 ha	Warringah Shire Council	Rezoning and Masterplan
12	Pasminco	Industrial 4	800 Residential Medium Density Lots and 20 Ha Industrial	0.02:1	0.5:1	117 ha	Lake Macquarie Council	Rezoning and Masterplan
13	Dumaresq St.	Residential 2	High Density Residential	0.5:1	1.3:1	6,047 m ²	Ku-ring-gai Council	D.A.
14	Tempe Tip	Industrial 4	Bulky Goods Zoning – Declared MP SEPP	0.5:1	0.5:1	10 ha	Marrickville Council	Rezoning
15	Rosehill	Industrial 4	Industrial 4 and Masterplan	0.5:1	0.45:1	30 ha	Parramatta City Council	Masterplan
16	Orion Road	Zone No. 4(a) Industrial General	IN2 Light Industrial under the draft LEP.	1:1	2:1	7,922 m ²	Lane Cove Council	D.A.

		Zone						
17	Finlayson St.	Residential 2(a)	R4 High Density Residential/DA 56 Apartments	0.5:1	1.7:1	2,945 m ²	Lane Cove Council	D.A.
18	Jacaranda	Rural 1(a)	Rural Residential	1 Lot/ 40 ha	1Lot/ha	187 ha	Hawkesbury Council	Rezoning and Masterplan
19	Kent Road	10(b) Mixed Uses Commercial/ Warehouse	Business B2 Mixed Use/Masterplan	1:1	3:1	3.17 ha	City of Botany Bay	Rezoning and Masterplan
20	Delhi Road	Commercial with Development Approval	B2 Local Centre/ SEPP Major Development	2:1	3:1	17,000 m ²	City of Ryde	Rezoning and Masterplan

Compiled by Geha, 2012

Table 5.2 - Case Study Zoning Information

	Example	Original Zone	New Zone
1	Pindari	Special Use 5	Residential 2(d)
2	Wonderland	Recreation and Tourism 3(e)	Employment under SEPP 59
3	Mashman	Zone No. 4 (Light Industrial Zone) and 2(a) Residential	Zone No. 3(c) (Commercial) and associated Site Specific DCP
4	Rosedale	Rural 1(a) / Urban Investigation Zone	Urban
5	Twin Creeks	Rural 1(c)	Rural 1(c) with amendment to LEP
6	Mount Gilead	Rural 1(a)	Rural 1(a) SEPP5
7	Allengrove	Residential 2(a)	R2 – Residential
8	Whiteside	Residential 2(a)	R2 - Residential
9	Little Bay	Special Use 5	Special Use 5 Subdivision DA Earthworks DA
10	Riverstone	Part Rural 1(a) [185ha]; Part Industrial 4(a) [40 ha]	Industrial 4(a) /Business B7 Growth Centres Commission/DCP/SEPP Amendment
11	Oxford Falls	Rural Zone 2	Rural Zone 2 / SEPP (Seniors Living)/SEPP (Major Development)
12	Pasminco	Industrial 4	800 Residential Medium Density Lots and 20 Ha Industrial
13	Dumaresq St.	Residential 2	High Density Residential
14	Tempe Tip	Industrial 4	Bulky Goods Zoning – Declared MP SEPP
15	Rosehill	Industrial 4	Industrial 4 and Masterplan
16	Orion Road	Zone No. 4(a) Industrial General Zone	IN2 Light Industrial under the draft LEP.
17	Finlayson St.	Residential 2(a)	R4 High Density Residential/DA 56 Apartments
18	Jacaranda	Rural 1(a)	Rural Residential
19	Kent Road	10(b) Mixed Uses Commercial/ Warehouse	Business B2 Mixed Use/Masterplan
20	Delhi Road	Commercial with Development Approval	B2 Local Centre/ SEPP Major Development

Compiled by Geha, 2012

Table 5.3 - Summary of Results - Change in Land Market Value: ΔMV and ΔMV (%)

Example		Land Value Before Rezoning	Land Value after Rezoning	Change in Market Value in AUD ΔMV = V _r – V _o	% Change in Market Value ΔMV% = $\frac{V_r - V_o}{V_o}$
		V _o	V _r	ΔMV (\$)	ΔMV (%)
1	Pindari	\$3 Million ¹	\$17.6 Million ²	\$14.6 Million	487%
2	Wonderland	\$49 Million ²	\$125 Million ³	\$ 76 Million	155%
3	Mashman Pottery	\$ 4 Million ³	\$ 13.67 Million ²	\$ 9.67 Million	242%
4	Rosedale	\$ 5 Million ²	\$16 Million ³	\$ 11 Million	220%
5	Twin Creeks	\$33 Million ¹	\$111.25 Million ³	\$78.25 Million	237%
6	Mount Gilead	\$3 Million ³	\$13 Million ²	\$10 Million	333%
7	ERL Allengrove	\$11.52 Million ²	\$28 Million ³	\$16.48 Million	143%
8	ERL Whiteside	\$8.02 Million ²	\$31 Million ³	\$22.98 Million	287%
9	Little Bay	\$32 Million ¹	\$103 Million ²	\$71 Million	222%
10	Riverstone Meatworks	\$2.35 Million ²	\$70 Million ³	\$67.65 Million	2879%
11	Oxford Falls	\$9.0 Million ²	\$80 Million ⁴	\$71 Million	789%
12	Pasminco	\$1 Million ¹	\$12.4 Million ⁴	\$11.4 Million	1140%
13	Dumaresq Street	\$6.6 Million ²	\$16.1 Million ⁴	\$9.5 Million	144%
14	Tempe Tip	\$78 Million ²	\$101 Million ²	\$23 Million	29%
15	Rosehill Industrial Estate	\$30 Million ²	\$110 Million ³	\$80 Million	267%
16	Orion Road	\$ 6 Million ³	\$ 15 Million ³	\$9 Million	150%
17	Finlayson Street	\$6 Million ²	\$11.0 Million ²	\$5.0 Million	83%

18	Jacaranda Ponds	\$8.0 Million ²	\$56 Million ³	\$48 Million	600%
19	Kent Road	\$16 Million ¹	\$90 Million ³	\$74 Million	463%
20	Delhi Road	\$14 Million ³	\$45 Million ³	\$31 Million	221%

- 1** Book Value as an accounting entry.
- 2** Actual Market Transaction.
- 3** Valuation Estimate of Market Price.
- 4** Author's Estimate of Value.

Mean ΔMV Examples 1-20	Mean ΔMV% Examples 1-20
\$36.98 Million	455%

Compiled by Geha, 2012

5.5 - Factors Contributing to Value-Change

The creation of land value through zoning and planning is dependent on many factors which require detailed investigation and explanation. Based on the views contained herein and as documented in the literature review and other findings within this thesis, several important questions are posited:

1. Is the value-change shown in the 20 examples all attributable to the rezoning and planning effects or is it simply a consequence of ordinary market conditions or the inflationary cycle?
2. Is the value-change related more closely to rezoning (i.e. the zoning effect) or to DA (i.e. planning effect) or is it related to a third factor such as a masterplan⁴⁸ which is not a rezoning or a DA?
3. Is value-change greater when created between some zones rather than others?
4. Is the rezoning effect contingent on a zoning class or type such as residential, retail, commercial or industrial?
5. Should the effects of rezoning and planning transformations be similar?
6. Is the rezoning effect more pronounced over land undergoing an actual zoning change or is it higher when DAs achieve the value-change?
7. Is the value-change related to density or are there other factors concomitant or separate that produce the value-change? Is there a directly-proportional relationship with density?
8. Was former Part 3A (or state-significant listing) responsible for the value-change or was it partly or totally due to other factors or processes?
9. What is the common theme that may be postulated to connect all of the rezoning and planning examples used in this thesis?

These questions are addressed sequentially below:

⁴⁸ A masterplan is a term used to describe a plan that creates overarching controls for a building or set of buildings, that describes both building setbacks and envelopes as well as showing how the overall project might integrate with its surrounds. Masterplans are not statutory documents in NSW and so do not have the force of LEPs but do carry statutory weight when approved by Council or the Minister and may be relied upon as might a DA for certainty of built-form outcome.

5.5.1 - Value-change: Independent of Rezoning Effect

The first important point that must be discussed at this juncture, is whether the value-change shown in the examples, is all due to a land parcel's transformation via zoning or planning. One way of checking is looking at the time required to achieve the rezoning and planning outcomes being discussed. This is shown in Table 5.4.

Table 5.4 - Case Study Transformation Details

Rank	Example Number	Example	Δ MV (%)	Type Change		Year Achieved
1	10	Riverstone Meatworks	2879%	RZ; MP	1.3	2009
2	12	Pasminco	1140%	RZ; MP	2.4	2007
3	11	Oxford Falls	789%	RZ; MP	3.6	2012
4	18	Jacaranda Ponds	600%	RZ; MP	2.4	2011
5	1	Pindari	487%	RZ; MP	0.7	2004
6	19	Kent Road	463%	RZ; MP	2.1	2012
7	6	Mount Gilead	333%	RZ; MP	4.6	2006
8	8	ERL Whiteside	287%	RZ; MP	2.3	2011
9	15	Rosehill Industrial	267%	RZ; MP	0.9	2002
10	3	Mashman Pottery	242%	RZ; MP	4.7	2010
11	5	Twin Creeks	237%	RZ; MP	3.4	2010
12	9	Little Bay	222%	MP; DA	1.9	2008
13	20	Delhi Road	221%	RZ; MP	3.7	2012
14	4	Rosedale	220%	RZ; MP	4.2	2007
15	2	Wonderland	155%	RZ; MP	0.4	2003
16	16	Orion Road	150%	DA	1.4	2008
17	13	Dumaresq Street	144%	DA	2	2010
18	7	ERL Allengrove	143%	RZ; MP	2.3	2012
19	17	Finlayson Street	83%	DA	1.2	2010
20	14	Tempe Tip	29%	RZ; MP	1.6	2009
		Average	455%		2.36	

Compiled by Geha, 2012

Key

Δ MV (%): Change in Market Value, in percentage terms.

RZ: Rezoning.

MP: Masterplan.

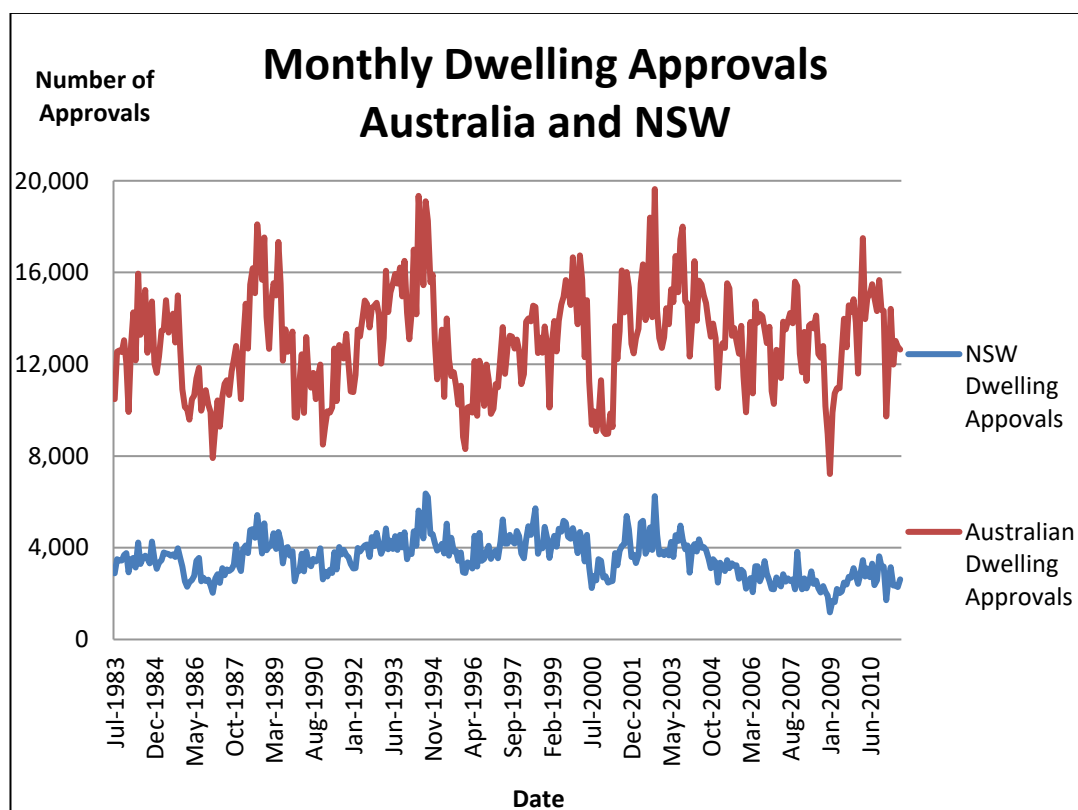
DA: Development Approval.

Time: Time Elapsed, in years.

As all outcomes for every one of the twenty examples was achieved within 4.7 years with an average of 2.4 years, it is unlikely that external factors such as natural price growth or inflation were responsible for the value-change (though it is of course possible). The example rezoning timeframes traverse several economic macro-cycles in NSW over the best part of a decade, thus producing value-changes over several economic cycles including the downturn in 2000; the upturn in 2003 and the GFC in 2008-09 (refer to Table 5.4 and Figure 5.1 overleaf).

Australian Gross Domestic Product (GDP) and NSW Gross State Product (GSP) figures shown in Table 5.5, confirm this fact. These statistics show that for the period 2000-2010, any rezoning effects would be unlikely to be due to external growth factors given that overall-growth averaged 3.15% p.a. in Australia and only 2.44% for NSW, over the period.

Figure 5.1 - Monthly Dwelling Approvals



Source: ABS, 2011

Table 5.5 also indicates that growth in the Australian and NSW economies has varied over the past decade. The largest amount of growth occurred at about the year 2007 for

Australia and 2000 for NSW. Since this period, a sharp decline has occurred due to the GFC effect (at about 2009) and the economy has only recently recovered. The NSW GSP average for the past decade is shown to be slightly lower than the Australian GDP average, with averages of 2.44% and 3.15% respectively for the period 2000-2010. Significantly, growth was as low as 0.8% nationally and only 1.10%, in NSW during the GFC in 2008-2009.

To further examine this premise, Figure 5.1 shows the monthly dwelling approvals for both Australia and NSW. In the early 2000s, a large spike in dwelling approvals occurred; this began to decline in 2003 with a strong fall in 2007-8. It has since slowly recovered. These patterns have roughly followed the trends of the Australian and NSW economies, as seen in the statistics above. It is clear that the rezonings discussed in this thesis and as documented in Tables 5.2 and 5.3, traverse several economic expansions and contractions and are therefore unlikely to have had their value uplifts closely synchronised with general or macroeconomic cycles of either the state or national economies.

**Table 5.5 - Australian Gross Domestic Product and NSW Gross State Product
2000-2010**

	Australian GDP (% change)	NSW GSP (% change)
Jun-2000	4.16%	4.20%
Jun-2001	1.91%	2.30%
Jun-2002	4.37%	2.40%
Jun-2003	2.93%	2.80%
Jun-2004	4.16%	2.00%
Jun-2005	3.03%	2.00%
Jun-2006	2.42%	2.10%
Jun-2007	4.89%	2.80%
Jun-2008	3.03%	3.40%
Jun-2009	0.80%	1.10%
Jun-2010	2.93%	1.70%
Average	3.15%	2.44%

Source: ABS, 2012

Table 5.6 compares the value of land before and after rezoning/DA. It is evident from the data, that land value is considerably higher once a rezoning (or planning outcome) has been achieved. For these examples, the average value of land after a rezoning or planning outcome is \$1,260.62/sqm - this is significantly higher than the average initial land value of \$443.72/sqm (around three times higher in fact).

Table 5.6 - Rezoning Matrix: Dollar/Square Metre Comparison

Example Number	Example	Land Area sqm	V_o	V_o \$/sqm	V_r	Vr \$/sqm
10	Riverstone	2,350,000	\$2,350,000	\$1.00	\$70,000,000	\$29.79
12	Pasminco	1,170,000	\$1,000,000	\$0.85	\$12,400,000	\$10.60
11	Oxford Falls	140,000	\$9,000,000	\$64.29	\$80,000,000	\$571.43
18	Jacaranda	1,870,000	\$8,000,000	\$4.28	\$56,000,000	\$29.95
1	Pindari	8,041	\$3,000,000	\$373.09	\$17,600,000	\$2,188.78
19	Kent Road	31,700	\$16,000,000	\$504.73	\$90,000,000	\$2,839.12
6	Mt. Gilead	220,000	\$3,000,000	\$13.64	\$13,000,000	\$59.09
8	Whiteside	14,049	\$8,020,000	\$570.86	\$31,000,000	\$2,206.56
15	Rosehill	300,000	\$30,000,000	\$100.00	\$110,000,000	\$366.67
3	Mashman	7,664	\$4,000,000	\$521.92	\$13,670,000	\$1,783.66
5	Twin Creeks	3,260,000	\$33,000,000	\$10.12	\$111,250,000	\$34.13
9	Little Bay	170,000	\$32,000,000	\$188.24	\$103,000,000	\$605.88
20	Delhi Road	17,000	\$14,000,000	\$823.53	\$45,000,000	\$2,647.06
4	Rosedale	1,876,200	\$5,000,000	\$2.66	\$16,000,000	\$8.53
2	Wonderland	490,000	\$49,000,000	\$100.00	\$125,000,000	\$255.10
16	Orion Road	7,922	\$6,000,000	\$757.38	\$15,000,000	\$1,893.46
13	Dumaresq St.	6,047	\$6,600,000	\$1,091.45	\$16,100,000	\$2,662.48
7	Allengrove	12,400	\$11,520,000	\$929.03	\$28,000,000	\$2,258.06
17	Finlayson St.	2,945	\$6,000,000	\$2,037.35	\$11,050,000	\$3,752.12
14	Tempe Tip	100,000	\$78,000,000	\$780.00	\$101,000,000	\$1,010.00
	Average	602,698	\$16,274,500	\$443.72	\$53,253,500	\$1,260.62

Compiled by Geha, 2012

It is unlikely that an approximate tripling in the per-square-metre value of land (as is shown in Table 5.6) is a random outcome independent of the landuse processes. It is noted that these comparisons are all in nominal Australian Dollar terms.

5.5.2 - Value-change: Rezoning or DA Related

The next important statistic to check, is whether the value-change effect experienced within the examples, is actually related more to rezoning, DA or masterplanning approvals. A consideration that begs review is whether the effects of rezoning are similar, in value terms, to the effects of planning processes such as DAs and masterplans. Should these processes produce effects on land price that are similar in magnitude or direction? Does the market, in a generalised sense, value rezonings and development consents equally? The matrix of results shown in Table 5.4 shows the status of each example with respect to the processes that have been effected in producing the value-change. In examining the data contained in the twenty case studies, we can distil and observe the following salient points.

The top 8 results in terms of percentage value-change ($\Delta MV \%$) are all examples where the land was rezoned and masterplanned but achieved its final value (V_r) without a DA. This perhaps suggests that rezoning is more important in the value-creation process than a development approval but also that they do produce a similar type of uplift. This observation must be tempered by the comparison that the average time taken for a rezoning outcome was 2.54 years while only 1.63 for a D.A. (refer to Tables 5.7 and 5.8).

Table 5.7 - Rezoning Outcome Approval Times		
Example Number	Example	Time [Yrs]
1	Pindari	0.7
2	Wonderland	0.4
3	Mashman Pottery	4.7
4	Rosedale	4.2
5	Twin Creeks	3.4
6	Mount Gilead	4.6
7	ERL Allengrove	2.3
8	ERL Whiteside	2.3
10	Riverstone Meatworks	1.3
11	Oxford Falls	3.6
12	Pasminco	2.4
14	Tempe Tip	1.6
15	Rosehill Industrial	0.9
18	Jacaranda Ponds	2.4
19	Kent Road	2.1
20	Delhi Road	3.7
	Average	2.54

Table 5.8 - DA Outcome Approval Times		
Example Number	Example	Time [Yrs]
9	Little Bay	1.9
13	Dumaresq Street	2.0
16	Orion Road	1.4
17	Finlayson Street	1.2
	Average	1.63

Compiled by Geha, 2012

Compiled by Geha, 2012

5.5.3 - Relationship between Initial Zoning and Value

The next question to ponder is the hypothesis that value-change is more prodigious with certain zones than with others. In order to assess this possibility, let us examine the original and final zones for all 20 examples as shown in Table 5.2. What we observe for the land uses of the top 8 Δ MV (%) examples, is that four of the pre-rezoned land uses were rural, two were industrial, one was special use and one was low-density residential (as summarised in Table 5.9).

Table 5.9 - Top 8 (Δ MV (%)) Zoning Details

Example #	Example	ΔMV (%)	Initial Land Use	Final Land Use
10	Riverstone Meatworks	2879%	Rural	Industrial and Commercial
12	Pasminco	1140%	Industrial	Industrial and Residential
11	Oxford Falls	789%	Rural	Retirement
18	Jacaranda Ponds	600%	Rural	Rural Residential
1	Pindari	487%	Special Use	Residential
19	Kent Road	463%	Industrial	Residential / Retail
6	Mount Gilead	333%	Rural	Retirement
8	ERL Whiteside	287%	Residential	High Density Residential

Compiled by Geha, 2012

One initial observation from this would be that it is quite logical for rural and industrial uses to make up the bulk of the initial zones (prior to rezoning) as they do have lower dollar-per- square-metre values and are also easier to rezone to “Higher and Better” land uses.

Nonetheless, two examples (or 25%) of the top eight, are neither industrial nor rural. In fact they exhibit special-use or low-density residential zonings. This highlights the

complexity of the zoning process and that of the value-creation more specifically. To make things even more interesting, the final zonings of these eight examples were (in descending order) Commercial/Industrial; Residential/Industrial; Retirement; Rural Residential; Residential; Residential/Retail; Retirement and High Density Residential. This covers almost a full suite of zones and illustrates that the final zoning does not always have to relate to high-density residential (as may be assumed based on use and dollar per-square-metre prices) with Commercial, Industrial, Retirement and Rural Residential all featuring in the final rezoning outcomes for these parcels. It is thus fair to conclude that the rezoning effect does not seem to be dependent on particular initial or final zones for the overall value-creation to take place.

5.5.4 - Rezoning Effect and Zone Typology

As discussed, Table 5.2 shown earlier in this chapter outlines the zoning typology of the different examples, both before and after rezoning. Of the 20 case study examples analysed, the land parcels that have been transformed to new landuse outcomes, include a full gamut of zones: residential; employment; urban; rural; recreational and tourism; special use; industrial; commercial; retirement; industrial/residential; business and bulky goods. This again highlights the complexity of the value-creation process for different zoning designations. In simple dollar-per-square metre terms a rezoning from rural (often lowest dollar psqm) to residential (often highest dollar per square metre) should provide the greatest value-change compared to other landuse class changes. Yet looking at the examples, none of the top eight results exhibit this exact pattern. This is for several possible reasons.

This idealistic landuse opportunity may now be difficult to find at the edges of cities like Sydney. It may also be because such large blocks of rural land already have the likely future rezoned outcomes priced into their land values, making them less attractive to land developers and financiers. The most important reason however is perhaps that the infrastructure required to rezone these lands in readiness for development, is too costly. Currently this cost is borne in part by the government but is still a significant impost on the landowner, who is simply limited by how much of this cost is able to be passed on. **Example 4** (Ranked 14/20) is the only example that rezones from rural to

residential uses. **Example 18** (Ranked 4/20) is similar in that it saw a transformation from rural to rural residential land uses.

Given the large number of different uses in the final land outcomes, it seems that value-creation is not contingent on a prescribed zone typology and is possible between a multiplicity of zones and land uses.

5.5.5 - Comparing Rezoning and Planning Effects on Land Value

In examining both the qualitative and quantitative, data contained in the 20 examples, it is fair to question yet another fundamental tenet of the value-creation process, namely whether the effects of zoning and planning processes on land value are identical, similar or neither.

As Table 5.4 indicates, the top eight land parcels, in value-change terms, all involved a rezoning and a masterplan. Also, of the 20 examples, 17 involved a rezoning. Clearly this is significant. It is not a simple assessment however, as there was one result (9th best) which involved a masterplan only; one with a masterplan and DA and no rezoning (**Example 20**); one with DA only (**Example 16**) and one (**Example 17**) with a rezoning and a DA.

5.5.6 - Rezoning Effect: Rezoning and DA Comparisons

So is the rezoning effect more pronounced with a statutory landuse change or is it higher when planning processes such as DAs achieve the value-change? Table 5.4 summarises the project characteristics for each example, in descending order based on ΔMV (%). Distilling data from this table, it is apparent that the top eight examples with the highest ΔMV (%) percentages were all projects that involved both rezonings and masterplans. Also, Table 5.4 shows that projects that did not involve a rezoning were ranked lower down the table. These results indicate that a rezoning provides a more valuable market outcome for a parcel of land.

It is also evident that producing a masterplan contributes significantly to the change in ΔMV (%). A masterplan on its own however, will not produce a significant increase, in

land value without a rezoning or a DA, as seen with **Example 15**. A combination of both a rezoning and a masterplan is needed to produce a large ΔMV (%). This is because a Masterplan (MP) derives its power from an LEP as well as its legal legitimacy. It can in some circumstances however, give a higher level of certainty to a planning outcome, sometimes eliminating the need for a rezoning (e.g. **Example 9**; Ranked 12/20 in terms of ΔMV %).

5.5.7 - Value-Change: Density Relationship with MV (%)

The next important question that requires investigation is whether the value-change is related to density or whether there are other factors concomitant or separate that produce the value-change? Is there a directly proportional relationship with density? The data clearly indicates that density does have a relationship with value, though not a directly proportional one in terms of impact on the ΔMV (%) values. From observing the data in Table 5.10, the majority of the examples with the highest ΔMV (%) values, have a final FSR of 0.5:1 (the typical floorspace ratio of a low-density dwelling in Sydney). This is considered a low final density outcome. We also can see that **Example 20** has a considerably higher FSR at 3:1, though its ΔMV (%) is considerably lower than other examples, ranking 12/20.

As can be seen from Table 5.10, the highest ΔMV results are not correlated directly with higher densities. This is not an obvious outcome but the top example (**Example 10**) is deceptive - its FSR remained at 0.5:1 for the allowable industrial outcome but the GFA gazetted and masterplanned under the new zone, was lifted from a part industrial for 40 ha (say 200,000 m² of GFA) to 750,000 m² of allowable industrial and commercial GFA. This increase is in the order of 550,000 m² of GFA (albeit at a lower dollar-per-square-metre value). This represents an increase of some 275%.

Therefore FSR alone is not always an accurate measure of value. In the case of the rural examples, where density is represented in lots/hectare, density for **Example 18** say (ranked 4/20 in Table 5.6) was transformed from 1 lot per 40 hectares to 1 lot per hectare - a 40 fold or 4,000% increase in lot density. In **Example 5** (Ranked 11/20) the lot density increased from eight lots on the 326 ha to 285 lots or from 0.02 lots/ha to

0.87 lots/ha - a 4,250% increase in lot density terms. In **Example 19** however, the relationship is very direct. The FSR went from 1.0:1 to 3.0:1 giving rise to a 462.50% change in the market value of the land.

Thus the relationship between value and the floorspace ratio is real but is complicated by a myriad of other factors such as the final GFA, the final uses and is more obvious as a linear relationship in some examples (see **Example 17** and **Example 19**) than in others (such as **Example 1**), where a 0.3:1 increase in nominal FSR produced a 487% increment in value (ranking 5/20 in $\Delta MV\%$ terms - refer to Table 5.10).

Table 5.10 - Rezoning Effect and F.S.R - Δ MV % Descending Order

Rank	Example Number	Example	Land Area sqm	Original F.S.R	FSR after Rezoning and Planning Approval	V _o	V _o \$/sqm	V _r	V _r \$/sqm	Δ \$/sqm	Δ \$/sqm %
1	10	Riverstone	2350000	1 dwelling per 100 ha / 0.5:1 (for 40 ha industrial)	0.5:1 (750,000 sqm Industrial/ Commercial)	\$2,350,000	\$1.00	\$70,000,000	\$29.79	\$28.79	2878.72%
2	12	Pasminco	1170000	0.02:1	0.5:1	\$1,000,000	\$0.85	\$12,400,000	\$10.60	\$9.74	1140.00%
3	11	Oxford Falls	140000	1 dwelling per 10 ha	0.5:1	\$9,000,000	\$64.29	\$80,000,000	\$571.43	\$507.14	788.89%
4	18	Jacaranda	1870000	1 Lot/ 40 ha	1Lot/ha	\$8,000,000	\$4.28	\$56,000,000	\$29.95	\$25.67	600.00%
5	1	Pindari	8,041	0.5:1	0.8:1	\$3,000,000	\$373.09	\$17,600,000	\$2,188.78	\$1,815.69	486.67%
6	19	Kent Road	31700	1.0:1	3.0:1	\$16,000,000	\$504.73	\$90,000,000	\$2,839.12	\$2,334.38	462.50%
7	6	Mount Gilead	220000	1 dwelling per 100 ha	0.5:1	\$3,000,000	\$13.64	\$13,000,000	\$59.09	\$45.45	333.33%
8	8	Whiteside	14,049	0.5:1	1.7:1	\$8,020,000	\$570.86	\$31,000,000	\$2,206.56	\$1,635.70	286.53%
9	15	Rosehill	300000	0.5:1	0.45:1	\$30,000,000	\$100.00	\$110,000,000	\$366.67	\$266.67	266.67%
10	3	Mashman	7664	0.5:1	2.0:1	\$4,000,000	\$521.92	\$13,670,000	\$1,783.66	\$1,261.74	241.75%
11	5	Twin Creeks	3260000	1 dwelling per 40 ha or 8 lots	285 Lots or 0.87 lots/ha	\$33,000,000	\$10.12	\$111,250,000	\$34.13	\$24.00	237.12%
12	9	Little Bay	170000	0.5:1	0.5:1	\$32,000,000	\$188.24	\$103,000,000	\$605.88	\$417.65	221.88%
13	20	Delhi Road	17,000	2.0:1	3.0:1	\$14,000,000	\$823.53	\$45,000,000	\$2,647.06	\$1,823.53	221.43%
14	4	Rosedale	1876200	1 dwelling per 100 ha	781 Lots	\$5,000,000	\$2.66	\$16,000,000	\$8.53	\$5.86	220.00%

15	2	Wonderland	490000	N/A	0.5:1	\$49,000,000	\$100.00	\$125,000,000	\$255.10	\$155.10	155.10%
16	16	Orion Road	7,922	1.0:1	2.0:1	\$6,000,000	\$757.38	\$15,000,000	\$1,893.46	\$1,136.08	150.00%
17	13	Dumaresq St	6,047	0.5:1	1.3:1	\$6,600,000	\$1,091.45	\$16,100,000	\$2,662.48	\$1,571.03	143.94%
18	7	Allengrove	12,400	0.5:1	1.7:1	\$11,520,000	\$929.03	\$28,000,000	\$2,258.06	\$1,329.03	143.06%
19	17	Finlayson St.	2,945	0.5:1	1.7:1	\$6,000,000	\$2,037.35	\$11,000,000	\$3,735.14	\$1,697.79	83.33%
20	14	Tempe Tip	100000	0.5:1	0.5:1	\$78,000,000	\$780.00	\$101,000,000	\$1,010.00	\$230.00	29.49%
Average			602,698			\$16,274,500	\$443.72	\$53,251,000	\$1,259.77	\$816.05	454.52%

Compiled by Geha, 2012

5.5.8 - State Significance and Value-Change

Another important consideration is to examine whether the listing of sites as being of state significance, may have been a key factor in delivering value-change to the land parcels examined. In examining the numerics of the various examples, it appears that it was not. Though an effective mechanism for the delivery of rezoned outcomes, state significant listing under former Part 3A of the Act (operational until 2011) and the SEPPs had a random impact on the calculated $\Delta MV\%$ results for the various examples, as indicated in Table 5.11.

Table 5.11 - Example Approval Pathway and Outcomes

Example		ΔMV (%)	(Former) Part 3A Outcome	SEPP Outcome	SEPP Type
1	Pindari	487%	No	No	No
2	Wonderland	155%	Yes	Yes	59
3	Mashman Pottery	242%	No	No	No
4	Rosedale	220%	Yes	Yes	71
5	Twin Creeks	237%	No	No	No
6	Mount Gilead	333%	Yes	Yes	5
7	ERL Allengrove	143%	Yes	Yes	MP
8	ERL Whiteside	287%	Yes	Yes	MP
9	Little Bay	222%	No	No	No
10	Riverstone Meatworks	2879%	Yes	Yes	GC
11	Oxford Falls	789%	Yes	Yes	SL
12	Pasminco	1140%	Yes	Yes	MP
13	Dumaresq Street	144%	No	No	No
14	Tempe Tip	29%	Yes	Yes	MP
15	Rosehill Industrial Estate	267%	No	No	No
16	Orion Road	150%	No	No	No
17	Finlayson Street	83%	No	No	No
18	Jacaranda Ponds	600%	No	No	No
19	Kent Road	463%	No	No	No
20	Delhi Road	221%	Yes	Yes	MD

Compiled by Geha, 2012

Index - SEPP Type

SEPP 5	SEPP (Housing for Seniors or People with a Disability) 2004.
SEPP 59	Central Western Sydney Regional Open Space and Residential.
SEPP 71	Coastal Protection.
SEPP GC	SEPP (Sydney Region Growth Centres) 2006.
SEPP SL	SEPP (Seniors Living) 2004.
SEPP MD	SEPP (Major Development) 2005.
SEPP MP	SEPP MP (Major Project) 2005.

As can be seen from the above table, some of the lowest outcomes (e.g. **Example 7** at 143% and **Example 14** at 29%) were (former) Part 3A outcomes. Equally the top ΔMV (%) result was achieved in a State-Significant process and achieved a ΔMV (%) of 2879%.

Notwithstanding, it seems that the State Significant legislation route is on average a more valuable one for the land parcels examined. In looking at the ΔMV (%) values, these were around 290% for the non-(former) Part 3A sites as opposed to about twice that at 619% for the ΔMV (%) of the former Part 3A (or equivalent) sites. Excluding the outlying results from the former Part 3A sites e.g. **Example 14** (lowest) and **Example 10** (highest), we see a narrowing in the gap between the two averages, with ΔMV (%) for Non-(former) Part 3A at 290% versus ΔMV (%) for former Part 3A at 522%. This is still significant and must be noted as an outcome of the data.

Thus using former Part 3A as an approval process, does play some role in a project's final land valuation. More generally however, as illustrated in Table 5.4 and Table 5.11, the examples with the highest and lowest ΔMV (%) are a conglomeration of projects with different approval pathways. Also given that the highest ΔMV (%) and the lowest were both former Part 3A projects (**Example 10** and **Example 14**) it would be reasonable to assume that on its own, the former Part 3A listing did not appear to play an overly-significant role in achieving a greater ΔMV (%). Looking at the approval

times as well (see Table 5.4, and Tables 5.12 and 5.13), we observe that the average approval time for the non-(former)Part 3A examples was only marginally better (by 0.57 years on average) than the former Part 3A Project Approval times. This of course ignores the effects of size and complexity on approval time. Also, assisting in the efficiency of a project's timeframe and certainty of outcome, as former Part 3A has delivered, is a significant value in itself. This is better observed in the bar graphs for both the non-(former)Part 3A Approval times and former Part 3A Approval times as shown in Figures 5.2 and 5.3.

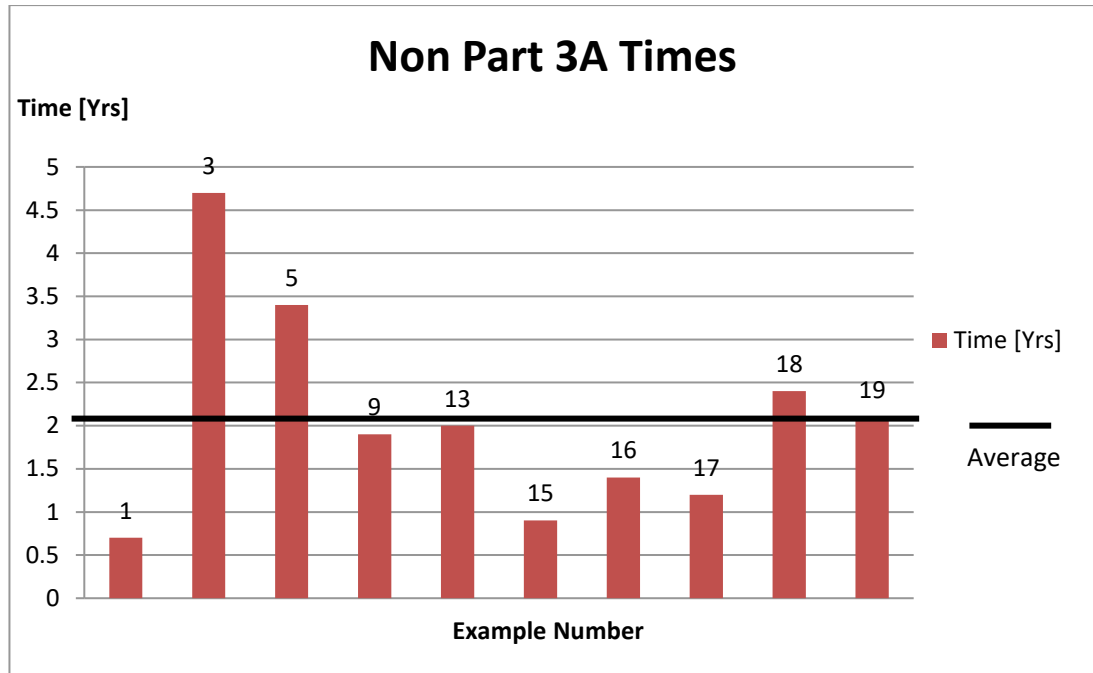
Table 5.12 - Non (Former) Part 3A Project Approval Times		
Example Number	Example	Time [Yrs]
1	Pindari	0.7
3	Mashman Pottery	4.7
5	Twin Creeks	3.4
9	Little Bay	1.9
13	Dumaresq Street	2.0
15	Rosehill Industrial	0.9
16	Orion Road	1.4
17	Finlayson Street	1.2
18	Jacaranda Ponds	2.4
19	Kent Road	2.1
	Average	2.07

Compiled by Geha, 2010

Table 5.13 - (Former) Part 3A or State Sponsored Project Approval Times		
Example #	Example	Time [Yrs]
2	Wonderland	0.4
4	Rosedale	4.2
6	Mount Gilead	4.6
7	ERL Allengrove	2.3
8	ERL Whiteside	2.3
10	Riverstone	1.3
11	Oxford Falls	3.6
12	Pasminco	2.4
14	Tempe Tip	1.6
20	Delhi Road	3.7
	Average	2.64

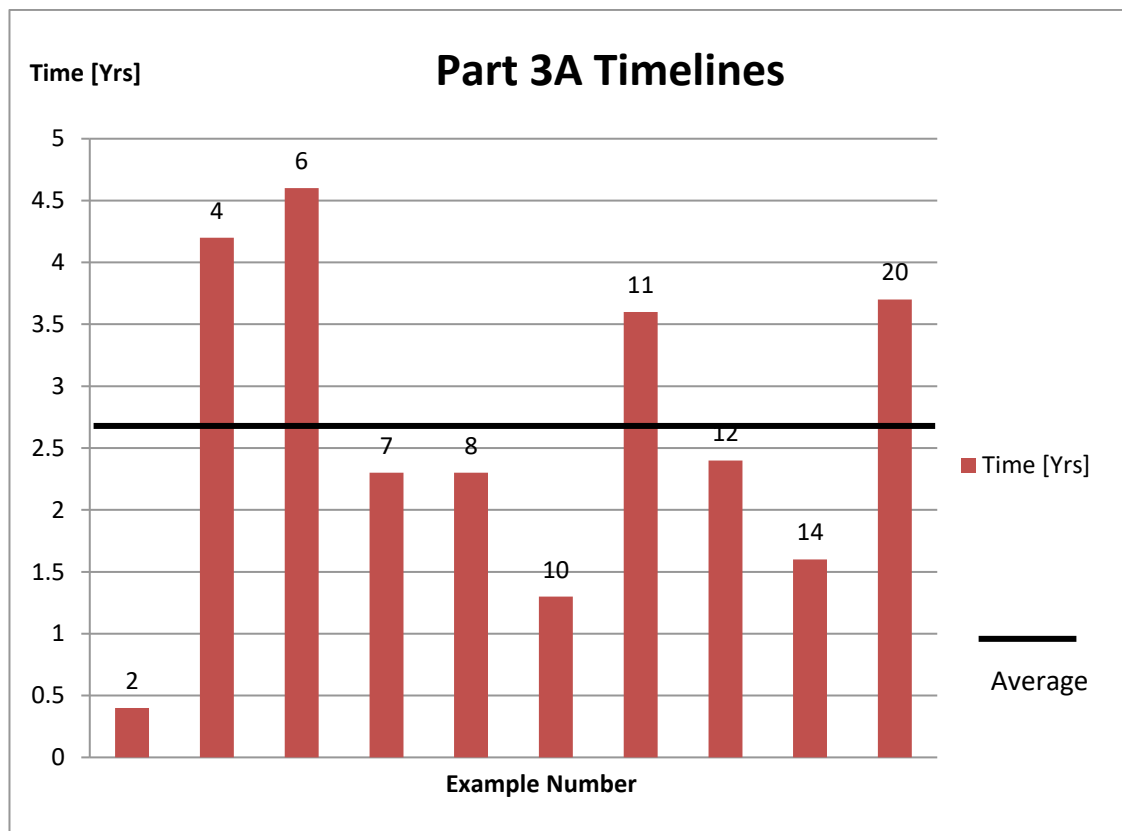
Compiled by Geha, 2012

Figure 5.2 - Non (Former) Part 3A Project Approval Times



Compiled by Geha, 2010

Figure 5.3 - (Former) Part 3A Project Approval Times



Compiled by Geha, 2010

5.6 - Case Study Examples: Qualitative and Quantitative Analyses

As per Ruming's ANT Theorem on complex projects (2007; 2009), the negotiated final land outcomes can be seen in the examples below, where competing statutory, political, bureaucratic and financial interests, engage to secure the best final outcome possible. So why should a rezoning or planning approval affect land value? The reasons are both complex and varied but to summarise the findings of the research, in very simple terms, value-change occurs due to the change in the productive capacity of the land and its increased ability to produce income or capital or both. This proposition will now be discussed using the examples of the 20 case studies in turn. Map 5.1 below shows the location of the various case study examples used in the analysis.

In the case of **Example 1** for instance (involving the zoning change from Special Use to Residential as per Table 5.1), the parcel was transformed from a Special Use parcel with a zoning which clearly allowed residential uses and its floorspace was increased from a 0.5:1 maximum to a 0.8:1 maximum (see Table 5.1; Table 5.10 and Table 5.11) with an approved, built-form outcome of 64 apartments and townhouses.

The land's value increase (here between its book value and open-market sales value) was \$14.6 Million or an uplift of 487%. This was arguably an instantaneous transformation of land value as the improvements on the land were of negligible consideration and the rezoning and sale of the land were performed in less than twelve months.

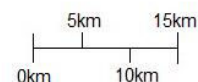
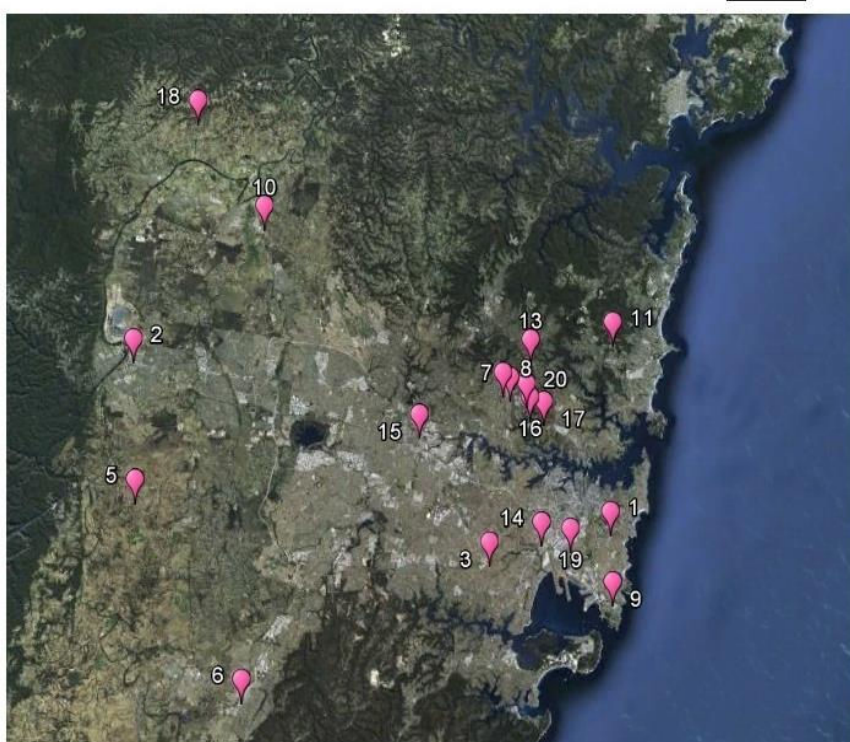
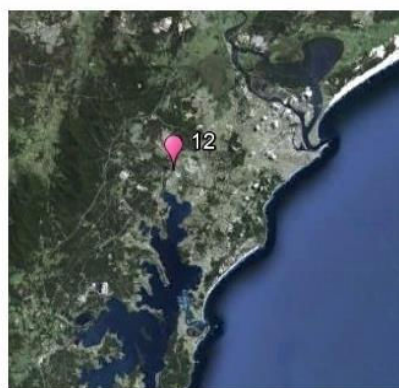
In nominal terms and excluding adjustments due to rental income, inflation and other external factors, the **Example 1** site was valued at \$3.0 Million by its owner under its former zoning. This was its nominal book value, which was arguably close to its previous market value. The market value of the site post rezoning was \$17.6 Million, being the actual value that a purchaser paid for the site, post its rezoning and masterplanning. This was a market transaction and as such is an exact measure of land value (see Table 5.10).

With **Example 2**, the land had a tourism zoning to accommodate its theme park uses. The rezoning produced an industrial/warehousing use, with a masterplan. The

masterplan increased the financial certainty of the zoned outcome. Here the value of the uplift was around 155%, being the difference between the purchase price and the new land value given to the land by its new owners (see Table 5.11).

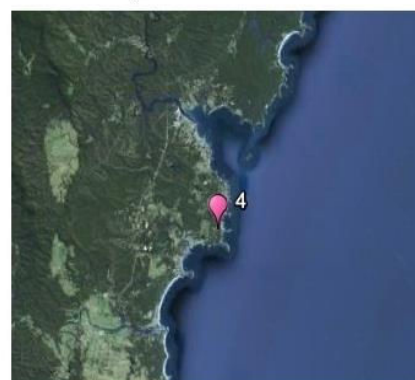
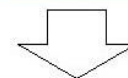


**Map 5.1 - Location of
Rezoning Examples around
Sydney Metropolitan Area
and NSW**



Legend:

- | | |
|---------------------------|--------------------------|
| 1. Pindari. | 11. Oxford Falls. |
| 2. Wonderland. | 12. Pasminco. |
| 3. Mashman Pottery. | 13. Dumaresq Street. |
| 4. Rosedale. | 14. Tempe Tip. |
| 5. Twin Creeks. | 15. Rosehill Industrial. |
| 6. Mount Gilead. | 16. Orion Road. |
| 7. ERL Allengrove. | 17. Finlayson Street. |
| 8. ERL Whiteside. | 18. Jacaranda Ponds. |
| 9. Little Bay. | 19. Kent Road. |
| 10. Riverstone Meatworks. | 20. Delhi Road. |



We see that the land more than doubled in value within a four-month period (see Table 5.4). This is highly unlikely to have been due to any circumstances other than the rezoning. We also observe that different zones were involved to those of Example 1 and Example 3.

In **Example 2**, the site was not zoned for its intended, new industrial park purpose however, and this represented to the new land owners the largest commercial risk associated with the site and its future success. Thus an important step for the site, in risk management terms, was that it had to necessarily undergo a rezoning in order to permit industrial and warehousing activities, as envisioned by new feasibility studies confirming the site's new industrial park economic viability. If successful, the rezoned area which the site occupied, would be included into SEPP 59 (see table 5.11) and development applications could then be lodged for new logistics, warehousing and transport users. The nominal, unadjusted value-change attributable to zoning for the site, can be accurately measured at the time of purchase. The purchase price for the site was \$49 Million. Post rezoning, the book value of the land was documented at \$125 Million. This example showed a $\Delta MV\%$ of 155% (see Tables 5.3 and 5.6).

In **Example 3**, the land located in the southern Sydney suburb of Kingsgrove, was occupied by a pottery which had operated at this location for over five decades. Permissible landuses for the site were changed from being industrial with a 0.5:1 FSR to a 2:1 FSR within a new DCP, in a mixed-use Residential/Retail zone. The value-change was over a 4-5 year period but it would be fair to say that it was a period of very slow market conditions (see Table 5.5). The final value post rezoning (achieved between 2004-2009) is an accurate representation of the land's market value as it was an actual sale. Here we see a 242% increase in land value and yet another zone-to-zone transformation compared with **Example 2**.

The main strategic planning benefits resulting from a rezoning to a 3(c) Business zone in **Example 3**, included increased employment at the site and greater work accessibility to a major rail station and bus routes and to a lesser degree, the M5 toll road. These benefits can be delineated as follows:

1. Replacement of redundant land uses, such as “economically-obsolete” industrial sites, with new and more viable land uses. Here, the lack of viability of the industrial operation, was perhaps best reflected in its dwindling employment numbers. At the date of its rezoning in 2009, the pottery only employed 6 staff members, as opposed to 10 staff only two years earlier and some 38 people a decade earlier. Employment traditionally provided by pottery-making on this site, would now be replaced by modern, suburban, employment opportunities, which were more appropriate and sustainable, given the site’s residential and retail surrounds.
2. As gazetted, the new rezoned land would, by comparison, create 103 apartments and a large fresh food supermarket, thereby providing employment to 60 full-time staff, with an additional 450 construction jobs in the building phase of the development. If the site was, on the other hand, able to reach its maximum 1:1 retail FSR potential, the non-residential component would optimally generate 1 employee per 40 sqm or 308 jobs.
3. The addition of a much-needed retail use to the area. Given that both Council-initiated and independent retail studies had separately confirmed a gross undersupply of fresh-food retail in the relevant sub-region, the supermarket was certainly an important future land use. Further, the proposal provided a minimum of 96 new publicly-accessible, under-cover, car spaces that would help to alleviate the existing, congested, capacity-parking arrangements around the Kingsgrove local shopping strip. This was in addition to the 179 car spaces allocated to the site’s future residents, in conformity with Council’s Parking DCP.
4. Provision of a more optimal urban land utilisation outcome through site-specific zoning changes. Such rezonings allow the flexibility of re-utilising large “brownfield” sites, in accordance with market forces and in conformity with the State Government’s “More Compact Cities” initiatives for reducing “urban sprawl” in NSW. Limiting the expansionary pressures for increased “greenfield” growth at the periphery of a city such as Sydney, is best done through “urban infill”. This particular rezoning was a great embodiment of such an axiom.

5. Better compatibility with surrounding land uses. The site was bounded by predominantly- residential amenity and was thus an obvious anomaly in zoning terms, being the only industrially-zoned site south of the relevant railway station. The resulting zoning change from an industrial to a residential/retail use, would also have a material positive impact on the amenity of the large number of low-density residential homes in the neighbouring streets, all of which had for decades been located alongside a neighbouring industrial use.

6. Enhanced functional, physical and social connectivity. The rezoning allowed the creation of open space at the centre of the site and the design of a new through-site link. This connection had been formally severed by the pottery, which separated the original avenue into two totally-disconnected halves. The rezoning thus provided a renewed opportunity to reconnect and reactivate pedestrian access, through the site as a public benefit. This would have the effect of affording hundreds of homes on the western side of the land, direct access to the railway station through the middle of the site, via a properly-architected public walkway. At its widest the designed thoroughfare afforded pedestrians a width of 38 metres, which was greater than that of Martin Place in the Sydney CBD. This was another material, new, public benefit arising from the rezoning.

7. Easier dealings and quicker decisions were possible on this site due to its size and single ownership structure. The site, being the largest privately-owned parcel within 2 km of the nearby rail station, was unique and at over 7,700 sqm, was controlled by only one entity. This made it possible to reach quicker decisions with respect to many public outcomes for the site, including those connected with the rezoning.

It was thus decided, for all the reasons outlined above, that the site would be best-suited to a commercial mixed-use zoning. The 3(c) zoning was considered the most appropriate for the site, because of its contiguousness to the local commercial centre, which was also zoned 3(c) Business Centre. The rezoning would be effected by changing the site controls which would be stipulated in the LEP and a separate masterplan and site-specific DCP, setting out the more detailed controls for the site. These changes translated into a $\Delta MV\%$ of 242%.

Example 4 is different locationally and presents yet another permutation, namely Rural-to-Residential. Located in the small coastal hamlet of Rosedale some 390 km south of Sydney, this parcel also had a complex zoning journey. Here what had changed related more to the density per hectare than floorspace change, though the FSR of the parcel had indirectly increased because its permissible number of lots (and dwellings) had obviously changed. We see the value of this parcel increase some 220% over a two-year period and following its rezoning to an 781 lot outcome.

There was a unique value proposition at this site. It had already been through a zoning change by the local Council but would only add value if its earlier-submitted but rejected subdivision DA could be changed and approved in a different form, by the Department of Planning. This needed to be done quickly but any new subdivision DA on the land would be both costly and time-consuming due to the numerous physical and natural constraints on the land. This was what was successfully done however. The final DA achieved a favourable outcome, gaining approval for almost 800 lots on the land. These now could be valued in accordance with their market price. Also all of the site's sensitive features were either protected or enhanced, whilst concomitantly doubling original lot numbers, in the previously unsuccessful DA. This example yielded a $\Delta MV\%$ of 220%.

Example 5 was a 326-hectare parcel of land, located near the suburb of Luddenham, some 60 kilometres west of the Sydney CBD, and was also a unique zoning change. Here lot density was directly connected with value. The price of the land increased by over 200% as the number of lots changed from 177 to 285. This is not as straightforward as it appears, as the original parcel already had a golf course and its own sewer infrastructure constructed. It also had an established rural-residential setting with 177 one-acre lots, some of which had been pre-sold. The project was widely-accepted to possess significant strategic benefits, which included the provision of much-needed, executive-style housing in the area, contributing to greater housing choice in the Penrith LGA.

Increasing the residential population and housing diversity at the site, was deemed important in creating a more economically and socially-sustainable community. In a

long-term planning sense, the increased population would also lend greater support and patronage to the facilities and services provided at the development. The long-term commercial success of the development was not only important to the land owners but also to the broader region and recognised as such by both state and local planning bodies. The project with its unique mix of residential and recreational uses, was in fact consistent with the Penrith Rural Lands Strategy which encouraged tourism and employment-generating development in the area.

The land value increase here was around \$78.0 Million and both the increased number and the reduced size of lots produced, contributed to this value increase. The smaller 1500 sqm lots created on part on the land, were extremely successful in terms of sales, reflecting market appetite for both the product type and creating a new lower price point (\$500k vs. \$750k). This value-change presents yet another zoning permutation from Rural to Rural-Residential and to smaller-lot Rural-Residential, all of which contributed to creating a value increase in the land price. Here, the $\Delta MV\%$ was 237%.

In **Example 6**, located in Mount Gilead near the suburb of Campbelltown in Sydney's south west, we see yet another zoning value-change permutation. Here the land transformed from a Rural broad-acre zoning, allowing no housing over the 2-hectare lot, to a retirement village containing the three stages of care: independent living, assisted living and nursing home. There were over 1000 apartments approved under the new zoning. The land had been offered to the market prior to its rezoning, attracting interest at \$3.0 million. Post rezoning, it actually sold for \$13.0 million. In this case we note a value increase of 333%, the land more than quadrupled in value over the 5-year period of rezoning. Again, this is highly unlikely to have occurred due to random market conditions. The land was also sold some two years prior to the GFC, making the effects, if any, on the land due to macro or national economic factors, improbable.

In terms of its detailed zoning pathway, this land was zoned Rural 1(a) and was vacant at the time of rezoning. Overall however, the site had some powerful planning and physical constraints. Its most prominent natural feature was a central spur, which invested the land with a rare and beautiful amenity but also with slopes that were unfriendly to high lot yields. The greatest impediment to higher lot densities however,

remained its rural zoning, which did not allow any residential living at all - not even a single dwelling. The original rural zoning only permitted one lot per 40 hectares. Thus no subdivision of the land was possible.

The land enjoyed superb rural-landscape views and although very suitable for a retirement scheme (its final rezoned outcome), could not legally sustain such a scheme under its rural zoning. It also had other, site-specific, visual and hydraulic sensitivities, including having a P-Class Waters classification (under the Clean Waters Act 1970), which created severe restrictions on any development that might impact on the waterways flowing within the site and eventually into the surrounding river system. The value of the final rezoned parcel here would have been more closely related to the income stream of both the apartment sales and the nursing home than comparable sales, as was the case in the previous examples.

The site had been offered to the commercial market some six months prior to the commencement of the rezoning. The best offer received was for a highly-conditional purchase at \$4.5 Million. Thus the market value of the land on an unconditional basis may have been around \$3.0 Million. After its approval under State Environmental Planning Policy No. 5 (Housing for Older People or People with a Disability)⁴⁹, this masterplanned site sold outright and unconditionally for \$13.0 million. The resulting $\Delta MV\%$ was 333%.

The next example, **Example 7** was of a 12,400 square metre parcel comprising exclusively low-density residential housing in the suburb of North Ryde⁵⁰ and within a 400-metre walk to the new railway station at Macquarie Park, part of the newly-constructed Epping-to-Chatswood Rail Link. The value transformation in this instance, involved both a rezoning and a masterplan. The value of the land at the end of the rezoning process reflected the fact that only detached housing was originally permissible on the site, later rezoned through a (former) Part 3A process to higher-

⁴⁹ SEPP 5 was replaced in 2004 by State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

⁵⁰ North Ryde is a middle-ring Sydney suburb located in the north-west of the city about 25 km from the Sydney CBD.

density residential uses. The transformative process took around 7 years and surprisingly reflects a comparatively low ΔMV at 143%. This is probably due to the fact that the purchased 2(a) land was expensive by comparison to the final, approved per-site value of \$127 k per-unit-site. The per-square-metre price of the houses averaged about \$929/sqm whilst the rezoned land averaged \$2,258/sqm or a \$1,329/sqm increase in terms of land value (see Table 5.10). This translates in percentage terms to a 143% increase which is significant. The certainty of the final approved masterplan is probably offset here by the size of the development, which contained in its final form over 191 apartments. Typically in all such projects, land value was back-derived by the purchaser by subtracting development costs from gross revenues. This is explicit in the Empirical Value-Change Equation, as shown in Sections 5.8 and 5.9.

With such strong credentials, the land owner first approached the relevant Planning Authority, after having commissioned a detailed planning study of the entire land-zoning, holding and ownership patterns, around the three new train stations along the Epping-to-Chatswood Rail Link, namely North Ryde; Macquarie Park and Macquarie University. This was accompanied by a full urban analysis of the most appropriate built form around each station. This was then followed by a full masterplan design of the site by a multi-award-winning architect and a fully-detailed planning proposal justifying the outcome. The strength of the architectural and planning submissions, was significant in achieving the final negotiated zoned outcome. After almost two years of engagement, including written submissions to the Planning Authority, it was finally mutually agreed that the scheme should be presented to the Department of Planning, to gauge departmental support for a (former) Part 3A Project under SEPP (MD).

The development contained in the submitted Concept Plan application, was for a purely-residential scheme and was a Major Project of the kind described in the former Part 3A of the EP&A Act and SEPP (MD). Therefore a formal request was made to the Minister seeking his opinion as to whether the development as proposed, was one to which former Part 3A of the Act applied. More specifically, given that the proposal had a Capital Investment Value of more than \$100 million (CIV of \$111.8 million), whether it would be deemed by the Minister to be a “Major Development” under Schedule 1, Clause 13, titled “Residential, Commercial or Retail Projects” as described in SEPP

(MD)⁵¹. The Minister did reach this view and the project was declared a project to which former Part 3A of the Act applied, for the purposes of Section 75B of the Act. This, overall eventuated into a $\Delta MV\%$ of around 143%.

The results for **Example 8** were very similar, in both outcome and method, to those of **Example 7**. The land was located between Macquarie Park and Macquarie University stations and fronted Epping Road, a major arterial road in the north-west of Sydney and comprised primarily a large undeveloped block and several small detached houses. Both **Example 7** and **Example 8** underwent the same (former) Part 3A rezoning and masterplanning transformation. The land price here was \$8,020,000 paid for 14,049 sqm of land or a mere \$570 psqm. The value increase here was double that of **Example 7** (287% vs. 143%), even though the examples were reasonably similar in location, size, geography, initial zoning and final zoning. This reflects the land's residual value, based on the number of units produced by its new zoning and masterplan. This is surprising in one sense, but not in another as it highlights the importance of the silent parameter in all rezonings - the initial land purchase price.

The site was zoned R2 Low Density Residential under the Ryde LEP 2010 at the time of the rezoning but accommodated a horse-riding school. There were also secondary and tertiary access points for the site, affording it multiple entry and egress options, other than its long, main-road frontage.

Land to the south-west of the site, consisted primarily of low-rise detached housing and was primarily zoned R2 Low Density Residential under the Ryde LEP 2010. Dwelling houses and multi-dwelling housing to a maximum height of 9.5 metres, were both permissible in this zone, however, residential flat buildings were prohibited. The original, allowable F.S.R. limit was 0.5:1. Land directly opposite the site, had been fully built as 12-14 storey office premises and zoned for business and technology purposes. Due to its imminent suitability, further significant intensification of employment-generating uses were planned in this area.

⁵¹ Clause 13 was removed from SEPP (MD) in 2011.

The R2 Low Density Residential zoning was not considered optimal for the site, especially given its unique size, location and strategic planning connection to such important infrastructure as employment, educational and retail facilities and the newly-opened Epping to Chatswood Rail Line. This was further highlighted in both the Inner North Subregional Strategy and the Macquarie Park Corridor LEP No. 137, both of which supported landuse change and suggested increased densities at this location.

Thus in strategic planning terms, a zoning change and landuse intensification, were both within the intent and the strategic policy objectives of the area and the region and were vested with even greater weight due to the land's propinquity to the two new railway stations at Macquarie Park (about 650 metres from the site) and Macquarie University (about 980 metres from the site). The $\Delta MV\%$ which resulted, was a creditable 287%.

Example 9 also had special features. Here the site measured 17 hectares in area and was located at Little Bay, an eastern Sydney coastal area, some 18 km from the Sydney CBD. Though the land was not actually rezoned per se, it was transformed through the planning system via a Development Approval. In value terms, this involved a full quantification of the land's development constraints and the certainty of a Development Approval. The DA approval for 149 residential housing lots, comprising 79,000 square metres of nett developable area, was what gave effect to a value change as may be experienced via a rezoning from Special Use to Residential (low density) and evidently priced by the market as such. The residential uses were already permissible under the land's original Special Use zoning.

This site's unique zoning journey started with the careful documentation of the land's varied and complex constraints with the early intention to rezone the land to a "Higher-and-Better-Use" prior to disposal. This certainly occurred but the site was not actually rezoned. Rather a development proposal was obtained for a 149-lot residential subdivision, leaving the Special Use zoning intact. This outcome was favoured due to the commercial certainty attributable to the approved subdivision option and the flexibility available under the site's Special Use zoning. The careful quantification of the site's constraints, also allowed a high degree of certainty for the site's total development footprint and future gross realisable value.

Thus a Development Application for the land's subdivision was submitted as a Crown Application (the owner was an agent of the Crown) with the local council, for standard residential blocks, together with building-massing, density and carparking documentation for the proposal. The proposal was totally permissible under the Council's LEP. Another DA was also lodged for excavation and earthworks on the site, in accordance with the subdivision plan. If approved, this would also give a purchaser added comfort and greater commercial certainty and would allow immediate commencement of site works.

Both DAs were lodged and approved on the site by the Randwick City Council for 149 residential lots totalling some 79,000 sqm of nett developable area. The subdivision DA also took full account of all of the site's constraints, in detail. The DA was issued, within a short time of lodgement, thus clearing the final hurdle for the sale of the property. The DA was determined at a meeting of the Randwick City Council in September 2007, with full public participation. The end result of the zoning change was a $\Delta MV\%$ of 222%.

Example 10 was a large mostly-rural parcel, measuring 234 hectares and was advantageously in single ownership. Located in the suburb of Riverstone at the north-western fringes of Sydney, the land was under a state-sponsored policy known as the Growth Centres SEPP⁵² (see Appendix III), which gave state sanction for additional land release in certain north-western parts of Sydney. Prior to its landuse change, the northern half of the subject site consisted of open rural paddocks grazed by livestock. The site also had an existing industrial portion measuring some 40 hectares. The land underwent both statutory rezoning and masterplanning to a business and industrial park, allowing 750,000 sqm of total floorspace.

The site experienced a significant zoning transformation, in just under 14 months, to Industrial and Business uses with large portions of the land simultaneously designated

⁵² State Environmental Planning Policy (Sydney Region Growth Centres) 2006 was gazetted in July 2006 and provides for the state-coordinated release of land for employment, residential and other urban purposes in two regions known as the North West and South West Growth Centres. The SEPP overrides local planning controls.

for environmental protection under an E2 - Environmental Protection zone. This was prescribed by a Precinct Plan and a Final Layout Plan which rezoned over 115 hectares for business and industrial uses, still leaving a balance of 120 hectares for open space and other uses.

By the end of the process, the land had been through an elaborate zoning process under the Growth Centres SEPP, which was finally amended to accommodate the land's new zoning. The land also had a DCP and a Final Layout Plan (the Final Layout Plan arising from the site's Indicative Layout Plan) which governed zoning, land use, floorspace, height and setbacks. In its final form, the land had a total allowable floorspace of 750,000 sqm, providing future employment to 9,000 workers.

This example showed the greatest gain of any of the land parcels analysed. Its capital gain from \$2.35 Million to \$70 Million is a staggering 2879 %. The purchase price corresponded to \$1.00/sqm upon purchase - a price that was close to the rural price of land in that location at the time. The rezoned land value was based on a valuation but was only \$29.91/sqm, a very easy-to-justify price given that land sales in the broader area ranged from \$70 - \$100/sqm (RP Data Website, 2010). The $\Delta MV\%$ for this example was a considerable 2879%, the highest recorded change in market value of all the examples.

In **Example 11** the 14-hectare site was located well within the urban footprint of Sydney at the leafy northern suburb of Oxford Falls. The land was zoned in the Warringah LEP as locality B2 and adjoined urban land. The original zoning of the land did not permit the intended aged-care facility containing the three stages of care: serviced apartments; assisted living and a nursing home. The scheme and Concept Plan were assessed under SEPP (Seniors Living) 2004, after being declared as a (former) Part 3A project under SEPP (Major Projects) 2005. In yet another zoning permutation, the land's zoning remained in this case but State legislation permitted the approval of the aged care facilities that would give the land its change of value, an increase of 789%. Its zoning remained Rural Zone 2 but for the purposes of assessment under SEPP (Seniors Living), an FSR of 0.5:1 applied to the land. This was the same as the land's original allowable floorspace.

This project was not actually approved but if it had been approved, the value-change would have been substantial. The land value of the 14-ha parcel prior to planning approval was \$9.0 Million in total. The land price post approval as an aged-care facility, which with approval, would have been valued at about \$80 Million (see Table 5.10). It was indeed the approval and zoning-change processes that would have created the value.

In more detail, the site was zoned within locality B2 in the Warringah LGA and adjoined land developed for urban purposes at Oxford Falls. The original zoning of the land was Rural Zone 2 and was proposed for a totally-integrated, aged-care facility containing the three stages of care: serviced apartments; assisted living and a nursing home. The scheme and Concept Plan were assessed under SEPP (Seniors Living) 2004, after being declared as a former Part 3A project under SEPP (Major Projects) 2005. The land's zoning remained as Rural Zone 2 but for the purposes of assessment under SEPP (Seniors Living), an FSR of 0.5:1 applied to the land.

Firstly, the Department of Planning received an application for a Concept Plan for a Seniors Living Development for the project and the scheme. Subsequently, the proposal was considered by the Minister for Planning under former Part 3A of the Act, deemed a Major Project and issued with the DGRs in relation to the Environmental Assessment requirements for the proposal. These were addressed in subsequent submissions put forward by the applicant.

The proposal was advertised for 30 days, a statutory requirement of the assessment process for all former Part 3A projects. Consultation was undertaken with all relevant parties, including the local community, public authorities and service providers. A consultation report was then prepared, providing detailed comments on the project. This proposal also had an extensive social research survey undertaken in the local area and the region, which found widespread support and a high-level of market demand and acceptability for aged care facilities in the region.

The final scheme was for a 94-bed nursing home; 78 self-care, serviced apartments; and 400 two and three-bedroom self-contained dwellings. The built-form ranged between 2

and 6 storeys in height. The retirement complex was anticipated to be staged, as a continuous programme, over five years. The proposal also utilised and adaptively re-used a number of existing buildings on the site, including the Tennis Academy, Spali Home, Grainger Home, as well as various sheds and buildings.

The proposal, after many years in the planning, had undergone substantial modifications before it emerged in its final form. The proposal was also subjected to a high level of scrutiny from the Department, local residents and the Council. In 2010, after many years in the system, the Department of Planning issued a final set of comments and items that required further modification and review. The applicant subsequently submitted to the Department a formal detailed response to all of the issues raised, including those of the Council and inter-governmental agencies in a Preferred Project Report submission.

The revised final scheme, including a new detailed written submission, was then reassessed by planning officers before sending the proposal to the Planning Assessment Commission (PAC). The PAC presided over the matter and handed down its final recommendation in November 2010. The project was formally refused by the Minister in early 2011. If approved as planned however, it could be calculated that as a result of the approval, the $\Delta MV\%$ for this land parcel would have been 789%.

The next example, **Example 12** involved over 100 hectares of industrial, contaminated land at a water-front location on the central coast of NSW. This made the rezoning process more elaborate, as it required the active management of not only the technical issues contained in the change-of-use arguments, but also the political and financial aspects of the land valuation equation post decontamination. The rezoning application was lodged with Lake Macquarie Council to rezone the land to residential and light industrial uses and because of the obvious environmental benefits, Council strongly supported the zoning transformation of the land.

The first tenet in the value-creation process here involved “de-risking” the site (reducing the financial uncertainty), by eliminating factors such as contamination risk for a purchaser. This would in itself create value, provided that the contamination costs

could be kept below the benefits of rezoning. It would also give an additional “blue sky” value to a new owner. From the outset, there needed to be a comprehensive plan to meet all of the Environmental Protection Authority (EPA) requirements, in order to officially eliminate and gain clearance on all of the site’s environmental shortcomings.

The rezoning process was complex for this site, as it required the active management of not only the technical issues involved in the change-of-use arguments, but also the political and financial aspects of the land valuation equation. The rezoning application was lodged with Lake Macquarie Council and because of the obvious environmental benefits, Council strongly supported the zoning transformation of the land.

During the rezoning, there was emphasis on producing documented outcomes and reports of excellence to establish high credibility with the Council. Given the size of the property (of some 117 ha), a professional interaction with the public, the Council and the Department’s Regional Office, was also important. By the end of the rezoning and masterplanning processes, the land had certified outcomes in terms of contamination and well-established lot and apartment yields. There was also a quantifiable industrial outcome and specifically-defined development contributions. At the time of writing, the land is in the final stages of preparation for development or sale. If resold today, its value is estimated to be around \$12.4 Million, producing a $\Delta MV\%$ of some 1140%.

The Land in **Example 13** contained several established, low-density dwellings in the upper northern suburbs of Sydney. The land was all originally zoned 2a (or R2 in the new LEP Standard Template), for low density housing, with a 0.5:1 FSR. Its zoning then underwent formal statutory change by Ku-ring-gai Council as part of its comprehensive LEP review, rezoning the land to an R4 High Density Residential zone. The site comprised several detached dwellings and measured some 6,047 sqm. The value augmentation mechanism here was two-fold with land value being created through both the rezoning and the DA processes. The development consent contained 80 residential apartments, fully approved for construction on the site. The site sold on the open market for \$16.1M. The value uplift was for land content only as the

dwellings would have to be demolished at the operation of the D.A. The quantum of the value-change was around 144%.

The locality, in which the site was situated had been through a long-considered and publicly-exhibited, statutory zoning change. This reflected both the evolving setting of the municipality and the planning desire to increase living densities in close proximity to amenities and transport. It also permitted the planning of new road connections for streets that had previously not had such links between them.

The newly-rezoned street block, of which the site was a part, had been invested with new controls. Firstly, it was allocated an R4 High Density Residential zone with a 1.3:1 FSR and a 5-storey height limit. These were not particularly dense controls by most local government standards but they were the ones that Council was able to sanction through its public consultation process. Also they were arguably well-suited to the scale and intensity of the area and allowed a good transition with the remaining low-density zones nearby.

The purchase price of each of the lots, did include a price allowance for their future-rezoned value-increase and the owners of these lots welcomed and embraced the renewal process, made possible by the rezoning to higher density. After the new apartments are eventually constructed, this will create a new type of offering, expanding the range of housing choices, for both existing residents and new purchasers. The $\Delta MV\%$ for this example ended up being 144%, reflecting its comparatively low density R4 zoning and height controls.

Example 14 fronted a major arterial road, namely the Princes Highway, in Tempe and was located in the Marrickville LGA. The site area was large by comparison to most other offerings in the LGA, measuring some 10 hectares, consolidated over several titles. To the north of the land, were older, low-density, residences. To its west, were industrial parcels, owned and operated by the Sydney Airport Corporation (SACL). To its south, lay a mix of light industrial businesses, with other residential uses located to its east.

This site had some truly unique attributes. It was large; it had had a noxious former use as a landfill site; it had an identified new use as a bulky goods and office complex; it had excellent access to both road and airport transport services and it had the added complication of containing a locally-significant heritage item within it. The value-change was immediate post rezoning to Bulky Goods, transformed via a former Part 3A process.

The land was vacant at the time of statutory approval and was zoned Light Industrial 4B under the Marrickville LEP 2001. The original land use was not effectively governed by any floorspace controls, though it had a nominal overall floorspace ratio of 0.5:1. The zoning of the site did not, in fact, change because as a Major Project, it was transformed through the former Part 3A process rather than a traditional rezoning through an LEP change. The effect is, of course, the same but there was no actual zoning change that preceded the value augmentation on this occasion.

The proponent instead sought, and was granted, a former Part 3A Major Project listing for the site, due to the regional and economic significance of the proposed project. The submitted scheme was well over \$120 million in terms of development costs, excluding land. This is known as the Capital Investment Value (CIV). The newly-proposed bulky goods and office outlets would provide new employment for some 600 people in both white-collar and blue-collar job opportunities. This was certainly not a simple project approval process because, if successful, it would constitute the first former Part 3A Bulky Goods approval in the state.

The project, given its demonstrable public benefits, did enjoy local support, at both the officer level and the elected-official levels of Council. The proposal was also discussed openly with the ward councillors and had an extensive community consultation carried out with the broader public. This was firstly conducted by the proponent prior to the former Part 3A process commencing and later as part of the public exhibition requirements for the submission.

This case study exhibited the lowest percentage uplift of any of the twenty rezoning examples at 29% (see Tables 5.3 and 5.8), prompting the question of whether this was

logical and easily explainable. One explanation for the comparatively-low $\Delta MV\%$ may be the relatively high purchase price of the land at \$780/sqm (see Table 5.6). Here we can see that the relative V_r / V_o (i.e. ratio of land value after and before rezoning as is set out in Tables 5.6 and 5.10 earlier) ratio is lower for this example (**Example 14**), than any other; meaning that the V_o and the V_r values are obviously closest together. Site constraints, including contaminants are one possible reason for the low V_r value. Another reason may be the timing of its sale, given that the project was sold during the GFC (see Table 5.4). It is due to the combination of all of these reasons that the $\Delta MV\%$ was a low 29% for Example 14, the lowest figure for any of the case study examples (see Table 5.3).

Example 15 was a site that had been through a major masterplanning exercise at Parramatta City Council, with the Council voting to approve the site's new layout for a masterplanned industrial distribution facility. The Council's adoption of the masterplan thus invested the site with much greater approval certainty and hence value. Subsequent DAs for the site were then taken to the Planning Minister and approved by the Minister under SEPP No. 34 - Major Employment Generating Industrial Development. The land had an area of some 30 hectares and a zoning that already allowed industrial and warehousing uses. The value-creation here was via achieving masterplanning and DA certainty within the planning process, rather than rezoning outcomes per se. The value uplift was 267% (see Table 5.4) reflecting the difficulty, at the time, of achieving masterplanning approval for such a site. This approval pre-dated the introduction of former Part 3A of the EP&A Act.

It is easy for this example in particular, to observe how certainty of built-form for an industrial user is paramount, once the maximum floorspace ratio has been achieved. Usually a 0.5:1 FSR is optimal for industrial estates. This was the case here, as warehouses typically only have one floor with an extra-tall roof and little need for extra floors. Additional floors above ground would command virtually no rental income from users and are thus worth little, once the cost of their construction is taken into account.

As the value of industrial land for such facilities is typically back-derived⁵³ from the income stream of such premises, the certainty of optimal, built nett floorspace is the more important factor in the value equation. Development certainty was achieved in this scenario through a process of pseudo-statutory masterplanning. This is a combination of price and value certainty in market terms. Because the market could then rely on such an approval to confirm that all the buildings in the estate were able to be built in accordance with the approved controls. The masterplanning process here produced an enhanced market value for such an approval. The $\Delta MV\%$ for this example ended up being 267%.

With **Example 16**, this land in Lane Cove represented another negotiated value-creation exercise. The site was industrial in zoning terms but was widely-recognised, including by the local council, to have a higher potential as a hybrid commercial/light industrial zone. This was not achieved formally through a statutory mechanism to rezone the land from IN2, through the Comprehensive LEP Process. This zone allowed the commercial uses sought in conjunction with other light and high-tech industrial uses required by the land owner. Instead of a formal rezoning this was reached through a site-specific, council-signed agreement, which, by Council consent, permitted commercial uses on the site and a mechanism for works-in-kind contributions. This pre-dated section 93F of the EP&A Act which today caters for such arrangements known as “voluntary planning agreements”, between councils and land owners.

The Lane Cove West industrial precinct was zoned homogeneously as a “General Industrial” area. The existing character of the area was more akin to a business park however and as such, was better known as “Lane Cove West Business Park” due to its many existing business activities. The Business Park label was fitting because many adjacent sites to the subject land already contained a high proportion of commercial floor space and operated as such.

⁵³ The term back-derived is used here to mean calculate backwards by starting from the answer, which is the selling price of the final product, based on its income stream divided by an appropriate yield. By starting at the final value and deducting all the expenses and the profit and risk margin, the value of the land is the residual and is thus back derived by calculation.

This site had a peculiarly-interesting approval and land-tenure history. The site was originally part of a much larger allotment, from which it was excised. The site's previous owners had, for a public benefit, constructed a link road in the area and dedicated both the land and road to Council. Prior to construction of the link road, a deed was formulated and signed between the land owner and Council. By 1988, many buildings were developed on adjoining lots governed by the Deed. These impacted the final calculations for the subject site but the negotiated final outcomes and the resulting DA, allowed for a commercial/light industrial building of 5 storeys above ground and accommodating approximately 250 car spaces.

The land had a site area of 7,922 sqm and was located within a Business Park precinct, comprising some 56 hectares of land. The additional value of the site was created purely through a DA here. The land was not sold after DA but had an estimated value uplift of \$9 Million (see Tables 5.3 and 5.10). As a result, the $\Delta MV\%$ for this example, was a respectable 150%.

In the case of **Example 17**, the property was a grouping of detached dwellings, all of which had been zoned 2(a) prior to their rezoning by Lane Cove Council. The new zoning was R4 High Density Residential, with a 1.7:1 FSR and a 5-storey height limit (despite an 18-metre height allowance in the LEP). The site area totalled some 2,945 sqm and the proponent set out to gain development approval for a new apartment-building scheme. Development consent was gained for 56 apartments on the site, handed down by a Joint Regional Planning Panel (JRPP). The application had been referred to the Sydney East Joint Regional Planning Panel as per Part 3, Division 2, Clause 13B of State Environmental Planning Policy (Major Development) 2005, because the proposed development had a CIV of greater than \$10 million. Since 2009, JRPPs have operated in NSW through Section 23G of the Environmental Planning and Assessment Act 1979 (NSW), to determine development applications in place of local councils. The site had been purchased for \$6.0 Million or \$2,037/sqm and sold, post DA for \$11.05 Million or approximately 3,752/sqm (see Tables 5.6 and 5.7).

Council's planners, development engineers and landscape architect, all gave strong endorsement of the proposal. The DA was also advertised for 21 days in accordance

with the LEP requirements and generated only nine public submissions. The JRPP found that the development complied with the zone objectives for the site and resolved unanimously to grant consent for the development in late 2010. The DA consent was where the additional site value was created here with a $\Delta MV\%$ of 83% (see Table 5.3).

Example 18 consisted of a large rurally-zoned block measuring 185 hectares, located just outside of the town of Glossodia, approximately 7 kilometres north east of Richmond and some 68 kilometres north-west of the Sydney CBD. The site enjoyed the benefits of size and of being the next and most adjoining land parcel to the urban footprint of the town. Glossodia's population in 2006 was only 2,942 people and the township's landuse pattern contained a mix of rural lots closely integrated with residential housing, especially at the periphery of the town. The land was rezoned from Rural 1(a) to Rural Residential, creating 179 lots. It experienced a change in value from \$8 Million to \$56 Million due to lot creation. This is a classic rezoning and value-change proposition. Here each of the lots would have a market value of over \$300k post rezoning.

The two main points that required consideration with this parcel, were the saleability of any new lots and the method by which these lots could be delivered at the site. On the first point, the new lots were deemed commercially desirable and marketable at a selling price of around \$300k per lot. This meant that a future subdivision was viable at the masterplanned lot sizes. In terms of the creation of the new lots, this was deemed most appropriate through a Council-sponsored Gateway determination. To this end, a series of studies and reports were thus formalised and lodged with Hawkesbury City Council, for its consideration. The land had a $\Delta MV\%$ of 600%.

In **Example 19**, the site occupied 31,000 sqm and was zoned 10(b) Mixed Uses for Commercial and Warehousing with a 1:1 floorspace ratio under the Botany Bay LEP 1995. The site contained an old distribution facility that was deemed to be at the end of its economic life. A Planning Proposal was lodged with Botany Bay City Council, under its Comprehensive LEP review process, requesting that Council change the zoning of the site from 10(b) (Mixed Uses Commercial/Warehouse) zone to a B2 Local Centre zone. As part of this Planning Proposal, the land owner sought that residential flat buildings be included as a permissible use in the B2 Local Centre zone. The site

was located less than 200 metres from a new railway station and only 10 km from the Sydney CBD. The proposal to rezone to B2 also envisioned a new full-scale supermarket and a dedication to Council of a 2,500 sqm public park.

The planning and technical arguments that began to fall into place, centred around assisting the Council in meeting its new housing target of 6,500 dwellings by 2031 (as outlined in the NSW Government's Draft East Subregional Strategy 2007). It would also help meet local employment targets and support a Transit Oriented Development (TOD), within minutes of the Mascot Station. These could now all be coincident, negotiated outcomes. Also the RTA (now the RMS) had to be satisfied, regarding the new traffic-generation numbers, local improvements to the road network and contributions that needed to be made to the Transport Management Accessibility Plan (TMAP), for the enhancement of the entire network.

All of the masterplanning was done early by the land owner and in full consultation with both Council and state agencies, but at the end the proposal could only be determined once the new LEP planning controls were in place. That meant that the Council, at its sole discretion, could assess the masterplan only after the LEP was placed on public exhibition. Also it could not determine any applications until the gazettal of the new LEP had formally taken place.

The site owner submitted its masterplan for a new B2 zone, with apartment buildings as an additional permissible use. The requested FSR was 3:1 (see Table 5.1) with a provision for 8,000 sqm of retail/commercial uses, including a 3,500 sqm supermarket and supporting specialty stores. This would also translate into convenience stores and would provide an excellent amenity to the large number of residential apartments and neighbouring land parcels that will both be built on this site within the same Station Precinct. The value-change here was 463% (see Table 5.3) and related to the number of apartments and new supermarket allowed by the new zoning.

For the next example (**Example 20**), the site measured some 17,000 sqm (see Table 5.10) and was located within 100 metres from a state-of-the-art, recently-constructed North Ryde rail station at Delhi Road, in Sydney's north-west. It also formed part of a

much larger precinct, where the NSW government, through various agencies, also owned land. The remainder of the surrounding block had an area of around 20,000 sqm and the wider precinct was much larger still at 14.7 hectares. Geographically, the site was centrally located within the metropolitan area, being only 22 kilometres from the Sydney CBD. It also enjoyed easy access to major arterial roads and was considered highly suitable for residential and mixed uses by Council, government agencies and the land owners.

Here, the site's prior zoning was for commercial uses under the Ryde City Council LEP, and accordingly the landowner had gained development consent for a business park, containing several commercial buildings. The approval had had "substantial commencement" and thus could not lapse. Following the GFC and given that commercial rents in the location were stagnant however, the project costs were such that business premises could not be viable for some years, so the land was earmarked for a zoning change from commercial office uses to high-density residential. This was a classic example of a parcel that despite the certainty of an approval, was still not at its "Highest-and-Best-Use" zoning.

As the impetus for activating the DA and any commercial value that may have arisen from it totally disappeared over time, the concept of changing land use became an attractive proposition to the property owners, who were anxious to realise new value for the site. Here the site's value-changed from \$14.0 Million to \$45.0 Million (see Table 5.3) but this was not confirmed by a sale. The site's estimated land value thus changed from \$823/sqm to \$2,647/sqm (see Table 5.6), reflecting the residential price per apartment of a new residential scheme in close proximity to a new rail service. This was a classic TOD with a $\Delta MV\%$ of 221%, as represented in Table 5.3.

5.6.1 - Themes Arising from Examples

So what are the common themes that may be postulated in connecting all of the rezoning and planning examples used in this thesis? What could all the examples exhibiting value-change have in common? Why were they able to show (at least in the 20 examples used) an increase in market value in both nominal and relative terms? One such commonality is perhaps that of achieving negotiated outcomes, balancing the

forces of the various parties involved, in a rezoning or planning approval, as expounded by Ruming in ANT.

It can be easily argued that all the examples were successful due to the important synthesis of economics, planning, politics, aesthetics, technical and financial outcomes. The main protagonists in this sense include local and state governments, the land owner, financiers, technical consultants, bureaucrats and the management team, which all need to agree an outcome in a commercially-acceptable timeframe. The analysis of each of the examples, in terms of negotiated outcomes supports the earlier work of Ruming (2007).

Ruming (2007; 2009) used Actor-Network Theory (ANT) as discussed in the Literature Review (in Chapter 3) to describe such interactions in planning negotiations. Ruming (2010) saw both formal and informal institutions as theoretical actors and intermediaries enrolled for the purpose of securing planning policies. Thus, policy negotiation, according to Ruming, is a process of network translation where competing actors mobilise other actors and intermediaries to secure an outcome closer to the objectives of their constituent networks. This is a reasonable correlative description of how rezoning and planning outcomes are negotiated and describes to a degree, the process achieved with the 20 examples contained in this thesis. Ruming's analysis provides a valuable theoretical framework for the ensuing explanations of the rezoning examples and the intense negotiations that inevitably take place before a rezoning or a development consent/planning approval is achieved.

It would also be fair to conclude that each of the examples analysed, was context-specific and they all involved a multitude of processes that combined to produce a variety of outcomes. This clearly highlights the complexity of the value-creation process and the imperative of having negotiated outcomes in resolving the myriad of issues that may arise during the course of such planning and zoning approvals.

5.7 - Rezoning Example Matrices

The matrices found in Tables 5.1 to 5.13 summarise the empirical evidence relating to zoning and planning transformation, including the numerics of value-change for each land parcel. The tables show, for each example, the original zoning, the final zoning and the floorspace ratio change for each. They also catalogue the quantum change in value, resulting directly from both the rezoning and planning approval effect on the land value, the type of process by which the land value was recreated, the time in years this took to occur and the actual year it finally took effect.

5.8 - The Empirical Value Change Equation

The above analyses, tables, examples, empirical and statistical information are now used to establish a pattern of gain (or loss) due to zoning and planning changes, based on the zoning and planning journeys of the 20 parcels discussed in the sections above. This pattern, after careful analysis, has been distilled into an empirical zoning equation. The equation is based on all the factors that were deemed to contribute to the loss or gain in land value. It also is a universal formula that is able to explain and predict value-change between any two zones and also under varying permissibility and planning-approval outcomes such as former Part 3A approvals, DA approvals and other State-endorsed permissions. Thus after a complete analysis of both the qualitative and quantitative factors relating to each example, the Empirical Value Change Equation, quantifying the rezoning effect on land value is derived and can be best described as follows:

Empirical Value Change Equation

$$V_r = V_{ns} - C_d - C_{fc} - M_{pr}$$

Compiled by Geha, 2012

Where:

V_r = Value of Land post Rezoning or Planning.

V_{ns} = Gross Sales revenue of the rezoned land less commissions and legal fees.

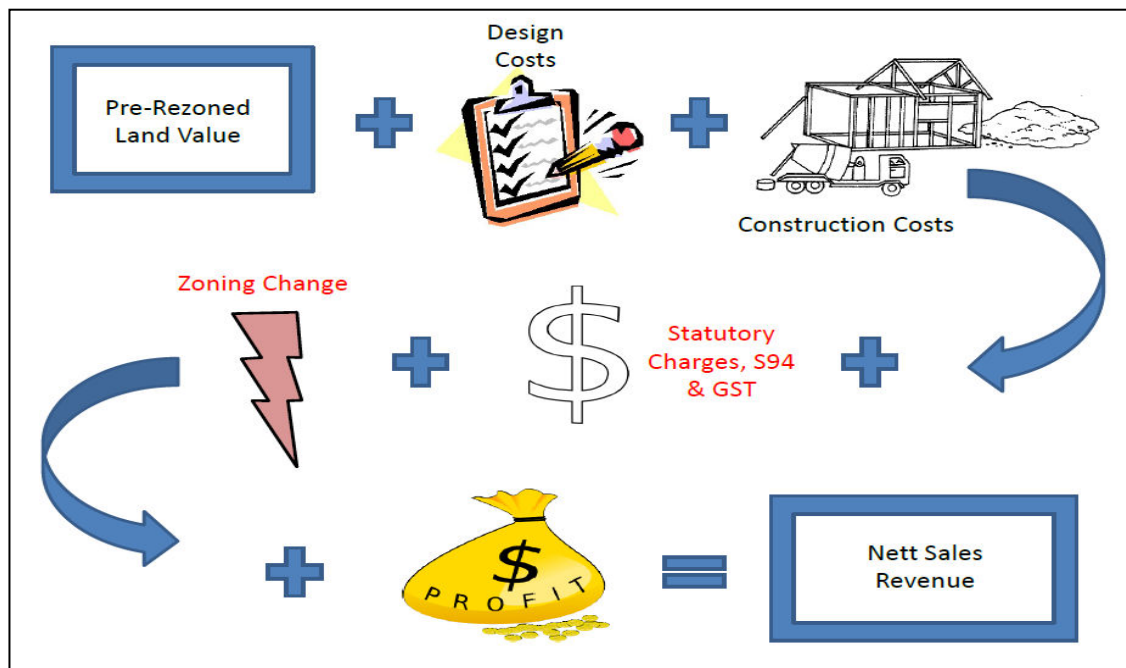
C_d = Cost of managing and constructing project to deliver Nett Sales Revenue (V_{ns}).

C_{fc} = Cost of design plus statutory fees and charges imposed on project, including s.94⁵⁴; GST²; Stamp Duty³ and holding costs.

M_{pr} = Profit and Risk Margin required before the market undertakes the project.

The equation is diagrammatically represented, in Figure 5.4.

Figure 5.4: Diagrammatic Representation of the Empirical Value-change Equation



Compiled by Geha, 2010

⁵⁴ Open Space Contribution payable to local Councils in NSW for the permission to construct a project under s.94 of the EP&A Act 1979

²GST: The Goods and Services Tax is a Federal Australian tax levied on consumers.

³Stamp Duty is a state government charge in NSW, paid by the purchase of property and was about 4.5% at the point of sale and was set at 10% of the purchase price as of 2012.

5.9 - Explanation of Empirical Value Change Equation

The Empirical Value-Change Equation, as stated above, is one that is not overly-difficult to explain. It essentially relates land value to sellable marketable outcome, arising from the land's changed circumstances, namely zoning or planning permission changes. The Empirical Value Change Equation thus mathematically links the maximum market value payable for the land's "Highest-and-Best-Use", that might reasonably be expected to be reached, under the land's newly-created zoning and planning controls, with the certainty of achieving such an outcome. It also relates the final sellable value of the product generated by the new zone, with the total costs associated with its delivery. These necessarily include rezoning and design fees, construction costs, statutory fees, subdivision costs and marketing and other costs.

Simply put, the value created or destroyed by a new zone or the new controls applying to a land parcel, as a direct result of a rezoning, a Part 3A (which is no longer operative) or a statutory planning approval, is always related to the market value of the new product authorised by the new zone or approval. If the rezoning allows the creation and sale of new lots, then the new increase to the land value, is the market value of those lots, less their creation costs and servicing costs, less the profit. This entire quantum increase is added to the land price and is the new value that is directly attributable to the land. The land now simply has a higher price in the market place, one that a willing buyer would pay to a willing seller, at an arms-length transaction and given sufficient time in the market, with neither being under duress (as per the Market Value definition in *Spencer v Commonwealth* (1907) in Appendix I, Section API 5.1). It is also likely, subject to normal market conditions *ceteris paribus*, that the increase in land value would occur at the point of zoning change, or immediately thereafter, as long as sales are possible at that moment in time.

Equally, this formula is able to be applied to the entire gamut of varying rezoning and planning circumstances, where landuse controls are altered from any one landuse type to another. This may be the case for land parcels changing from rural-residential to residential uses or industrial to residential or low-density residential to high-density residential or industrial to commercial, as is exhibited by the 20 empirical examples documented earlier in this chapter. It is thus demonstrated and always true to say, that

when circumstances exist such that the new controls or approvals allow an increase in sellable development potential, value increase occurs in accordance with the value-creation mechanism thus stated. This, not surprisingly is the same for GFA increases, as it is for increasing lot yields, as described in Section 5.5 and all the documented examples in Section 5.6. Equally the reverse also applies for a loss in sellable development potential.

In building terminology, any value increase is calculated by quantifying the extra nett sellable GFA and multiplying it by the selling price per square metre of that GFA, less the total cost of providing that GFA, less an acceptable profit margin. This will be the quantum of the increase caused by the new zoning or planning controls. Again, all of this value increase will flow onto the land and will be reflected in the land price. As the empirical evidence quoted herein suggests, when the rezoned land is marketed, the increase in its earning capacity, as captured by the above formula, is reflected in a higher land price. The quantum of the value increase, is naturally related to the quantum of productive marketable change, created by the land's new zoning or planning controls. If the controls permit more marketable product to be sold, then there is a commensurate increase in the land price.

Of course, the converse is also true. If the land's new zoning controls are more restrictive, causing its capacity to create marketable product to be curtailed or diminished, then its value is proportionally reduced. This would be the case if the land, for example, is downzoned from residential to open space, where a block permitting a 100-lot subdivision is rezoned to open space where no housing at all or only one dwelling is permitted. The commensurate loss of value in such a case, as the above Empirical Value-Change Equation might suggest, would be prodigious. The land would not be worth 100 times less but maybe 30 or 50 or 60 times less, under such extreme circumstances.

It is also important to stress a significant qualification, namely that the product created and permitted by the new zoning change, must be a marketable product. This means that it must necessarily produce a final outcome that is readily recognised and valued by the general market and not an esoteric item, that even when permitted and built, is

unable to attract a suitable purchaser. Table 5.14 applies the Empirical Value-Change Equation to each of the examples already discussed.

Table 5.14 - Derivation Land Value (Vr) Post Rezoning

Example		Nett Sales Revenue	Costs of Delivery	Cost of Fees and Charges	Profit and Risk Margin	Land Value after Rezoning/planning Vns - Cd - Cfc - Mpr	Nett Value-change (\$)	Nett Value-change (%)
		Vns	Cd	Cfc	Mpr	Vr	ΔNV (\$)	ΔNV (%)
1	Pindari	\$64.3 Million	\$25.7 Million	\$8.1 Million	\$12.9 Million	\$17.6 Million	\$14.6 Million	487%
2	Wonderland	\$574 Million	\$354 Million	\$25 Million	\$70 Million	\$125 Million	\$ 76 Million	155%
3	Mashman Pottery	\$ 73.2 Million	\$39 Million	\$12.73 Million	\$7.8 Million	\$ 13.67 Million	\$ 9.67 Million	242%
4	Rosedale	\$ 80.4 Million	\$40.2 Million	\$16.2 Million	\$8 Million	\$16 Million	\$ 11 Million	220%
5	Twin Creeks	\$171 Million	\$39.25 Million	\$12.6 Million	\$7.9 Million	\$111.25 Million	\$78.25 Million	237%
6	Mount Gilead	\$160 Million	\$120 Million	\$11 Million	\$16 Million	\$13 Million	\$10 Million	333%
7	ERL Allengrove	\$150 Million	\$75 Million	\$32 Million	\$15 Million	\$28 Million	\$16.48 Million	143%
8	ERL Whiteside	\$155 Million	\$78 Million	\$30.4 Million	\$15.6 Million	\$31 Million	\$22.98 Million	287%
9	Little Bay	\$160 Million	\$37.6 Million	\$11.9 Million	\$7.5 Million	\$103 Million	\$71 Million	222%
10	Riverstone	\$750 Million	\$600 Million	\$50 Million	\$30 Million	\$70 Million	\$67.65 Million	2879%
11	Oxford Falls	\$220 Million	\$110 Million	\$8 Million	\$22Million	\$80 Million	\$71 Million	789%
12	Pasminco	\$97 Million	\$49 Million	\$25.8 Million	\$9.8 Million	\$12.4 Million	\$11.4 Million	1140%
13	Dumaresq Street	\$57 Million	\$30.8 Million	\$4.6 Million	\$6.2 Million	\$16.1Million	\$7.8 Million	144%
14	Tempe Tip	\$235.8 Million	\$108 Million	\$5.2 Million	\$21.6 Million	\$101 Million	\$23 Million	29%
15	Rosehill	\$393 Million	\$236 Million	\$24.4 Million	\$22.6 Million	\$110 Million	\$80 Million	267%
16	Orion Road	\$56.4 Million	\$29.6 Million	\$6.0 Million	\$5.8 Million	\$ 15 Million	\$9 Million	150%
17	Finlayson Street	\$40.9 Million	\$16 Million	\$5.4 Million	\$4.8 Million	\$11.0 Million	\$5.0 Million	83%

18	Jacaranda Ponds	\$79.5 Million	\$18.7 Million	\$1.1 Million	\$3.7 Million	\$56 Million	\$48 Million	600%
19	Kent Road	\$505 Million	\$ 252 Million	\$112.6 Million	\$50.4 Million	\$90 Million	\$74 Million	463%
20	Delhi Road	\$225.5 Million	\$140.2 Million	\$20.3 Million	\$45.0 Million	\$45 Million	\$31 Million	221%

Compiled by Geha, 2012

N.B. Finance Costs have not been included as the model assumes a full equity purchase of the land.

V_r = Value of Land post Rezoning or Planning.

V_{ns} = Nett Sales Revenue equal to Gross Sales revenue of the rezoned land less agent commission and legal fees.

C_d = Cost of managing and constructing project to deliver Nett Sales Revenue (V_{ns}).

C_{fc} = Cost of design plus statutory fees and charges imposed on project, including s94; GST; Stamp Duty and holding costs.

M_{pr} = Profit and Risk Margin required before the market undertakes the project.

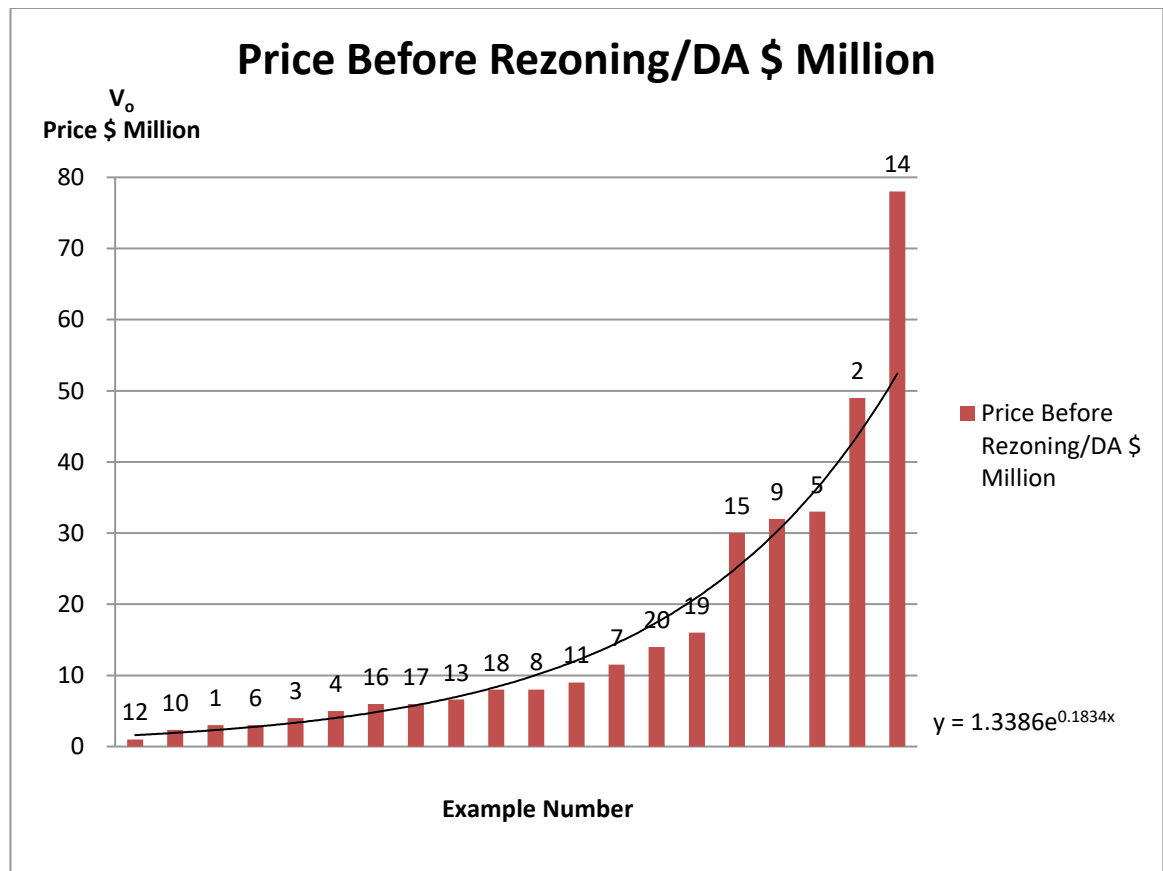
5.10 - Graphical Results of the Analysis

The empirical data used in this chapter has been graphed in a number of ways for each of the positive value-change examples (i.e. **all of Examples 1 to 20**). These are set out below.

5.10.1 - Example Price Comparisons

The nominal price of the land before rezoning or planning approval is an interesting relative measure as it indicates the comparative entry price points for the various parcels. The nominal price, in dollar terms before and after rezoning, is graphed for each example, in Figure 5.5 and Figure 5.6 below:

Figure 5.5 - Price Before Rezoning/DA Lowest to Highest

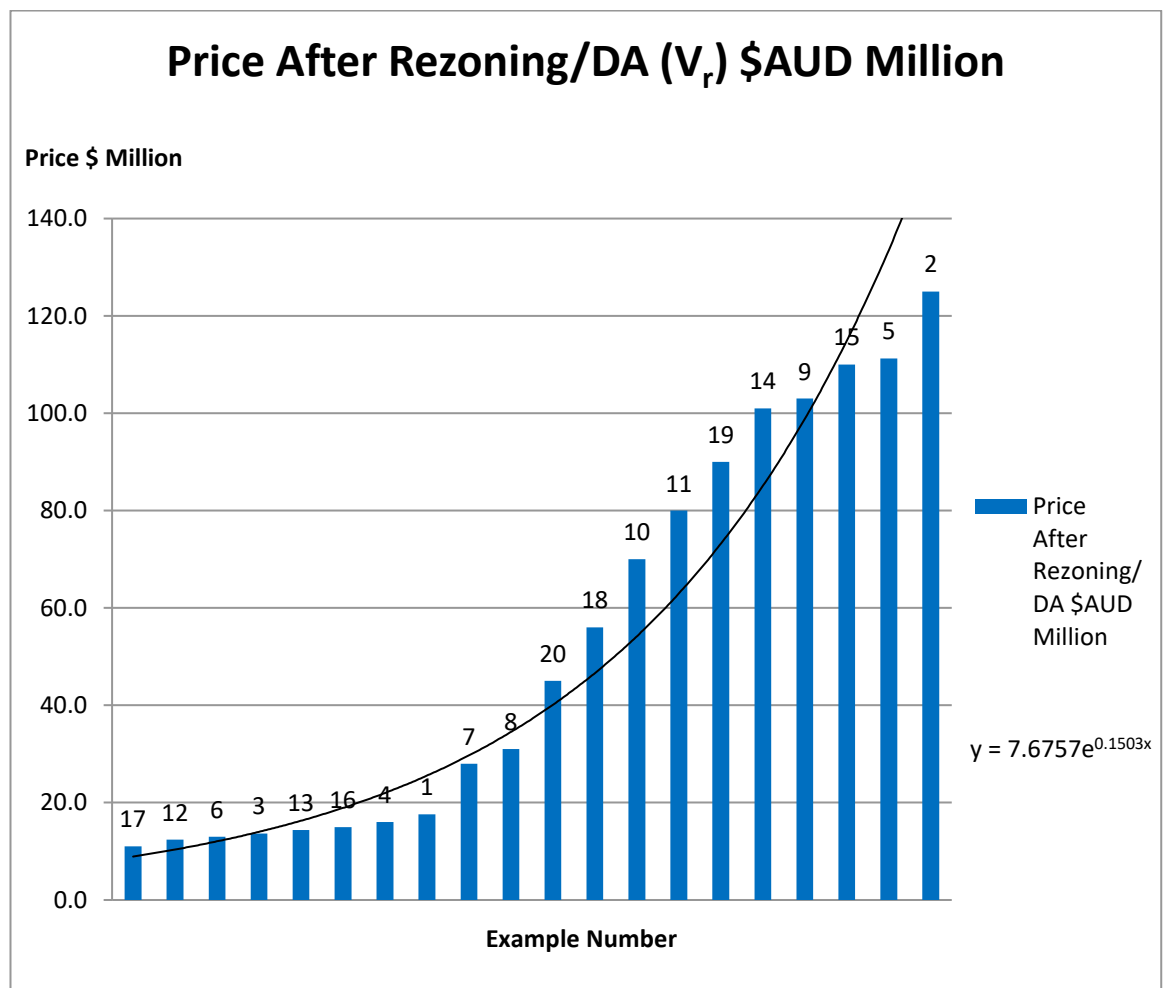


Compiled by Geha, 2010

As the graph in Figure 5.5 indicates, a large purchase price value spread exists for the examples used. The prices are listed lowest to highest by example number and range between \$1.0 Million (**Example 12**) and \$78.0 Million (**Example 14**).

The wide range of values for the initial land price V_0 is an excellent demonstration of how value-change attributable to zoning can occur for any initial land value and is independent of nominal site value in dollar terms. Rezoning and planning value-add can clearly occur at any entry point for a given land parcel. Overall value is naturally also, in part, a function of parcel size. This is examined later in this chapter with the aim of this analysis being simply to examine if transaction value was significant in terms of rezoning and planning success. Clearly it is not.

Figure 5.6 - Price After Rezoning/DA (V_r) Lowest to Highest



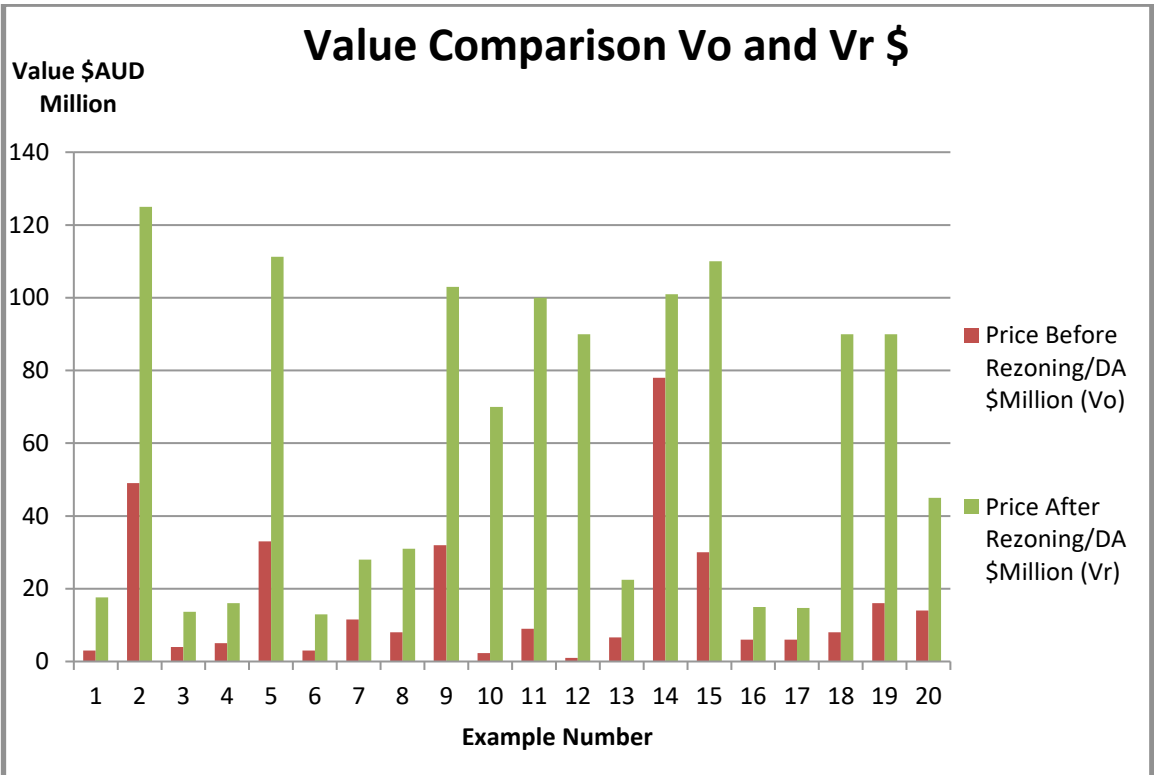
Compiled by Geha, 2010

The graph in Figure 5.6 confirms the results shown in Figure 5.5. It shows that there is an equally-large value spread (for the examples used) in their post-rezoning values. The values are listed from lowest to highest by example number and range between 11.0 Million (**Example 17**) and 125.0 Million (**Example 2**). This graph's purpose is to demonstrate (in conjunction with Figure 5.5) the wide range of values that land parcels of different zonings and size can have both prior and post rezoning. This is better demonstrated in Figure 5.7 below which superimposes the nominal pre and post-rezoning values of the empirical examples.

5.10.2 - Nominal Price Comparison Before and After Rezoning/Planning

Figure 5.7 permits a clearer value comparison, graphically represented. The examples are listed in numerical order. The price of the land before is shown in brown, whilst that after rezoning or planning approval is depicted in green.

Figure 5.7 - Price Comparison Before and After Rezoning/DA in \$AUD Million sorted by Example Number



Compiled by Geha

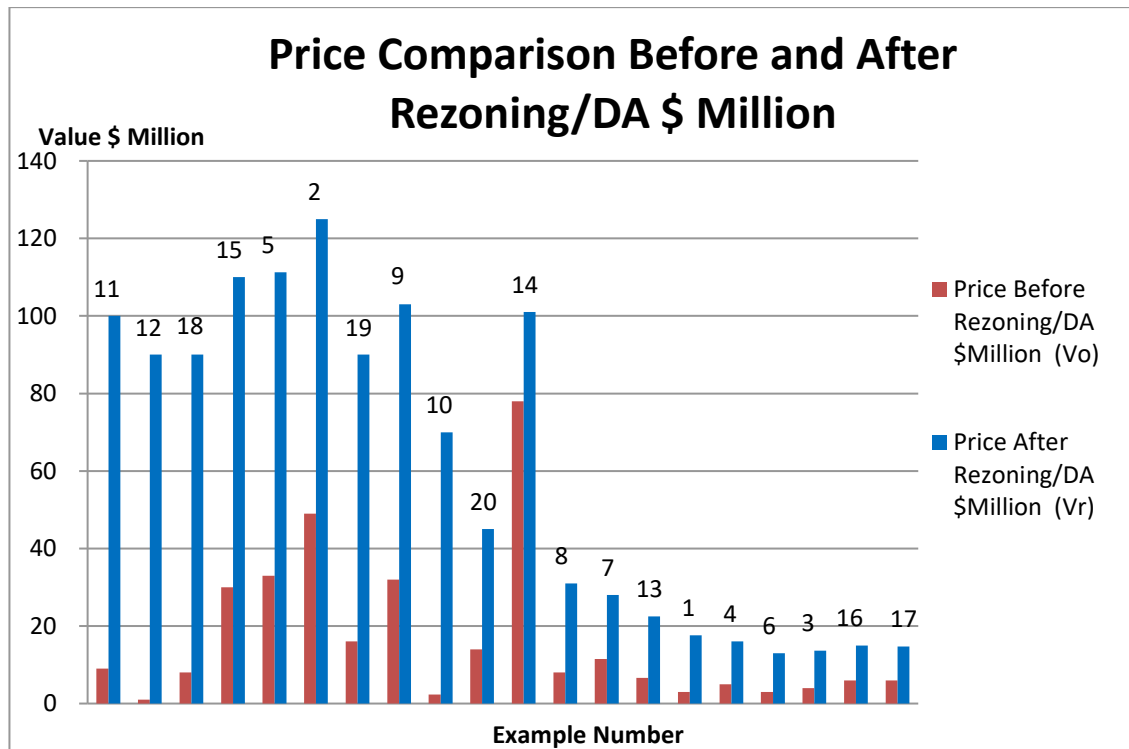
In examining the above dual bar-graph showing the comparison of price before and after rezoning (or planning change) for each example, it can be noted that amongst the 20 examples, there is a considerable, observable differential distribution of land value before and after. At its most rudimentary, this graph demonstrates the importance economically of rezoning land to the land-value proposition. The graph clearly shows that there exists a clear difference between initial land value (V_o) and rezoned land value (V_r) for each example.

The quantum of the value-change i.e. ($V_r - V_o$) is one of the important observations in the context of this thesis. It defines the differential-value relationship that is postulated to result from rezoning and planning transformation.

It can also be deduced from the bar graphs in Figure 5.7 and Figure 5.8 that V_r can be in many cases one or several multiples of the initial land value (V_o). This highlights the economic significance of the rezoning effect on land value and its overall effect on project feasibility. This is one reason at least why the stakes in the rezoning and planning approval process are so high and bitterly contested (Ruming, 2007)

Figure 5.8 also shows the price comparison Before and After Rezoning/DA in \$ Million, sorted highest difference to lowest difference for the value ($V_r - V_o$).

Figure 5.8 - Value Comparison Before and After Rezoning/DA V_r and V_o (\$ Million)

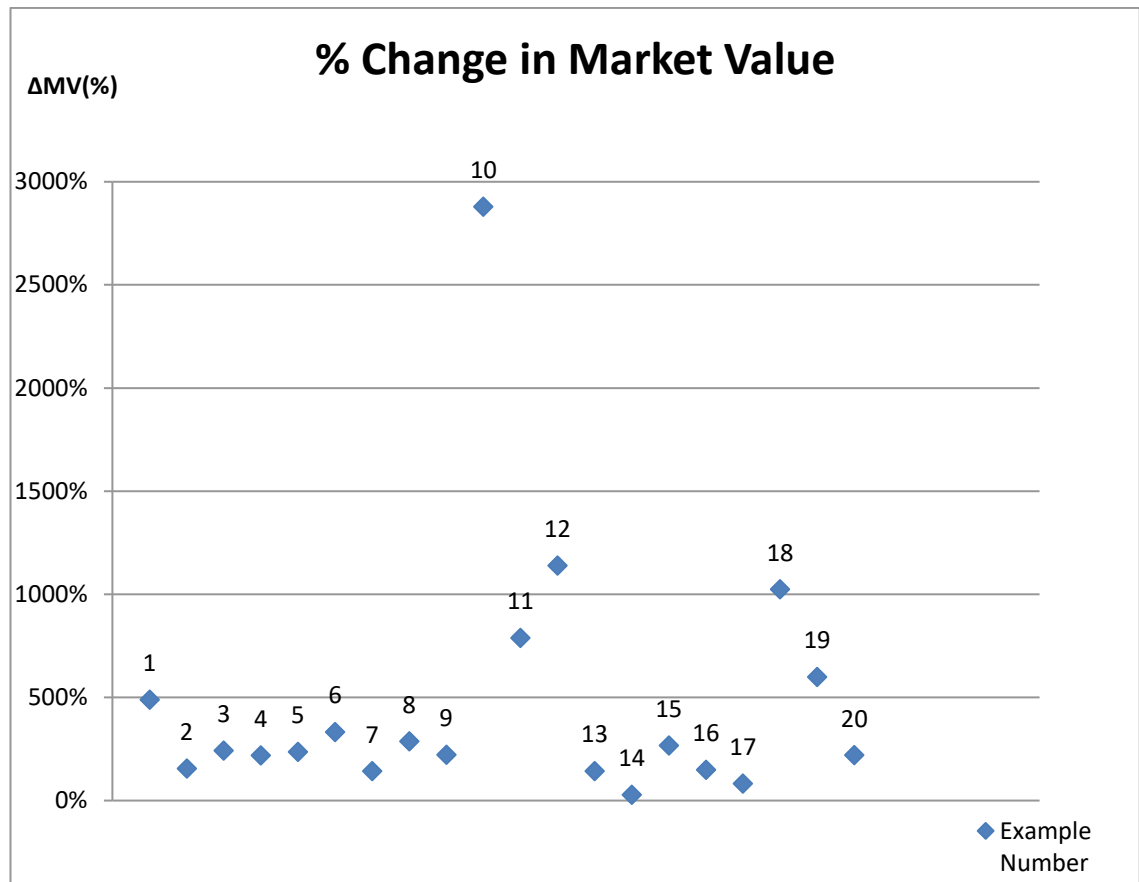


Compiled by Geha

5.10.3 - Change in Market Value ΔMV : Analysis

The graph in Figure 5.9 shows the percentage change in the market value of the twenty examples, where one can clearly observe the comparative spread of the overall data. The results cluster at or below the 500% ΔMV line with five examples out of the twenty (25%) exhibiting a ΔMV value-change in excess of 500% (**Examples 10, 11, 12, 18 and 19**) with **Example 10** having a ΔMV of almost 3000%. This shows the main reason for undertaking a rezoning as a process despite its risks and costs, highlighting its importance in the economic value augmentation for land.

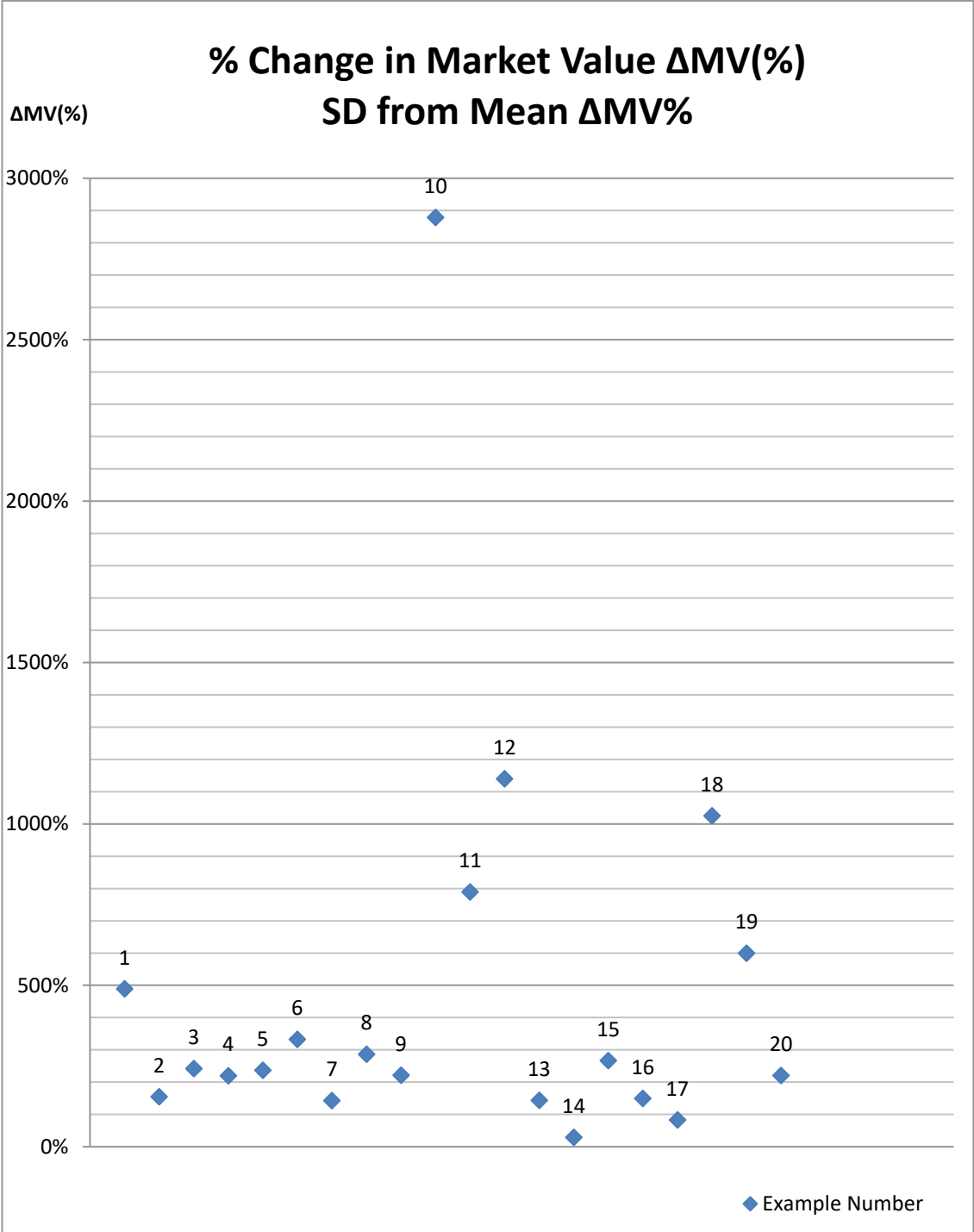
Figure 5.9 - Percentage change in Market Value of Land



Compiled by Geha

Figure 5.10 also shows the percentage change in ΔMV for each of the 20 examples using an extended vertical axis. The results (as seen in both Figure 5.9 and 5.10) all clearly exhibit a positive ΔMV . The graph in Figure 5.10 includes gridlines showing each 100% change $\Delta MV(\%)$ for more accurate comparison. It shows more clearly that the majority of examples fall between 100% and 400% change, which is a significant value uplift in market terms.

Figure 5.10 - Percentage Change in Market Value



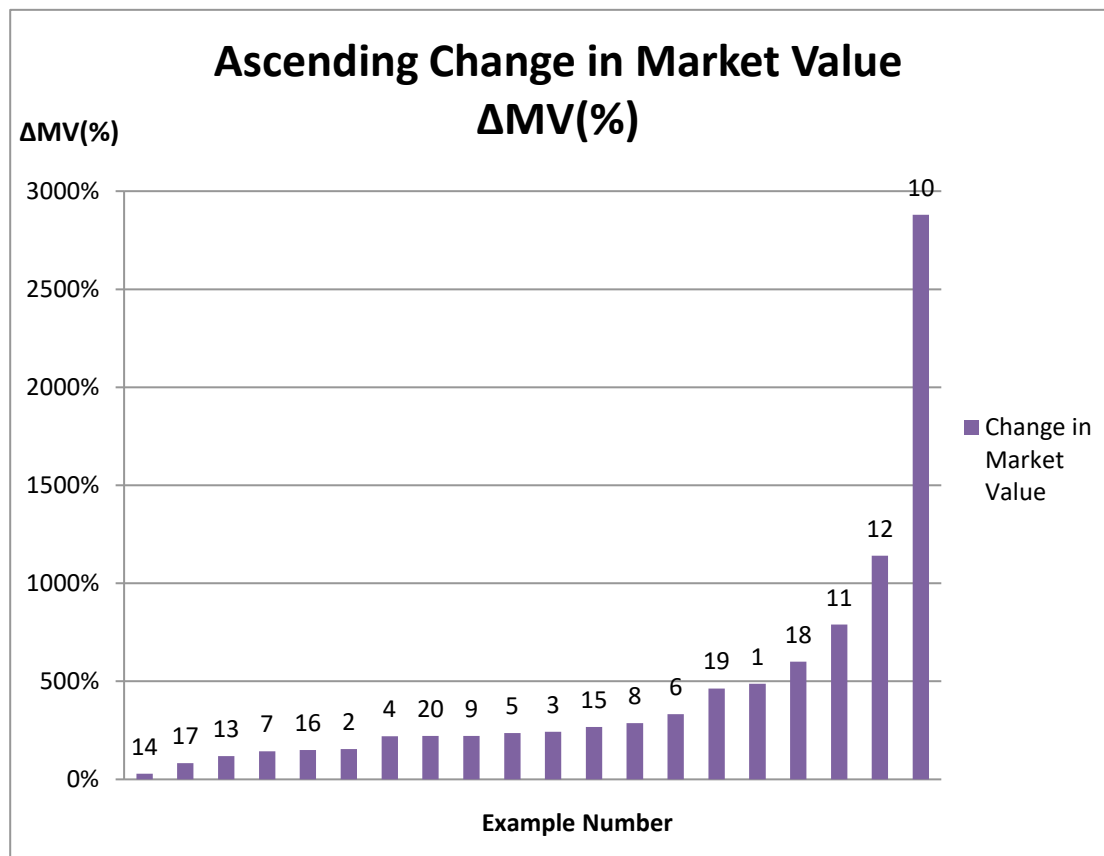
Compiled by Geha

Figure 5.10 also clearly highlights the large value-change associated with **Example 10**. This is simply how the land market responds to the circumstances where a large land

parcel (of some 235 ha in this case) rezones to its “Highest-and-Best-Use” after being purchased cheaply (\$1/sqm vs. \$29.79/sqm for **Example 10** - refer to Table 5.7).

Figure 5.11 below is another graphical representation of market value increase (in percentage terms) for each land parcel. The examples are ranked in ascending order in this representation and demonstrate for each example used, a positive ΔMV as a percentage increase of original land value, in accordance with the $[(V_r - V_0)/V_0] \times 100\%$ calculation.

Figure 5.11 - Percentage Change in Market Value (Lowest to Highest)



Compiled by Geha, 2012

What Figure 5.11 also shows more clearly is the anomalies of **Examples 10 and 14**, the highest and lowest market value-change examples. What is interesting to see, is that **Example 10** experienced nearly three times more value-change than the nearest example (**Example 12**) which still performed very strongly at over 1000% - itself a high percentage change in nominal market value terms. So too, **Example 14** at a $\Delta MV(\%)$ of 29% is small by comparison to the many other examples which display a percentage

change in their ΔMV s of between 0 and 500%. Comparatively we also see that **Example 10** (2,879%) has a $\Delta MV\%$ of 30 times that of **Example 14** (29%) yet both projects remained highly profitable in the “eyes” of the market.

It is perhaps due to land’s ability to transform so markedly in economic terms in the rezoning process, that the stakes are often so high for the various players such as proponents and authorities (as noted by Ruming 2010). It is undoubtedly also the main reason why complex negotiations are often required to produce outcomes that can be accepted by all parties and that can still affect a value-change in a reasonable timeframe (Ruming, 2009).

5.10.4 - Discussion of Change in Market Value ΔMV

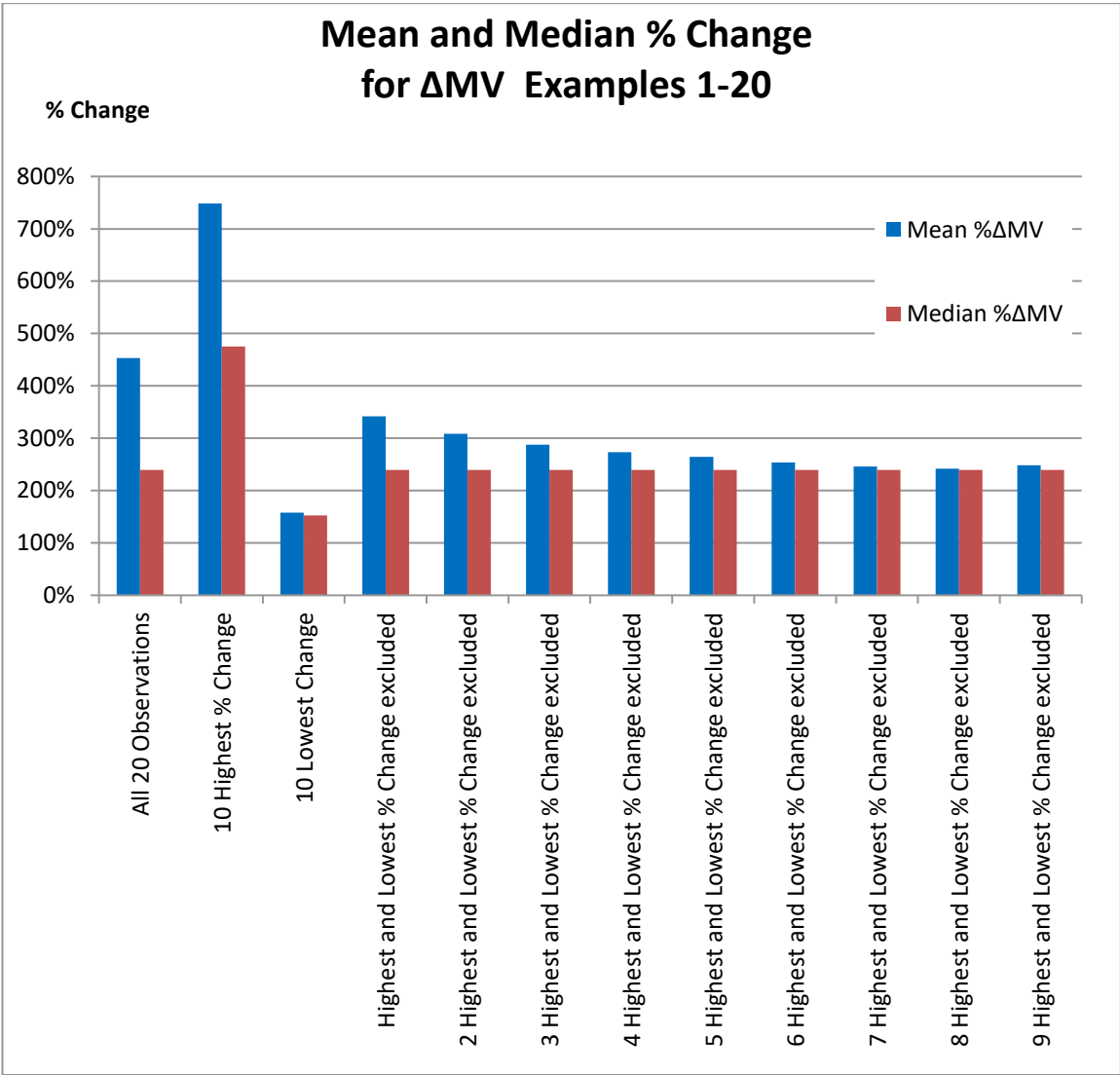
As Figure 5.9 shows, there was a positive change in the market value of each of the 20 examples following rezoning but is this always the case? Is this a true representation of all rezonings? Perhaps not but it is the case for the documented empirical cases in this thesis and is easily explained for the examples herein, by the fact that all of **Examples 1-20** are commercial market case studies. The economics of such projects and associated land components, are always well-calculated in advance. It is thus normal, indeed expected, that they would all have a positive change in their land value post rezoning or planning. Other examples which may be transformed for non-profit motives (such as the downzoning of land from residential to public open space say) might well exhibit ΔMV s in the negative direction. This may also happen under adverse market conditions such as property slumps and prolonged recessionary conditions.

5.10.5 - Standardising the Results

As the standardised results for $\Delta MV(\%)$ in Figure 5.12 and Table 5.15 show, the mean change in market value is 453% with the median being 240%. If we exclude the top and bottom observations we get a ΔMV of some 342% for the mean outcome. This is clearly statistically significant for the economics of value-change. Interestingly also, if

the ten highest observations are averaged, the land value-change is 748% which is a comparatively large value-change (GDP had averaged only a 3.15% increase between 2000-2010 see Table 5.5). Notwithstanding the high average ΔMV produced by the top ten results, the ten lowest observations, still produce a $\Delta MV(\%)$ average of 157%. This again highlights the significance of rezoning and planning to the economics of land.

Figure 5.12 - ΔMV % Statistics



Compiled by Geha

Table 5.15 - Δ MV % Statistics

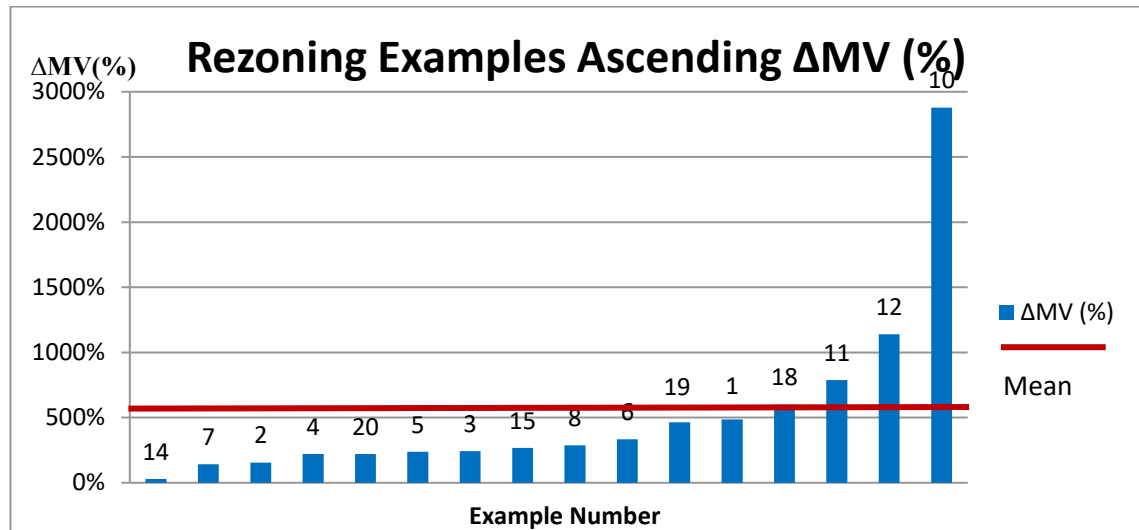
All Observations	%ΔMV	
	Mean	Median
All 20 Observations	453%	240%
10 Highest % Change	748.70%	475.00%
10 Lowest Change	157.80%	152.50%
Highest and Lowest % Change excluded	342.06%	239.50%
2 Highest and Lowest % Change excluded	308.38%	239.50%
3 Highest and Lowest % Change excluded	287.64%	239.50%
4 Highest and Lowest % Change excluded	273.67%	239.50%
5 Highest and Lowest % Change excluded	264.70%	239.50%
6 Highest and Lowest % Change excluded	253.63%	239.50%
7 Highest and Lowest % Change excluded	246.00%	239.50%
8 Highest and Lowest % Change excluded	242.00%	239.50%
9 Highest and Lowest % Change excluded	248.67%	239.50%

Compiled by Geha

5.10.6 - Comparison of Δ MV Rezoning and Planning Examples

So does the market value of land change differently under rezoning and planning processes? This is worth examining in more detail. Analysing the examples, we note that of the 20 examples, only four (**Examples 12, 16, 17 and 19**) were approved under a planning process without a rezoning (refer to Table 5.4). These Δ MV(%) numbers are worth comparing with the Δ MV(%) values for all of the 16 rezoning outcomes, as shown in Figure 5.13 and Table 5.16. The examples being used for the rezoning comparison exhibit a mean Δ MV% of 531% when the Δ MV% values are themselves averaged.

Figure 5.13 - Δ MV(%) Change for Rezoning Examples Lowest to Highest



Compiled by Geha

Table 5.16 - Δ MV % Rezoning Examples Only

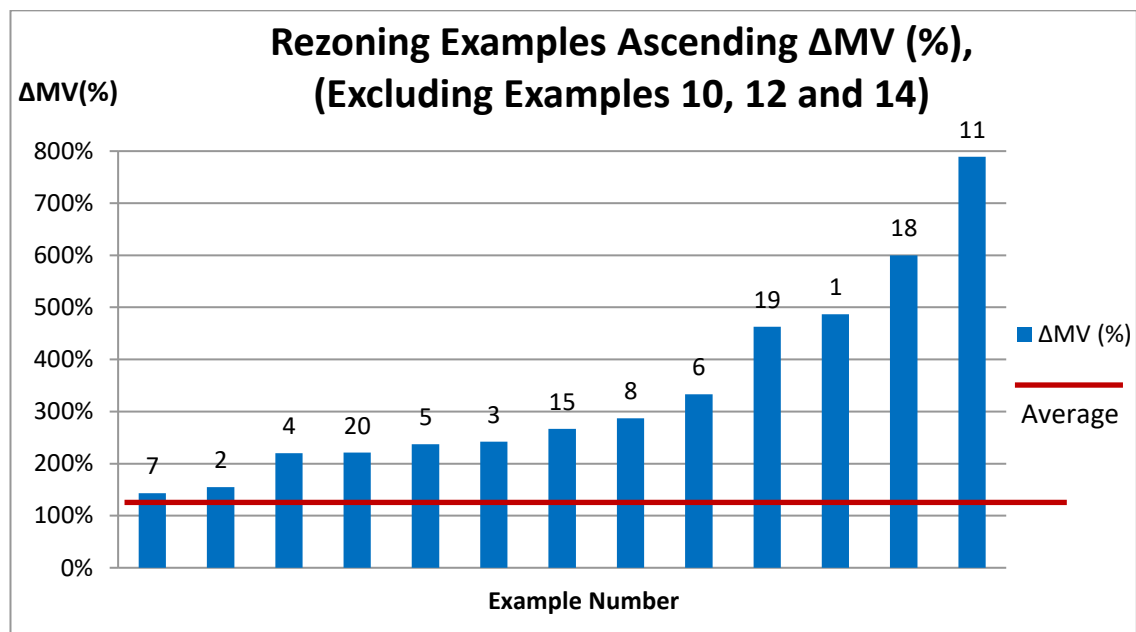
Example Number	Example	Δ MV (%)	Type Change
10	Riverstone Meatworks	2879%	RZ; MP
12	Pasminco	1140%	RZ; MP
11	Oxford Falls	789%	RZ; MP
18	Jacaranda Ponds	600%	RZ; MP
1	Pindari	487%	RZ; MP
19	Kent Road	463%	RZ; MP
6	Mount Gilead	333%	RZ; MP
8	ERL Whiteside	287%	RZ; MP
15	Rosehill Industrial Estate	267%	RZ; MP
3	Mashman Pottery	242%	RZ; MP
5	Twin Creeks	237%	RZ; MP
20	Delhi Road	221%	RZ; MP
4	Rosedale	220%	RZ; MP
2	Wonderland	155%	RZ; MP
7	ERL Allengrove	143%	RZ; MP
14	Tempe Tip	29%	RZ; MP
Average		531%	

RZ = Rezoning

MP = Masterplan

The graphical representations herein (as shown in Figure 5.14 and Figure 5.15), categorise the results found in Table 5.4 into either rezoning examples (Table 5.16) or development application examples (Table 5.18). In the case that the outlying results skew the data of the ΔMV percentages and simply for completeness, it was considered prudent to re-perform the analysis on the remaining 17 examples. This meant excluding **Examples 10, 12 and 14**, being the highest, second highest and lowest $\Delta MV\%$ outcomes. This is not an attempt to manipulate what is a small sample field but simply to ensure that the $\Delta MV\%$ results remain representative even without the outlying results of those examples.

**Figure 5.14 - $\Delta MV(\%)$ Change for Rezoning Examples Lowest to Highest
(Excluding Examples 10, 12 and 14)**



Compiled by Geha

Table 5.17 - Δ MV % Rezoning Examples Only (Excluding Examples 10, 12 and 14)

Example Number	Example	ΔMV (%)	Type Change
11	Oxford Falls	789%	RZ; MP
18	Jacaranda Ponds	600%	RZ; MP
1	Pindari	487%	RZ; MP
19	Kent Road	463%	RZ; MP
6	Mount Gilead	333%	RZ; MP
8	ERL Whiteside	287%	RZ; MP
15	Rosehill Industrial Estate	267%	RZ; MP
3	Mashman Pottery	242%	RZ; MP
5	Twin Creeks	237%	RZ; MP
20	Delhi Road	221%	RZ; MP
4	Rosedale	220%	RZ; MP
2	Wonderland	155%	RZ; MP
7	ERL Allengrove	143%	RZ; MP
Average		342%	

Compiled by Geha

5.10.7 - Analysis of Standardised Results

The exclusion of the results for **Examples 10, 12 and 14**, recasts the new grouping into a range between 143% (**Example 7**) as the lowest, and 789% (**Example 11**) as the highest. There is also a significant distribution of results between 200% and 500%, with almost half of the sample falling into this category. The average Δ MV(%) for this sample i.e. examples in Figure 5.14 and Table 5.17 above, is 342%. This is still a very significant value-change for these examples and shows that the excluded results are credible and useful, as are the 17 examples analysed above.

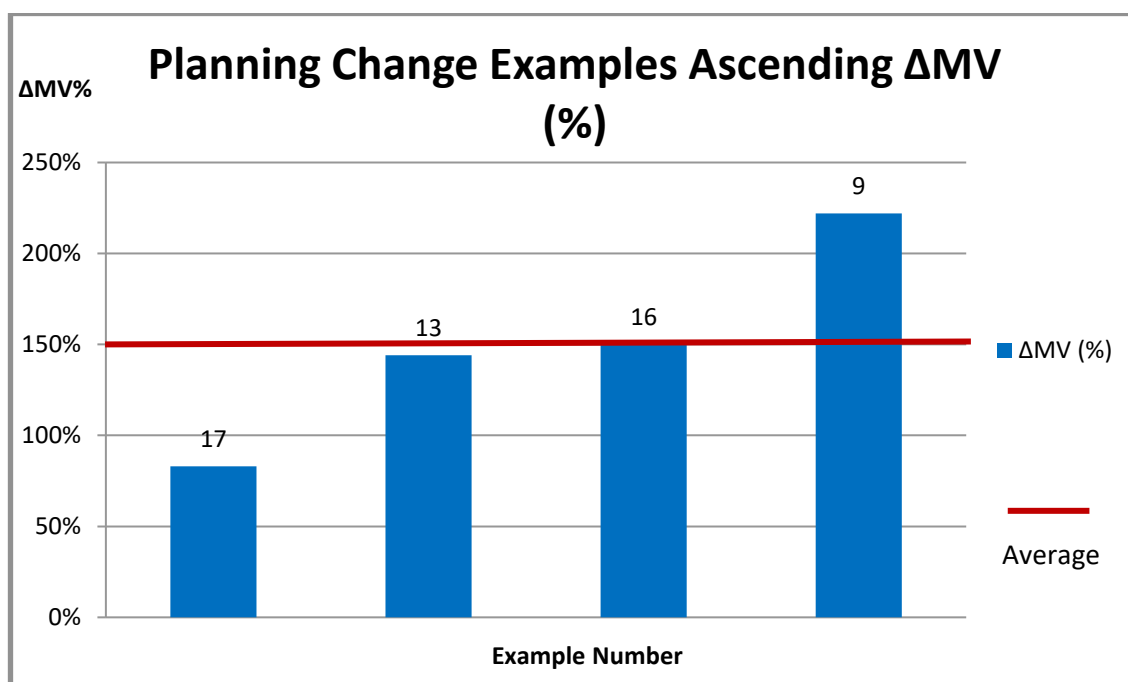
Table 5.18 - Δ MV % DA Examples Only

Example Number	Example	Δ MV (%)	Type Change
9	Little Bay	222%	MP; DA
16	Orion Road	150%	DA
13	Dumaresq Street	144%	DA
17	Finlayson Street	83%	DA
Average		150%	

Compiled by Geha

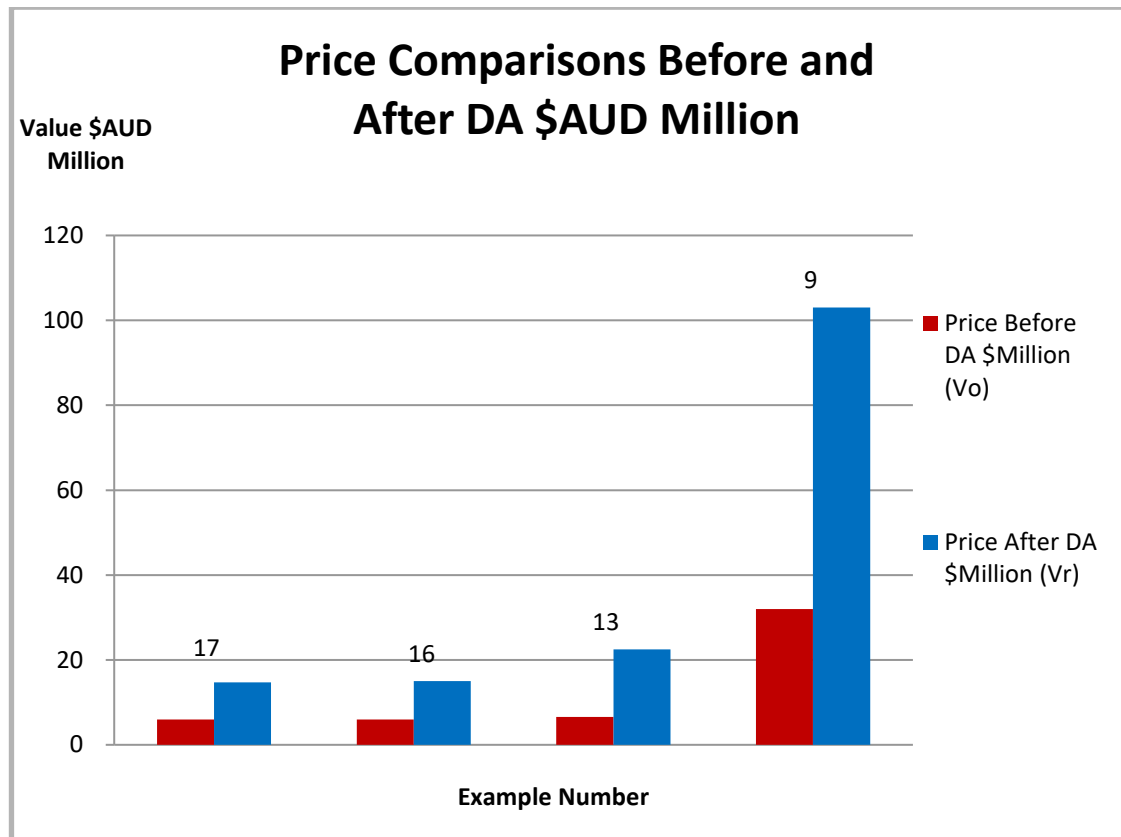
To complete the comparison, we now examine Δ MV(%) for the four planning value-change examples. These are shown in Table 5.18 above and Figure 5.15. Because the sample size was small (only 4 results), the top and bottom outcomes were not excluded from the analysis.

Figure 5.15 - Δ MV % Planning Change Examples (Lowest to Highest)



Compiled by Geha

Figure 5.16 - Price Comparisons for Planning Change Examples



Compiled by Geha

Figure 5.16, above, is a graphical representation of the change in market value for the examples which had undergone a planning change only, as opposed to a rezoning. The range for these examples differs from the rezoning examples, and is between just under 100% to almost 300%. It also shows that most of these examples are clustered between 80% and 150%. Overall, Figure 5.15 shows that examples which undertake a planning change generally have less of a range than those which have been transformed through a rezoning. The average $\Delta MV(\%)$ for these examples is 150%. So in comparing rezoning and planning $\Delta MV(\%)$ outcomes we see that the average rezoning $\Delta MV(\%)$ is 531%, which is over triple the average planning $\Delta MV(\%)$ of 150%. The most likely conclusion is that rezoning appears to be considerably-more significant in producing a change in market value for a land parcel, than a planning approval such as a development consent, though the comparison is complicated by masterplans, market

conditions, timing factors and in some cases (**Example 9**) having more than one development approval.

5.10.8 - Discussion of Examples 10 and 14

It is perhaps apposite, given that **Example 10** enjoyed the highest nominal change in market value, that a short discussion is afforded to it herein, followed by a short commentary on **Example 14**, which conversely exhibited the lowest $\Delta MV(\%)$. In **Example 10**, the land changed in value by some \$67 Million which when compared with the purchase price of the land at \$2.35 Million, gives a prodigious nominal gain of over 2800%. This is a large percentage gain in any estimation but does reflect the low price of purchase and the expected price uplifting effect of converting rural land to industrial and commercial uses in a growing area on the outskirts of Sydney, where its “Highest-and-Best-Use” was achieved.

The lowest change in nominal market value was found with **Example 14**. This parcel rezoned from Industrial (as a waste facility) to another specialised industrial hybrid use - bulky goods retail. There are several plausible explanations of the comparatively-low market value-change for this rezoning. The first is that the rezoned use is close in dollar-per-square metre terms to the original use (\$780 psqm vs. \$1,010 psqm - see Table 5.6). The second, is the fact that land under such market circumstances are usually valued using a residual value method which makes them closely linked to the income-generating capacity of the built-form rather than a dollar-per-square-metre value for the land per se. It is also important to note that this transaction took place in the midst of the GFC of 2008, which may have created special pressures of price and outcome (refer to Table 5.4).

5.11 - Relationship between Density and Value

It is often touted in property circles, that density is the key to value. The story with density is far more complex than that however. As Tables 5.1 and 5.14 show, there are

clear instances where land value-change has occurred (i.e. ΔMV or $\Delta MV(\%)$ is high) without a corresponding change in the density controls (such as FSRs). **Examples 9, 14 and 15** are such cases as shown in Table 5.14.

This on face value may seem surprising, perhaps counter-logical and can be best explained in several ways. Density alone does not create land value. If for instance a parcel of land at low density in the Simpson Desert tripled its density zoning, land value would not improve ipso facto. This is mainly because the final product created by the additional density (apartments or small lots) has no marketable value to a consumer. For value to change, the circumstances of the land, including its surrounding amenity, would have to transform and create a “sellable” home, shop or factory.

Additionally, the change of value for a parcel is not simply about the density increase in a specified zone. It is also, significantly about the new permissible uses in that zone and the costs and risks in achieving those uses. If an old industrial parcel had outlived its economic and aesthetic usefulness for example, simply changing its floorspace ratio to allow for more industrial uses is not only flawed on amenity grounds, it is also flawed economically. Lastly, there are many instances including examples such as **Example 9** in Table 5.14 where the floorspace ratio remained the same (as did the zoning) but the land experienced a value increase of more than 220%.

This may seem very surprising but it is not. The market values certainly do exhibit a relationship with density but it is a complex non-linear one (see Figure 5.17). Take **Example 3** which changed in both its zoning and density (see Table 5.14). Its FSR quadrupled from 0.5:1 to 2.0:1. Its value-changed by 242%. Also consider **Example 1** where a density increase from 0.5:1 to 0.8:1 (i.e. a density increase of 60%) produced a value increase of 487% (see Table 5.14).

There are others such as **Example 4** where the land was rezoned from a density of 1 lot/100ha or more correctly 1 dwelling/100ha (which equated to 1 dwelling over the 187 ha total land area to 781 lots over the 187 ha. The land increased in value by 220%. There is the case also of **Example 14** where the density did not change - only the zoning yet still yielded a 29% land value increase.

So how can this be properly explained? Very simply, the permissible uses and the marketability of the rezoned outcome are designed to occur first and then density plays its role, not directly but through two distinct planning mechanisms. The first mechanism is through Gross Floor Area (such as may be the case in a rezoning to Commercial, Retail, or high-density Residential) or Nett Developable Lot Area (NDLA) as may be the case for rural-residential or low-density residential uses and subdivisions. These concepts are manifest in the Zoning Value Equation (Greenfield Subdivision) and the Zoning Value Equation (Urban Renewal) as presented earlier in Sections 5.2.1 and 5.2.2 of this thesis. The second mechanism is through certainty of outcome, where a purchaser could be guaranteed the desired development outcome, through a DA or Masterplan approval. Certainty in property also creates value. This was true for cases such as **Examples 14 and 15** where the FSR was unaltered, even reduced but the value increased by 29% and 267% respectively (see Table 5.14).

5.11.1 - Documenting the Density-Value Relationship

So how might the density-value relationship be observed? Is there a clear connection between density and value? Based on the analysis performed herein, there does not appear to be such a clear linear correlation. For the examples where it is possible to measure a change in density (and there are many for which it is not - e.g. **Examples 2, 6, 10, 11 and 12**) if density-change is plotted against value-change the results do not appear to follow any specific pattern (See Figure 5.17 and 5.18).

Table 5.19 - Density Analysis

Example Number	Example	Density Analysis	Original Density	Amended Density	Δ Density	Δ MV %
1	Pindari	FSR	0.5:1	0.8:1	+60%	487%
2	Wonderland	NAD	N/A	0.5:1	NA	155%
3	Mashman	FSR	0.5:1	2.0:1	+300%	242%
4	Rosedale	LDE	1 dwelling per 100 ha	781 lots	+4160%	220%
5	Twin Creeks	LDE	1 dwelling for every 40 ha	285 lots, including 54 x 1500 sqm lots	+3300%	237%
6	Mount Gilead	NAD	1 dwelling per 100 ha	0.5:1	NA	333%
7	Allengrove	FSR	0.5:1	1.7:1	+240%	143%
8	Whiteside	FSR	0.5:1	1.7:1	+240%	287%
9	Little Bay	FSR	0.5:1	0.5:1	0%	222%
10	Riverstone	NAD	1 dwelling per 100 ha / 0.5:1	0.5:1 (750,000 sqm of approved Industrial /Commercial	NA	2879%
11	Oxford Falls	NAD	1 dwelling per 10 ha	0.5:1	NA	789%
12	Pasminco	NAD	0.5:1 (Permissible) , 0.02:1 (Actual)	0.5:1	0% (Permissible) 2400% (Actual)	1140%
13	Dumaresq St.	FSR	0.5:1	1.3:1	+160%	144%
14	Tempe Tip	FSR	0.5:1	0.5:1	0%	29%
15	Rosehill	FSR	0.5:1	0.45:1	-10%	267%
16	Orion Road	FSR	1:01	2:01	+100%	150%
17	Finlayson St.	FSR	0.5:1	1.7:1	+240%	83%
18	Jacaranda	LDE	1 Lot/ 40 ha	1Lot/ha	+3900%	600%

19	Kent Road	FSR	1:01	3:01	+200%	463%
20	Delhi Road	FSR	2:01	3:01	+50%	221%

Compiled by Geha

Key:

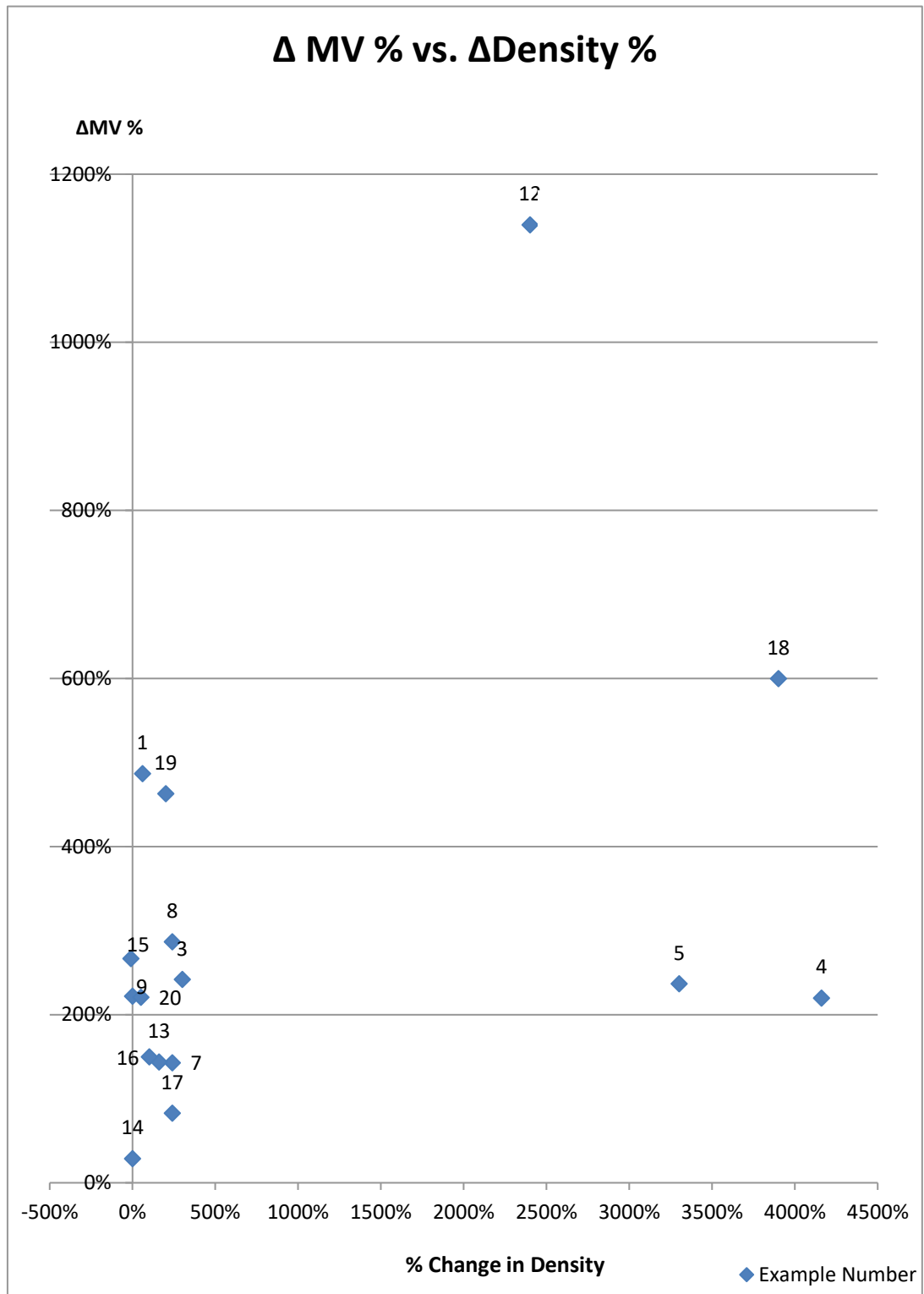
FSR = Floorspace Density Example.

LDE = Lot Density Example.

NAD = Not Able to have a Density Comparison.

NA = Not Applicable.

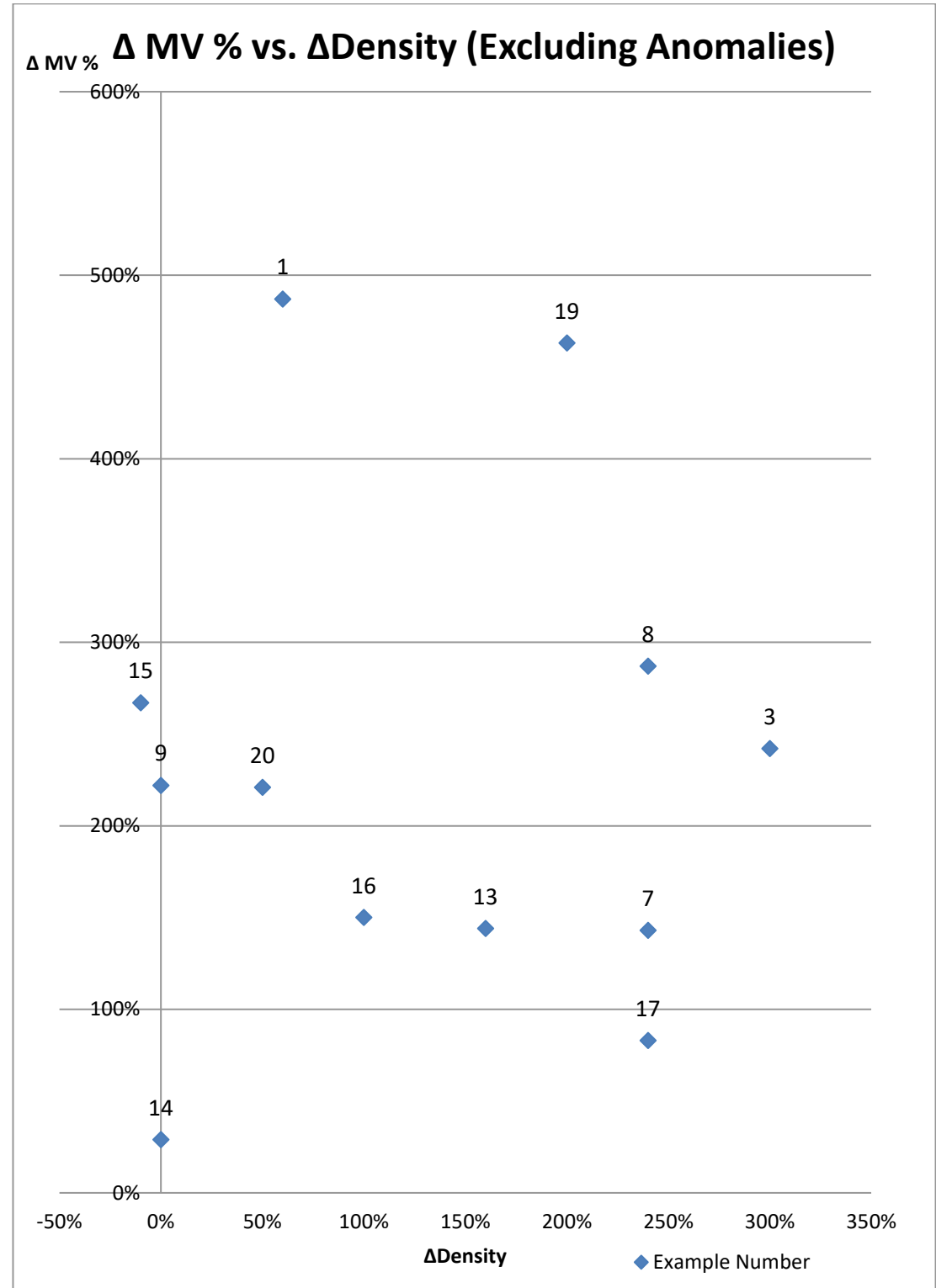
Figure 5.17 - Change Market Value vs. Changing Density
 (Excluding Examples 2, 6, 10, 11 and 12)⁵⁵



Compiled by Geha

⁵⁵ Reasons for exclusion are set out in Section 5.11

Figure 5.18 - Relationship Δ MV % vs. Δ Density Excluding - Examples 2, 6, 10, 11, 12 [Non-calculable Density Results] and 4, 5, and 18 [3 highest results]



Compiled by Geha

The density-market value comparisons for the examples as shown in Table 5.14 are clearly very randomly spread. There is no obvious direct relationship, linear or otherwise, that can be deduced from the data in Table 5.14 or the graphs in Figures 5.17 and 5.18. Figure 5.17 plots the change in market value of the case study examples against the change in density for each example number. Figure 5.17 uses the calculated numerics of Table 5.14 but necessarily excludes **Examples 2, 6, 10, 11 and 12** because their original densities could not be afforded meaningful comparisons with their amended densities. In the case of **Example 2**, this was because the original tourism zone did not have density controls. For **Example 6**, it is because the original zoning did not even permit one dwelling on the original land parcel. For **Example 10**, the land had a rural zoning on 195 ha of the 235 ha, and the remaining 40 ha of land already zoned industrial did not change FSR, but changed use under the new zoning. The comparison of any assumed floorspace density controls under the new industrial/commercial zoning is not meaningful simply because under the rural designation, the density control is through a minimum subdivision size where density and floorspace are not controlled.

The reason why **Example 11** was excluded is similar. The original rural zoning did not have density floorspace controls but rather a one dwelling per 10 hectare maximum. A floorspace could have possibly been assumed for each dwelling at say 400 sqm but this has been avoided simply because the original value of the land was not based on such a parameter as floorspace. For **Example 12**, the density controls were simply not relevant to the original industrial zoning with the improvements on the site constituting only a 0.02:1 floorspace ratio. This was ignored as it would not have been a relevant factor in the purchase price of the land.

It is important to note therefore that five examples (20% of total) are excluded from the $\Delta MV\%$ vs. $\Delta \text{Density}$ comparison as shown in Figure 5.17. There is even the interesting situation of three examples with vastly different $\Delta MV\%$ numbers at the same $\Delta \text{Density}\%$. This is the case for **Examples 7, 8 and 17** all of which have a $\Delta MV\%$ of around 240% for changes in FSR of 286%, 143% and 83% respectively. This shows the market value of the three different parcels being different with the same percentage change in density. There is also the anomalous outcome of **Example 15** where a

negative change in FSR of -10% (from 0.5:1 to 0.45:1) produced a positive $\Delta MV\%$ of 267%.

Figure 5.18 attempts to standardise the data a little, in the hope of finding a pattern that can be observed between the $\Delta MV\%$ and $\Delta Density\%$ numbers for each of the examples. Here the values for only 12 Examples were plotted. The **Examples** excluded were **2, 5, 10, 11 and 12**, which have already been excluded due to the inability to calculate and model their densities. In addition the results for **Examples 4, 5 and 18** were excluded as they were the highest $\Delta Density\%$ figures. These examples exhibited a $\Delta Density$ of 4,160% (**Example 4**), 3,300% (**Examples 5**) and 3,900% (**Example 18**). Looking afresh at the graph in Figure 5.18, it is still difficult to ascertain a definitive pattern. This confirms the view put earlier in this section that density change and market value-change do not seem to be well correlated.

What the data in Table 5.14 and the graphed results in Figures 5.17 and 5.18 show, is that the relationship between density and value is very complex and one that is not easily explained through a direct comparison between changes in density and the market value of land. So is this relationship any more clear when examining the three examples which experienced a change in lot density, namely **Examples 4, 5 and 18** (see Table 5.14). Not at all, in fact equally for these examples, the relationship is certainly not linear (refer to Figure 5.17) where it can be reasonably observed that $\Delta Density$ is not well correlated with $\Delta MV\%$.

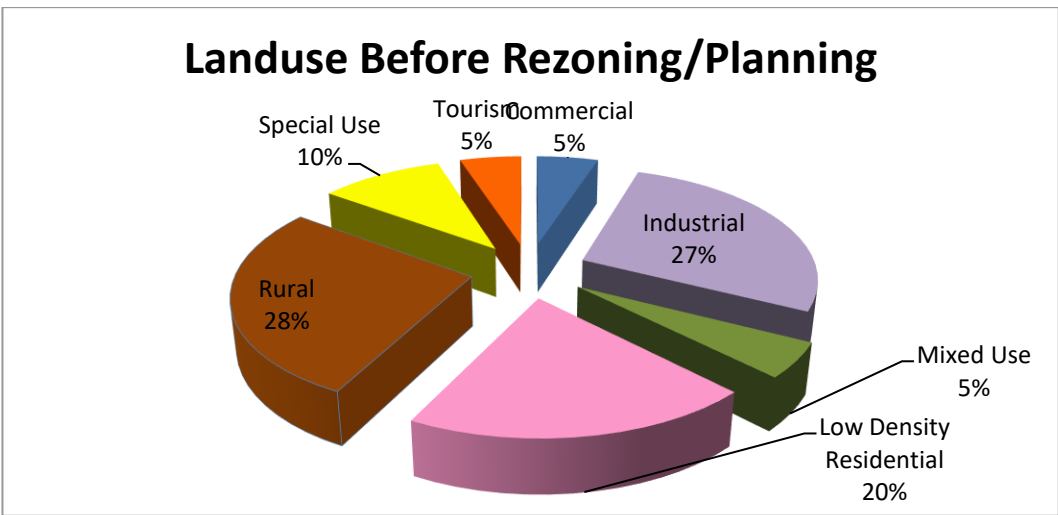
Thus it may be possible to say that in modelling the case studies contained in this thesis, that density does increase market value in general trend terms, but that the relationship is far more complex than a simple correlation. This can be explained, at least in part, by the influence of other significant factors such as project delivery costs, allowable uses and marketability which may all be equally-important considerations in determining price changes. For the land and price movements that can be observed in the examples shown, the ΔMV values appear quite independent of density changes. Notwithstanding, it is equally true that for the majority of the examples, an increase in allowable density has resulted in a positive increase in their market value. Such cases include **Example 16** where a 100% lift in density has resulted in a 150% increase (more than the density

increase) in $\Delta MV\%$. Also for **Examples 13 and 7** where density increases of 160% and 240% respectively, have produced value uplifts of only 144% (less than the density increase) and 143% (less than the density increase) in the market values of the two parcels respectively. Here again changes in density are not well correlated with changes in the ΔMV s of the parcels.

5.12 - Rezoning Success and Landuse Type

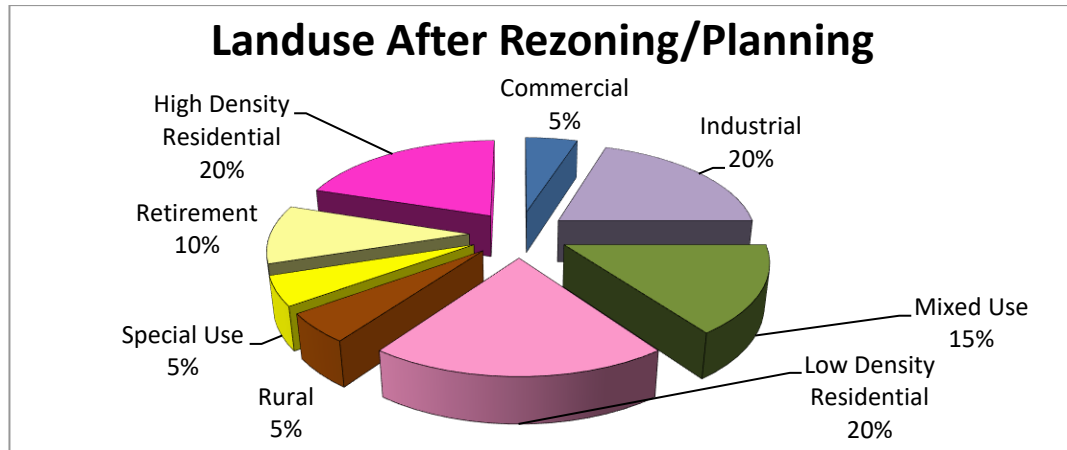
Finally, it is interesting to also examine the rezoning success of certain land uses against others, to ascertain if particular landuse zones are more likely to be successful or are more popular for reaching zoned and planned outcomes than others. As a subset of this investigation, it is useful to also determine whether some zoning types are more popular as origins or destinations than others. To assist visually with this analysis, the 20 examples were deconstructed into their component landuse type and regrouped into two pie charts for the Before and After Rezoning and Planning Cases as shown in Figures 5.19 and 5.20:

Figure 5.19 - Landuse Allocation Before Rezoning/Planning



Compiled by Geha

Figure 5.20 - Landuse Allocation After Rezoning/Planning



Compiled by Geha

As the pie charts indicate (Figure 5.19 and Figure 5.20), the reallocation of land uses in the rezoning process, is quite well spread. Low-Density Residential as a category for instance, made up only 20% of the total by number for the 20 examples quoted. Significantly, High-Density Residential as a rezoning outcome also made up 20%, showing that even though High-Density Residential may often be seen the “Highest-and-Best-Use” for a parcel of land, the economics and zoning probability of such a transformation are not easily achieved. This is mainly due to the difficulties associated with zoning change in many parts of New South Wales’ cities and also because of the difficulty involved in reconciling the zoning outcome and market price, with a high purchase price for the pre-zoned land. If this price differential is not obvious or calculable, many rezonings simply do not take place at all.

Also it is clear that because of the way that segregational or Euclidean zoning is administered in large homogeneous blocks, in many cases rezonings to “Higher-and-Better-Use” cannot be supported technically or financially over the time required, to achieve rezoning or planning approvals.

5.13 - Bid Rent and Rezoning Effect: Comparisons

It is important at this juncture, prior to the conclusion of the analysis, to revisit how the results of the research for the rezoning and planning case study examples might

correlate with those predicted by the conceptualisations put forward by the “bid rent” and “rent gap” theorisations as set out in Section 2.2 earlier in this thesis. Table 5.20 below sets out additional data incorporating the distance of each from the Sydney CBD, used here as a proxy for the most proximal location in the NSW cases. The rezoned values and $\Delta MV\%$ values have been used in the comparisons to model the relationships that might exist, in general terms, between land value (per square metre) and location. As Figure 5.21 below indicates, the general relationships postulated by Harvey and others (see Section 2.2) regarding comparative bid rents (or say prices) tend to exhibit the assumed pattern of the most expensive being closest to the Sydney CBD and the lowest prices per-square-metre being for the furthest. There are many aberrations even in a sample of twenty shown herein. Examples 10 and 12 for example are both closer to the city than example 4, yet their bid price is lower. The same is true for the purchase price V_0 of example 17 being further than examples 1, 19 and 14 by several kilometres but with a considerably higher bid price per-square-metre. This highlights once again the complexity of the value equation for land and how bid-prices are constituted and arrived at. They reflect zoning and permissibility, certainty of outcome and timeframe over which risk and reward are exercised - it is a market-based outcome encompassing much more than a “bid rent” based on distance.

This is confirmed further by the high variances in the $\Delta MV\%$ values that show a poor correlation with distance from the CBD, as is evident in Figure 5.22. As is germane from the wide range of values, a true pattern is not present with the $\Delta MV\%$ values exhibiting a scattered pattern, quite independent of both distance and example number. Thus the rezoning effect on land can occur anywhere regardless of “greenbelt” or other conditions, under a far more complex variety of settings than the currently-modelled conceptualisations of land value change. This contrasts somewhat with the theorisations put forward by academics such as J. Harvey (1996) as might have been suggested by the simple rezoning curves shown in Figure 2.1 (shown earlier in Chapter 2) modelling the theoretical effects of rezoning in a city.

Table 5.20 – Land Value and Distance from CBD

Example	Example	ΔMV (%)	Land Area (m²)	V_o	V_r	V_r (\$/m²)	Distance to Sydney CBD (km)
1	Pindari	487%	8,041	\$3,000,000	\$17,600,000	\$2,188.78	8
19	Kent Road	463%	31,700	\$16,000,000	\$90,000,000	\$2,839.12	8
14	Tempe Tip	29%	100,000	\$78,000,000	\$101,000,000	\$1,010.00	9
17	Finlayson Street	83%	2,945	\$6,000,000	\$11,050,000	\$3,752.12	10
16	Orion Road	150%	7,922	\$6,000,000	\$15,000,000	\$1,893.46	12
7	ERL Allengrove	143%	12,400	\$11,520,000	\$28,000,000	\$2,258.06	15
20	Delhi Road	221%	17,000	\$14,000,000	\$45,000,000	\$2,647.06	15
8	ERL Whiteside	287%	14,049	\$8,020,000	\$31,000,000	\$2,206.56	16
9	Little Bay	222%	170,000	\$32,000,000	\$103,000,000	\$605.88	17
13	Dumaresq Street	144%	6,047	\$6,600,000	\$16,100,000	\$2,662.48	17
11	Oxford Falls	789%	140,000	\$9,000,000	\$80,000,000	\$571.43	19
3	Mashman Pottery	242%	7,664	\$4,000,000	\$13,670,000	\$1,783.66	21
15	Rosehill Industrial Estate	267%	300,000	\$30,000,000	\$110,000,000	\$366.67	22
2	Wonderland	155%	490,000	\$49,000,000	\$125,000,000	\$255.10	38
5	Twin Creeks	237%	3,260,000	\$33,000,000	\$111,250,000	\$34.13	51
10	Riverstone Meatworks	2879%	2,350,000	\$2,350,000	\$70,000,000	\$29.79	53
6	Mount Gilead	333%	220,000	\$3,000,000	\$13,000,000	\$59.09	67
18	Jacaranda Ponds	600%	1,870,000	\$8,000,000	\$56,000,000	\$29.95	69
12	Pasminco	1140%	1,170,000	\$1,000,000	\$12,400,000	\$10.60	127
4	Rosedale	220%	1,876,200	\$5,000,000	\$16,000,000	\$8.53	390
Average			602,698	\$16,274,500	\$53,253,500	\$1,260.62	49.2

Compiled by Geha

Figure 5.21 - Effect of Rezoning on Land Price \$AUD

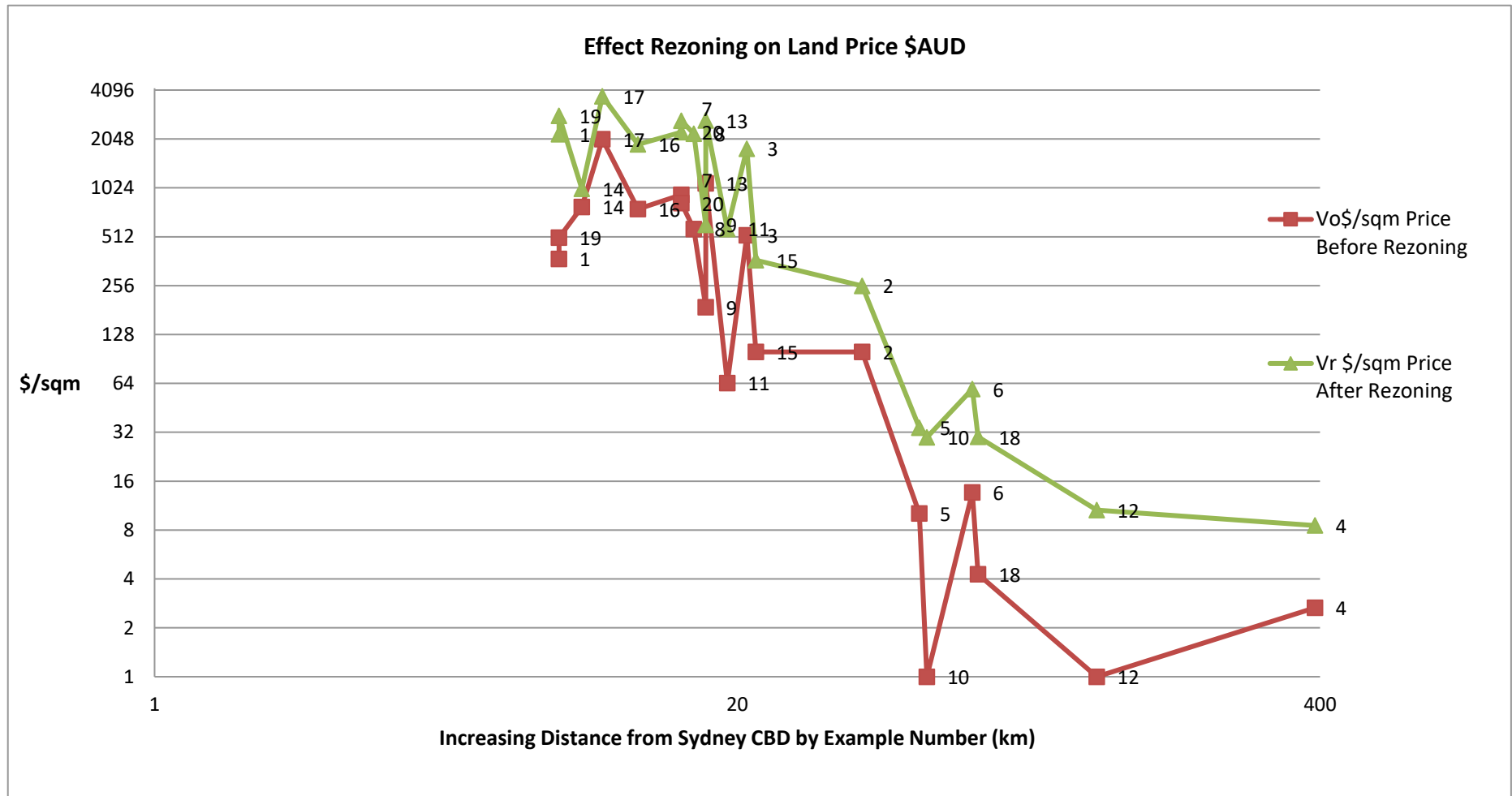
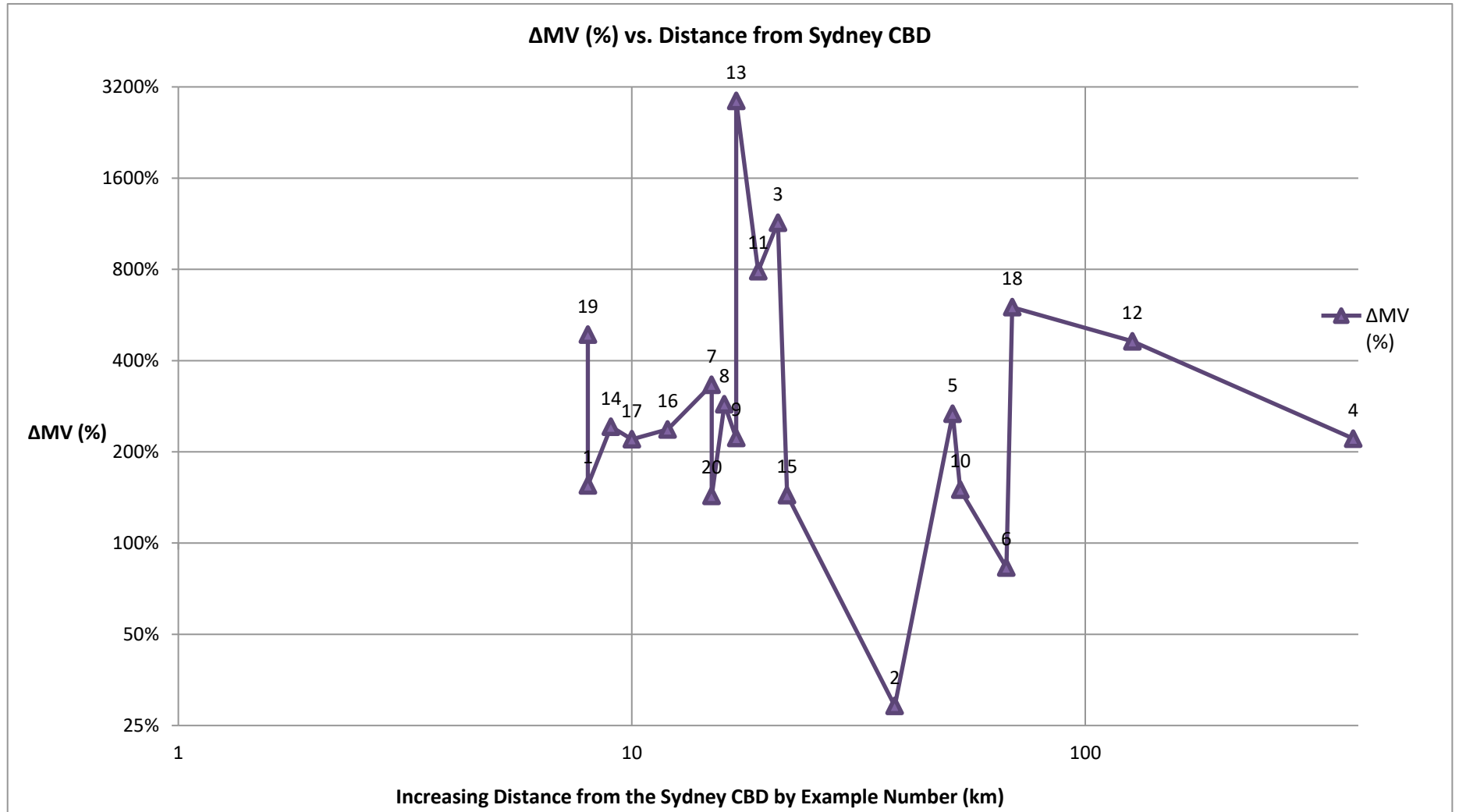


Figure 5.22 - ΔMV (%) vs. Distance from Sydney CBD



5.14 - Limitations of the Analysis

The data used in this chapter and in the analytical and qualitative comparisons has some obvious limitations. These include the points set out below.

The extensive case-study approach uses 20 cases that were in fact detailed rezoning and planning transformation examples. If the sample field was 100 or 200, better comparisons could be made and greater insights offered. Although, given the time required for such cases to occur may well mean that in a meaningful context, the ability to collect and find such data would be extremely difficult.

The data in this chapter, as observed in the 20 case study examples, is based on information collected over many years by the author. The information used, is mostly on the public record but also contains information stored and derived by the author's firm, a major planning and rezoning company in the State of NSW.

The data selected is also subjective. The examples used in the thesis, were specifically picked, from hundreds of possible examples, specifically to traverse a range of complex land parcels with different zoning and planning pathways. More simply put, out of the many possible examples, the ones used herein exemplify the most valid value propositions and were deemed the most interesting and diverse examples selected to cover the complex and often-unusual range and type of land issues encountered in a rezoning, a DA or a state-based approval such as a former Part 3A.

There is also always a limitation that must be admitted with respect to any value estimation used because it is not always possible to have actual market transactions for either the value before or for the value post rezoning and planning transformation.

5.15 - Conclusion

This chapter has explored, in some detail, the main factors that constitute and contribute to the creation and destruction of land value in both statutory and planning terms as they relate to rezoning and DA approvals. It has closely analysed a distinct but detailed list of 20 examples, highlighting the value-creation numerics for each. It has also

examined, through the empirical evidence described within, the total land-value-change, as observed for each land parcel, explaining the changing planning or statutory controls that were deemed to have contributed or created the change. Both quantitative and qualitative explanations of the resultant value-change have been proffered, together with mathematical formulae that represent numerically the modelling of such outcomes. The final product of the chapter has been the Empirical Value-Change Equation which offers the quantitative reasoning for zoning and planning value-change.

There is also considerable explanation of the data used and produced, including graphs, bar and pie charts, as well as an explanation of how the Empirical Value-Change Equation is formulated and derived. The final formula deduced uses the empirical evidence, documented within this thesis, to inter-relate the market price of real land parcels to both zoning and planning outcomes and hence the value-change that might result through such processes.

A series of questions have been posed by this thesis. The primary question posed at the outset has been whether the rezoning of land actually changes the marketable value of land. It certainly does. The associated primary question is then by how much? These questions have been fully explored and answered by the application of the Empirical Value-Change Equation and supporting analyses. The results of the research show that this is not a simple question to answer and that the resulting change in market value following a zoning or planning transformation, is dependent on a large range of factors including allowable uses; floorspace and GFA; costs of delivery; and marketability of final product. This complex connection between landuse permissibility, marketability and value is expressed in the Empirical Value-Change Equation, presented in this chapter.

The final question was one of how such a value-change may be best explained, when the land itself does not experience any physical, topographical or locational change? This has also been thoroughly discussed herein and explained both theoretically and empirically throughout this chapter. The quantum of change experienced has been explored in the context of the land's enhanced capacity to produce capital or income or

both, as seen through the economic and approval journeys of the 20 empirical case study examples detailed herein.

This chapter has also examined a range of secondary questions relating to zoning and planning in terms of the empirical evidence contained in this thesis. The first was whether rezoning and planning changes were the sole reasons for the value-change exhibited with the parcels. It was concluded that the value-change experienced by the parcels was unlikely to be due to external growth factors, given that growth only averaged 2.44% for NSW over the period that these rezoning and planning approvals took place (see Table 5.5).

The analysis also found that rezoning had a more pronounced effect on value than development approvals, though the time to achieve a DA was quicker. The results also showed that the “rezoning effect” does not seem to be dependent on any specific initial or final zones for the value-creation to take place and to that end was independent of zone typology.

The research evaluation also showed that masterplans contributed significantly to market value uplifts and worked in conjunction with rezoning to produce strong land-value increases. A masterplan on its own however, had a far lower effect on land value. Notwithstanding, the enhanced certainty of outcome given to a parcel, in conjunction with a rezoning or a planning approval through a masterplan, had a clearly positive effect on land value.

The chapter has also gone to some degree in analysing the results using a market-value rationale. This has included an effort to standardise the results. It also compared rezonings and DAs in order to establish their comparative importance to the value proposition. The discussion has included looking at the complex relationship between a parcel’s density and the effects of changing this density (whether in the form of FSR or lot yields) on the market value of a parcel ($\Delta MV\%$).

It has been found that value change was not strongly correlated with higher density, finding that FSR alone was not always an accurate measure of value. Though a

correlation does exist between floorspace and value, this was complicated by a myriad of factors such as final GFA, permissible land uses, final product marketability, development costs as well as calculable risk and profitability.

The next chapter contains specialist research relating to how Heritage Conservation, a manifestation of planning regulation, actually affects property value. The research compares the prices of a large number of detached homes, all on separate Torrens-Title⁵⁶ blocks. These were specifically selected to be as similar as possible for houses both inside and outside two separate Heritage Conservation Areas namely North Randwick and West Kensington, both in Sydney's Eastern Suburbs.

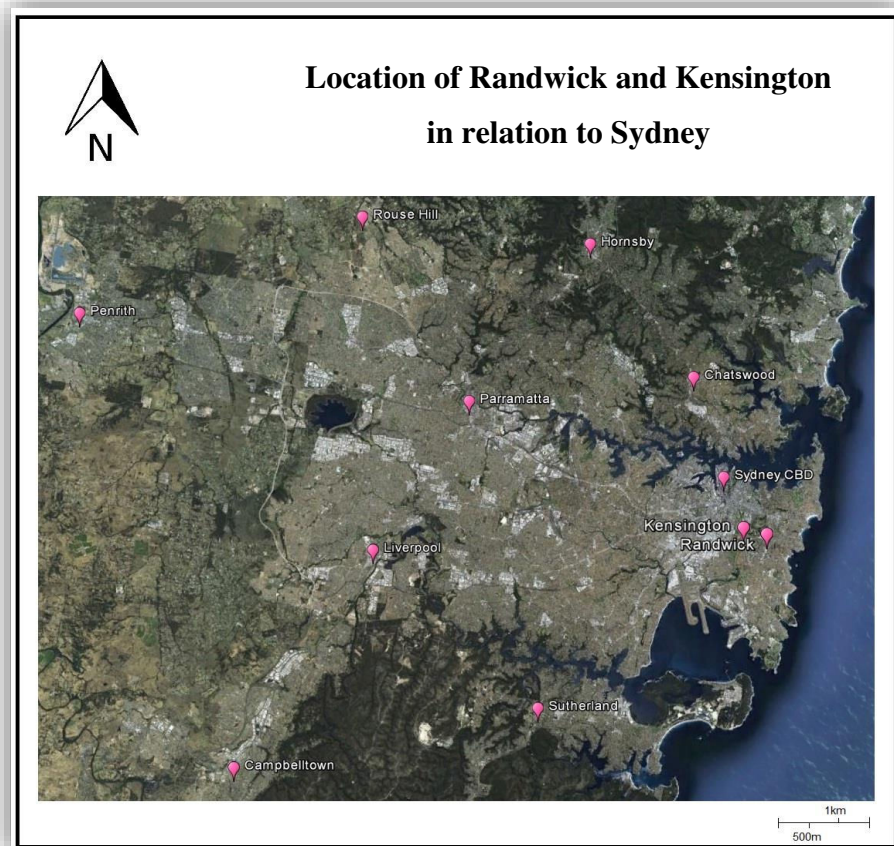
⁵⁶ Torrens Title is a term used to describe the system of title (or land) registration devised by Sir Robert Richard Torrens, and adopted in NSW from 1863. Under this system, title is guaranteed by the state and purchasers do not need to establish the chain of ownership when purchasing property. They can rely on a current Certificate of Title document to evidence ownership of land (LPI, 2012).

Chapter 6: Heritage Conservation Area Comparison

6.0 - Introduction

Heritage overlays are a part of planning regulation, imposing restrictions on the use of land and property in a given area. This serves as an important addition and a subset to the main research question posed in this thesis on how zoning changes land value. The adjunct question posed and answered within this chapter is: whether Heritage Conservation Area (HCA) restrictions, as a form of planning control, impact residential land and house prices? This chapter details the research findings of two empirical case studies relating to capital growth comparisons of residential property affected by heritage planning controls. The study examines two separate heritage conservation areas in Sydney's Eastern Suburbs, namely the North Randwick Heritage Conservation Area (NRHCA) and the West Kensington Heritage Conservation Area (WKHCA) as shown in Map 6.1 below. The primary reason for the analysis was to ascertain the impact of heritage controls on the market price of residential property.

Map 6.1 - Location of Randwick and Kensington in relation to Sydney



More specifically, the analysis looks at how house prices inside a heritage conservation area might compare with those outside, in the same locality. Using the gross sale prices of a statistically-significant number of residential properties inside each heritage conservation area (HCA), results were collated and nominally compared with property sale prices outside each HCA over time. This chapter also contains its own literature review of those academic views that relate specifically to the subject matter of heritage and heritage conservation.

The primary intent of the research detailed herein was to create a valid statistical comparison of nominal average annual capital gain over time, between those houses (including their land parcels) inside the HCAs and those of neighbouring properties, located outside. The data spans almost forty years and deliberately represents only detached houses on individual land blocks, that have sold more than once in that time period.

The chapter also contains interviews with three local real estate agents, who give expert opinions on the precinct price comparisons, the desirability of heritage conservation area homes to the market and area housing market appraisals, based on their detailed market experience. All three agents possessed broad residential property expertise, including extensive sales experience of market sales both inside and outside the two HCAs. The realty agents also gave their professional views on how they perceived heritage conservation areas and the market effect of such zoning devices on residential property located within the boundaries of HCAs. They also commented on house and land values outside the two HCAs, especially as they may relate to market demand for detached homes in the area. These expert opinions on the residential market in Randwick and Kensington, are included both as a separate confirmation mechanism, as well as to give a supporting qualitative view of the quantitative and numeric analyses contained in this chapter.

6.1 - Research Question

Heritage generally and a Heritage Conservation Area (HCA) specifically, are in essence a zoning overlay which is superimposed upon property, further restricting activity in a given zone. It is thus an obvious manifestation of planning control, though not intrinsically part of zoning. It does nonetheless, serve to directly restrict the use of properties within a heritage-designated area such as an HCA, at least by comparison to properties outside the HCA.

It logically follows therefore, that any such restrictions should ordinarily reduce demand for housing in a heritage conservation area, in comparison to demand for those unrestricted houses outside the HCA. Assuming this, *ceteris paribus*, and that the supply-demand relationship is elastic, then heritage controls should consequently lower the price of the houses inside HCAs compared with those outside. The main contention of this thesis is that zoning is important to property value and that any change in such zoning would also change land value.

At this point, it is also important, at least for completeness, to define what in statutory terms is a Heritage Conservation Area. A simple way of establishing a response to this question would be to quote the definition proffered in the Randwick LEP 1998, which states that a “Heritage Conservation Area means land shown by distinctive edging on the map and includes buildings, works, relics, trees and places situated on or within that land” (Part 5, Section 49 Randwick City Council LEP 1998). Thus the definition is both qualitatively simple and geographically well-defined and more succinct in overall descriptive complexity than one might ordinarily expect. This is helpful in the interest of more flexible and more effective administration. Moreover, the HCA is physically defined by a diagram in the LEP, showing extent.

In terms of statutory restrictions, the HCA serves to add further consent requirements to any property owner wishing to build improvements on the land within the HCA, with strict criteria set out for both the assessment and approval of such works. Thus an HCA adds *de facto* planning controls (or development controls at least) in the zone in which

the property is located. In the two HCA examples analysed herein, the houses were all located in 2(a) zones or zones allowing low-density detached dwellings.

So should the average annual price gain inside the HCAs, as measured, be lower or higher than that outside the two HCAs? To properly respond to this question, actual market sales data has been used in the empirical statistical comparisons for both the NRHCA Case Study and the WKHCA Case Study. The statistics all relate to actual market sales and as such do not rely on estimates, valuations, price projections or Valuer General⁵⁷ data. What can be said categorically, is that this method gives the research question being posed herein, a definitive empirical basis with which its validity may be tested.

As each sale price was the exact price that the market had determined it could pay for each property at that moment in time, it would be fair to assume that this represents a precise measure of market value and that it is also representative of how a dynamic housing market might behave over time.

The data used for the two comparative studies has been deliberately selected to evaluate similar products at very similar locations, with similar geography, topography, amenity, views and prestige value. This has been done deliberately to ensure that the price capital gain comparisons are truly reflective of markets, cycles and consumer sentiment in a like-for-like comparison. Also, given that the data collected covers a large time span i.e., well over 10 years and in many cases over 20 years, the price increases are all financially registered transactions and therefore verifiable.

Inflation, rental yields and the time-value of money were not introduced into the model, as these refinements, though useful in part, would apply over the entire statistical data for all the houses, and as such should be of no consequence in the comparative analysis. A simple percentage increase on a house-by-house basis, was thus considered just as appropriate for the purposes of numerical comparison. Notwithstanding, as the results herein all relate to the arithmetic mean (i.e. mathematical average for the capital gain

⁵⁷ The Office of the NSW Valuer General issues land valuations for the purpose of calculating rates and land tax.

results), it was also considered helpful to calculate the geometric mean (reflecting the compound annual capital gains) for the houses examined.

The comparative analysis consisted of creating capital gain data for each house individually. This was mainly to overcome the differences that might exist between the houses, i.e. larger houses compared with smaller ones or older houses compared with newer ones. So the average annual capital gain was calculated for each house, before the results were compared. The main observations relate to those individual houses within each HCA, compared in percentage capital growth terms with similar individual houses outside each HCA.

6.2 - Heritage Literature Review

Given the significance of the research in this part of the thesis, it was considered appropriate for this chapter to have its own literature review, relating specifically to the heritage and heritage conservation spheres. The literature reviewed, traverses the heritage arena and ranges from public documents defining heritage, to academic articles that describe the effects of heritage listing. Though the heritage status of the precincts analysed in this thesis is only related to heritage conservation areas rather than a full heritage listing (i.e. listing of individual properties as heritage items), it was considered important to review and understand the effects of local heritage in general and the broader mechanisms of its empowerment, in order to better evaluate its effects on property values. This is intended to give additional insights into the final findings of this chapter, in an attempt to describe and quantify the effects of HCAs on inner Sydney residential property values.

It is pertinent to commence with the question: What is heritage? According to the NSW Heritage Office, heritage simply “consists of those things we have inherited and want to keep” (1996, p. 1). Though the above-definition is perhaps simple, almost conversational, it embodies a powerful common-sense logic that is indeed compelling. In Australia, the two main aims of heritage legislation, are to protect both Australia’s “natural” heritage and its “cultural” heritage.

Levels of heritage categories in New South Wales today are in the following ascending order: local; state; national; and world. Local heritage items, which include heritage conservation areas, are usually identified through community involvement and listed at the municipal level in LEP schedules.

The NSW Heritage Act came into force in 1977 and granted the primary responsibility for local heritage management systems to local government. It is possible for an item to have dual listings, should it prove to have both local and state significance (NSW Heritage Office, 1996). Indeed, all the items within the heritage conservation areas being examined in this chapter are only at this local heritage level of significance. They are collectively grouped as conservation items and some are additionally individually listed as items of local heritage significance.

In documentary terms, the Burra Charter contains the main assessment criteria used in NSW to evaluate heritage significance. It consists of a set of seven principles that have been widely used to determine conservation value. These are important to mention for completeness but also because such principles are the very criteria used for imposing HCAs on areas that had not previously had them. They include such tenets as “understanding the significance of items, understanding urban fabric” and performing conservation in a logical sequence (NSW Heritage Office, 1996, p. 8).

Generally, buildings which qualify as cultural heritage items within an HCA, can include timber slab huts or Edwardian mansions and loosely include those houses in an HCA that may exemplify the grouped architecture of inter-war construction. Such homes qualify only broadly under this cultural heritage definition, with a local level of heritage significance and only as conservation areas, rather than listed items of heritage (NSW Heritage Office, 1996).

There are also many exemptions granted to items that might be located within an HCA, such as those where the alterations are minor or are of minimal effect on the heritage significance of the house and include such practical outcomes as meeting new fire safety requirements.

The clearest and most recent academic research that bears direct relevance to this topic has been carried out in Victoria, Australia. A summary of the Victorian findings and other academic literature reviewed, as it might relate to heritage conservation areas, is detailed below but as little has been written on the effects of HCAs on value, the references have been confined to less than ten sources, further highlighting the usefulness of the current empirical work.

According to one research paper produced by Heritage Victoria (2001), heritage property values are impacted by a multiplicity of factors, including “zoning, planning overlays, size of property, surrounding land uses, overall amenity, tenancy opportunities, alternative property uses”, financial returns, economic factors and the condition and quality of the building under the heritage listing (p. 1). Other factors may also include land tenure, ownership structure, maintenance and anticipated refurbishment costs and a buyer’s “perception of risk” (Heritage Victoria, 2001, p. 1).

The authors of this report, in relation to the question of market demand for heritage-listed properties, observed that the market is evenly divided between those who would pay a premium for the heritage listing of a property and others who would perceive this to be a disincentive and would pay below-market prices for such properties. This view is supported by the HCA findings set out at the conclusion of this chapter.

In this study at least, research conducted domestically indicated that “heritage listing on a macro level is not a significant factor in determining property value, either at the time of listing or following” (Heritage Victoria, 2001, p. 1). Though the effect examined in this thesis relates solely to heritage areas, it is certainly consistent with the above research, in broad terms. This was true for both the North Randwick HCA and the West Kensington HCA alike, though in our case, it specifically related to the capital gain results inside and outside the two HCAs.

It is difficult, according to the Heritage Victoria authors, to separate the effects of heritage from microeconomic factors such as property location and access to transport and to services. Additional factors include topography, address, views, zoning and ability to subdivide. All of these factors are inextricably intertwined with the heritage value effect on a property. The Heritage Victoria report attributes a positive, “limited

supply” effect to heritage homes, due to their uniqueness and “special” appeal. The precise effect this has on price however, the Heritage Victoria report found too complex to predict. On the relevant subject of HCAs, the Heritage Victoria report found that “heritage controls do not significantly affect property values for residential buildings particularly buildings in precincts” (Heritage Victoria, 2001, p. 6). Accordingly, “residential heritage properties will continue to appreciate” after the introduction of heritage controls but at rates which vary with both microeconomic and macroeconomic factors (Heritage Victoria, 2001, p. 6).

In reaching their conclusions on heritage, the authors of Heritage Victoria reference the work of J. Alan D’Arcy, Victorian Valuer General, titled “The Preservation of Historic Buildings and Sites and the Cost Implications” in a paper published c.1991. D’Arcy examined the impact of heritage listing (or Historic Building Registration) on property values and concluded that: “...single dwellings in the metropolitan area are not generally disadvantaged by registration. The figures show that the increase in value is greater than dwelling value movements” (Heritage Victoria, 2001, p. 3). D’Arcy goes on further to state that “it is evident that residential properties which are still having a primary use for residential purposes, do not generally have any diminution in value. In fact, the evidence shows that, in many cases, it appears that there is a benefit” (Heritage Victoria, 2001, p. 3).

The Heritage Victoria paper cites yet another Victorian study titled “Heritage and Property Valuations in the Shire of Maldon: A Study of the Effects of Planning and Heritage Controls on Property Valuations”, produced in 1992. The study examined property values between 1970 and 1990 and concluded that the introduction of strict heritage controls had no adverse effects on property values in Maldon (Heritage Victoria, 2001, p. 3). The Maldon research also found that heritage-listed residential dwellings in Maldon increased in value by 1,844% between 1970 and 1990 compared with only a 1,432% for other dwellings in the town not subject to heritage controls (Heritage Victoria, 2001, p. 3). Though it is unclear whether this number is actually a property average, the finding is economically significant.

The authors go even further in their commentary, suggesting that the heritage-listed homes in Maldon actually experienced an increase in demand and attracted more real estate enquiry. This, if accurate, could relate to the “rarity effect” which, in the absence of views and suburban differentiation, could have been created in this instance. The other point to also make here, is that listing had produced a positive effect on value when low density residential was the “Highest-and-Best-Use” of the property. What if this was to change over the next 20 years through up-zoning, for example? In such a case, the Heritage Listing may well prove to be a negative rather than a positive factor on price.

In another paper, the Allens Group prepared a report in November 2005 on the value of heritage items for the Heritage Chairs and Officials of Australia and New Zealand. The authors of this study, focused primarily on “economic activity as a proxy for value” (Allens Consulting Group, 2005, p. vii). The authors make the categorical statement that “residential and commercial studies” have demonstrated that “property values have not been negatively affected by heritage listing” (Allens Consulting Group, 2005, p. vi).

Heritage has also been an important field of investigation for the Australian Productivity Commission. The Productivity Commission Review found that there was, around Australia, “insufficient account being taken of the costs of conserving heritage places”, compounded by “insufficient incentives for their active conservation” (2006, p. xviii). This is quite relevant to the comparative value debate analysed in this chapter, because to date, there is still no mechanism in most NSW local areas, including the Randwick LGA where the two case studies of this chapter are based, to compensate owners of items in an HCA for the additional costs associated with the maintenance or renewal of their properties. If one accepts the research findings contained in this thesis that HCAs have no (or limited) impact on property values (refer Section 6.11 - Overall Conclusion), then the need for financial compensation considerably dissipates. So does the absence of such compensatory mechanisms, for redressing the added costs of being located within an HCA, negatively impact on the price that the market might pay for such houses? The research in this thesis shows otherwise.

Armitage and Irons (2005) examined examples where LGAs in Queensland listed places of significance on their Local Heritage Register. Like NSW, many listings in Queensland are enacted at the local government level. Armitage and Irons make the following interesting comment on the Queensland heritage controls, which are quite relevant as to how the market might perceive such controls:

In most cases, the planning scheme provisions, do not prevent interior modifications or extensions or alterations that are not visible from the street. In this regard, they are generally not as onerous as the restrictions imposed on places included on the State Register, nevertheless they present other additional constraints over development on the site (2005, p. 4).

The most important assessments made by Armitage and Irons (2005) on the effects of heritage on value, however, were derived from the review of other literature, focusing on the impact of heritage listings on property values. These are worth examining in greater detail and are listed herein.

The first was the study by D'Arcy in 1991 mentioned earlier. This study considered a number of case studies and of the "three residential properties assessed using valuation data, the effect of [heritage] registration was found to be positive on one property, neutral on one and negative on a third" (Armitage and Irons, 2005, p. 4). It can certainly be argued however, that these observations, may be considered inadequate on a number of grounds: the sample field is too small; valuation data is not as reliable as sales data and the effects of registration may be well masked by more powerful macroeconomic factors relating to general market machinations.

The second study was conducted by Countrywide Valuers in 1992. The authors of this paper examined sale prices for "notable" residential properties in Maldon Shire and found that these were some "29% higher than those of other residential properties" (Armitage and Irons, 2005, p. 7). There were 234 "notable" properties covered by heritage controls in Maldon recorded by the authors and some 343 "other" properties. Over the period January 1970 to December 1990, the authors concluded that "Maldon

property values” were either “comparable to or higher than, most other towns” surveyed in their findings (Armitage and Irons, 2005, p. 7).

The third review of Armitage and Irons (2005), related to the work of Quigley in 1987. Quigley analysed some 32 surveyed responses of properties that had been heritage listed. Of the group surveyed, some 44% considered that heritage listing had a positive impact on their property values, 25% thought the impact had been negative and 31% were unsure of any impact altogether. Quigley also found that with some 60% of respondents, the heritage listing of a property “did not influence the amount they were prepared to pay to purchase the property”, another 20% were totally unsure of the impact, while a further 20% felt that the listing added marginally (about 1%) to the amount they were prepared to pay for the property.

Quigley’s conclusion was that “in the majority of cases, a heritage listing has an insignificant effect on the value of a residential property, except for when the development potential of that property is greatly reduced” (Quigley, 1987, p. ii as per Armitage and Irons, 2005, p. 8). This is consonant with the conclusions of this chapter where the properties surveyed inside HCAs were not found to be different in market price terms than those outside. The zoning and hence maximum development potential of the properties inside and outside the two HCAs, was for all intents the same.

In another paper reviewed by Armitage and Irons 2005, the research conducted by Urban Consulting Group (1995), the economic effect of heritage listing was evaluated. This study performed a literature survey, commissioned specialist heritage valuations, and nominated strategies to assist in the “amelioration of the negative impact of heritage listings” (p. 8). The studies and strategies all implied a negative impact, namely that heritage listing had an adverse effect on property values.

Further research authored by Krastins (1997) reviewed sales data and Council valuations for 100 residential properties in Geelong, Victoria over a 12 year period, starting in the mid-1980s and coinciding with when heritage listings were first introduced. Fifty properties were found to be heritage affected, whilst the remaining fifty were not. Krastins concluded that it was not actually the listing of such properties

but rather other factors which had the most significant impact on property value. These included street widths, property location and off-street parking. More significantly, Krastins' results showed that "there was an increase in the value of the buildings with heritage controls of 19.5% compared to 6.9% for those properties which were not subject to heritage controls" (Heritage Victoria, Department of Infrastructure 2001, p. 6 as found in Armitage and Irons, 2005, p. 9).

In the work of Scanlon et al. (1994) on heritage and value, a study considered the economic impacts of listing commercial buildings, with the aim of determining the extent of any effect of listing on capital values. The report's main findings were that of the 11 case studies examined, the effect of heritage listing on value was generally negative. It is at this point that one must draw reference to the significant difference between an actual heritage listing and an inclusion in an HCA. Indeed these processes may have very different effects on value.

Logically at least, heritage rules restricting the use for a listed non-residential property, "can generally be expected to cause a diminution in value" (Armitage and Irons 2005, p. 10). The study also found that the heritage listing of "income-producing, non-residential property, often reduces or altogether eliminates potential development value" resulting in a market value diminution but only as a one-off cost "borne by the owner at the time of listing" which was deemed not to "affect future performance" (Armitage and Irons 2005, p. 10).

In another study, Schaeffer and Millerick (1991), found that a National Historic District (NHD) designation in Chicago had a "positive economic influence on residential properties within the District" and that other substantial external benefits were also present. Though being inside an HCA is not a "listing" as such, the results of this thesis concur with the Schaeffer and Millerick study to the extent that the "listing" within the NRHCA and the WKHCA continued to allow the properties listed to strongly appreciate in the market place. In terms of other benefits, these were probably the streetscape and the "sense of suburb" created by the thematic urban environment created within the HCAs. In a point of subtle distinction with the Schaeffer and Millerick research however, the findings contained in this thesis show that a similar positive

economic effect was also experienced by properties that were not part of the NHD (or HCA) listing. Thus the listing itself had both a positive effect but equally, if differently expressed, no effect, in that the market did not distinguish such “listed” properties from those nearby that were unlisted.

Very interestingly also, Schaeffer and Millerick found that the “designation of two smaller neighbourhoods within the study area as Chicago Historic Districts”, for which more restrictive rules applied, had a negative effect on property values, suggesting that the nature of the influence of a listing on property values, depends on the type and nature of the restrictions imposed by different heritage designations (Armitage and Irons, 2005). The research contained in this thesis, did not look at more severe restrictions to compare with those of HCAs but concurs with the stated view that a full State Listing ⁵⁸ may diminish value, especially if costs or greater restrictions are involved that may have a direct impact on expected future income from the land or the property.

Though the conclusions reached by Armitage and Irons (2005) were not derived from their own research but rather from examining other literature, the conclusions are very relevant to this chapter and to understanding the effects of heritage generally and HCAs specifically on property values. Their main findings are summarised hereunder.

Firstly, the effects of heritage controls on residential property were deemed to be only “marginal” with some evidence indicating a positive effect, especially where whole precincts (such as the NRHCA and WKHCA) were involved. Where such precinct-wide controls had been introduced, an observable “stabilisation effect” occurred within those districts (Armitage and Irons, 2005, p. 11). The certainty derived from listing had produced a “positive influence on the property market’s expectations of statutory intervention”, with owners perceiving “greater protection” from extemporaneous future development (Armitage and Irons, 2005, p. 11). This gave the perception that a legal mechanism existed that could protect an area’s character.

⁵⁸ A State Listing is the listing of a property by address or title or both on the State Heritage Register of listed heritage items.

Second, whilst “restrictions may be seen as limiting owners’ options, the benefits flowing from heritage listing, appear in most residential cases, to outweigh the costs associated with such protection” (Armitage and Irons, 2005, p. 11). The research contained in this thesis concurs with this finding only to the extent that listings, in the form of HCAs at least, produce an effect closer to economic equilibrium, rather than an outweighing of the costs of listing.

Third, the opportunity to exclude non-sympathetic development was perceived to be a positive attribute valued by residential property owners, a finding in consonance with the results of the research contained in this thesis (refer to Section 6.9.2 of this Chapter).

Additionally, the research by Armitage and Irons (2005) also concluded that there was a greater “negative impact of heritage controls on non-residential property”, with a reservation relating to the data used being too old for statistical accuracy (Armitage and Irons, 2005, p. 12). In the research carried out and contained in this thesis, the age of the data as it related to some non-residential properties, did not prove a highly-relevant consideration. A far more crucial factor was whether the commercial property was at its “Highest-and-Best-Use” zoning. If the listing prevented that “Highest-and-Best-Use” from ever being achieved, then the effect was likely to be negative on market value over time.

Also, macro market movements of the property market, including the supply-demand fundamentals, have a far greater impact on the value of property with “development potential being a notable exception” than the impact of a property’s “listing” (Armitage and Irons, 2005, p. 12). Additionally, Armitage and Irons researched the “effects of heritage listing on property value” (2005, p. 3) and found that the attribution of price movement to the effect of a listing, was probably more related to property market movements, than heritage listing per se (2005, p. 16). One significant impact of listing found was the creation of market uncertainty, particularly as it related to a property’s future development potential.

6.3 - Zoning Empowerment of an HCA

In administrative terms, the local regulations relating to the HCAs generally and those specifically examined herein (the NRHCA and the WKHCA), stipulate that all new building or renovation work relating to the original fabric of any houses in an HCA, must be strictly controlled by the provisions of a local development control plan (DCP). These are the North Randwick Heritage Conservation Area Development Control Plan (NRHCADCP) and the West Kensington Heritage Conservation Area Development Control Plan (WKHCADCP).

The Randwick City Council dedicated a specific DCP for the North Randwick Heritage Conservation Area, last published in January 1998 and one for the West Kensington Heritage Conservation Area, also issued in January 1998. These are discussed in conjunction with the statistical and empirical observations detailed herein. Neither of these planning documents is a statutory instrument per se, but both are empowered by an LEP, namely the Randwick Local Environmental Plan 1998. The DCPs contain all of the detailed development controls and guidelines that apply to any development permitted within the heritage conservation areas in the Randwick LGA.

At the time of this research, there were only 13 landuse zones listed in the Randwick LEP. Interestingly, these did not include a separate zone for Heritage Conservation. Such zones are not used in planning in NSW. Rather, the heritage conservation designation is an “overlay” superimposed on any zone to which the statutory map applies. In the case for both the NRHCA and the WKHCA, this “heritage overlay” superimposed conditions and restrictions on two zones: predominantly the 2A Residential Zone and, in small parts of the HCA the 2B Residential Zone. Looking at the precise pricing and planning effects of both HCAs on both zones, is one focus of this chapter.

6.3.1 - Randwick LEP and Heritage Conservation Areas

The Randwick City Council LEP 1998 provides its own definition and commentary on HCAs, including assessment methodology for DAs that are lodged for items within an

HCA. In the words of the LEP as per Clause 43(4): “Council may grant consent to a development application required by this clause only after it has considered a report that assesses the impact of the proposal on the heritage significance of the heritage item and its setting, or of the heritage conservation area” (Randwick LEP, 1998). The LEP further explains that the purpose of this provision is to establish consent requirements for development involving a heritage item or land within an HCA area and “to establish criteria for the assessment and determination of development applications arising from those consent requirements” (Randwick LEP 1998, Section 43).

6.3.2 - Additional Research Complexities

To add another layer of complexity to the analysis, there were also a number of houses in the NRHCA that were individually heritage listed, though none in the WKHCA. These were listed in the Randwick LEP 1998. Interestingly also, many streets within the HCA, contained no listings at all. This, introduced another tier of complexity to the analysis, which needed to be considered in order to properly ascertain whether this additional local heritage listing is a restriction which had an actual impact on the average annual capital gain of the listed homes.

6.4 - Randwick LEP 1998 Relevant Notes

There are several relevant definitions, objectives and notes contained within the Randwick LEP 1988, that are germane to the research contained in this chapter. It is important to point out that the provisions of the Randwick LEP apply to both case studies namely the North Randwick HCA and the West Kensington HCA.

6.4.1 - Landuse Zones within the City of Randwick

As earlier mentioned, 13 zones are used by the Randwick City Council in applying its LEP 1998, which is relatively low by comparison to other councils in the Sydney Metropolitan Area. As of the 30th August, 2007, this version of the LEP which applies

to the heritage data used in this chapter (with its 37 gazetted amendments), had been altered to reflect all the formalised changes made to the LEP since 1998⁵⁹. The zones were accompanied by a coloured zoning map, which allowed easy visual delineation between the various land uses. The relatively-small number of zones is probably helpful in the administration of regulation across the Randwick LGA, including HCAs.

6.4.2 - Randwick LEP 1998 - Important Definitions

The Randwick LEP 1998 defines a “Heritage Conservation Area” as “land shown by distinctive edging on the map and includes buildings, works, relics, trees and places situated on or within that land” (Clause 49).

6.4.3 - Zone Objectives within the Randwick LEP

As might be obvious, the purpose and *raison d’être* of LEP Euclidean zones is to, paraphrasing the words of the Randwick LEP, prescribe landuse for the purpose of granting future permissions for development, in the form of development consents, in a manner consistent with the gazetted zones. Both the aims of the LEP and the objectives of each zone, must be considered in the assessment and determination of all development applications lodged within the LGA, including those within the two HCAs. The same stipulations also apply to those properties lodging applications outside of the two HCAs.

This, of course, would summarily apply to any owners of houses lodging DAs either within or outside the two HCAs being analysed here. Though the assessment may be slightly different for those houses inside HCAs, a development approval must still be gained in both cases, before any works or improvements to dwellings can be made.

⁵⁹ The Randwick Local Environmental Plan 1998 has since been replaced by the Randwick Local Environmental Plan 1998 (Consolidated) gazetted on the 15th January 2010, amalgamating all the amending plans up to that date.

Understanding the LEP objectives of both the 2A and 2B zones (refer Randwick LEP 1998, Clauses 10 and 11) as found in both HCAs, was deemed important to better assess both the level of restriction and possible implied future land value found in this chapter's sets of data. The results of the comparative analysis performed in this chapter necessitates a comparison between the regulations and zoning rules that might relate to both areas. These are summarised in the sections below for both the 2A and 2B zones.

6.4.4 - Objectives of Zone 2A in the Randwick LEP 1998

The vast majority of houses within both HCAs analysed fall under this 2A zone in the LEP. Only a few properties were within 2B zones in the North Randwick HCA and none in the West Kensington HCA.

The main objectives of the Residential 2A Zone, according to Clause 10 of the Randwick LEP 1998 included:

1. Maintaining the character of established residential areas; and
2. Allowing redevelopment of low-density housing, including dwelling houses, dual occupancy, semi-detached housing, where development does not compromise surrounding amenity and is compatible with the dominant character of existing development.

The 2A zone thus permits, with development consent, such landuse outcomes as attached dual occupancies, boarding houses, child care centres, community facilities, dwelling houses, recreational facilities and roads. This is common to both houses within and outside both HCAs, as they both possess the same 2A zoning in the LEP.

All other development, not prescribed as permissible within the zone, is prohibited. Thus, the correct notion that a house within an HCA is more restricted in approval terms, is partially balanced by the obvious restriction and difficulty of gaining a development consent for dwellings unrestricted by the HCA but also in a 2A zone. There is even a clause in the LEP stipulating the maintenance of the character of an area in a 2A zone (refer Randwick LEP 1998, Clause 10).

6.4.5 - Objectives of Residential 2B Zone in Randwick LEP 1998

There were only a few dwellings within the North Randwick HCA, that fell within the 2B zone, creating a slight variation to the homogeneity of the housing mix in the NRHCA. So it is necessary for completeness to also consider the objectives and stipulations of the 2B zone. The relevant clauses are briefly examined below and in summary show considerable similarity to the residential 2A zones, save for allowing for a higher density of dwellings.

The objectives of the 2B Zone included allowing residential development in a variety of medium-density housing forms, should these have been deemed not to compromise the surrounding amenity of existing areas. This also helps to create a greater mix of housing types which can assist in increasing choice and affordability. Development permitted within the 2B Zone included: boarding houses, child-care centres, dwelling houses, community facilities, dwelling houses; multi-unit housing; places of worship; public transport; roads and serviced apartments. Thus, even a housing approval in a 2B zone, would have to go through similar assessment processes as those in a 2A zone, including all 2B properties located within an HCA. This has implications for how the market may perceive the comparison between houses inside and outside an HCA.

After looking at the objectives and permissible uses in the Randwick LEP, for both the 2A and 2B zones, the next two considerations, relevant to the HCA research, are the floorspace and height controls. These are summarised and quoted below, which show that the same height and floorspace controls applied to dwellings both inside and outside HCAs. This is another highly-relevant consideration in explaining the final results of the sales price analysis.

6.4.6 - Floorspace and Height Controls in 2A and 2B Zones

According to the Randwick LEP 1998, the maximum floorspace ratios for buildings within land zoned 2A, 2B and 2C is 0.5:1, 0.65:1 and 0.9:1, respectively. The LEP also controlled the height of all new construction within these zones. It stipulated that the

maximum height for a building including, a dwelling house, within Zone 2A or 2B was 9.5 metres, as measured vertically from any point on ground level. The maximum external wall height was set at 7.0 metres (refer Randwick LEP 1998 and Randwick DCP Dwelling Houses and Dual Occupancies 1998).

It is important to note that both the 2A floorspace and height controls for houses within both HCAs applied uniformly to both HCAs. There were also a few properties to which 2B zoning controls in the NRHCA only. These were intentionally excluded from the analysis. This is so that all the properties being used had the same 2A zoning (refer Section 6.5.1).

6.5 - North Randwick Heritage Conservation Area (NRHCA) Case Study 1

6.5.1 - Background and Zoning

North Randwick is a part of the suburb of Randwick, a relatively affluent, inner Sydney suburb located at the southern edge of Centennial Park, some 6 km east of the Sydney CBD. The North Randwick Heritage Conservation Area (NRHCA) is located roughly between the Royal Randwick Racecourse and Centennial Parklands, arguably Sydney's greatest green urban open space (see Figure 6.1). The area contains predominantly residential, detached housing stock in one part of the locale which has had, in the last 15 years, several heritage planning overlays in the form of HCAs imposed upon it by the Randwick City Council.

In the North Randwick case detailed herein, these heritage overlays have been imposed on areas that were judged to exhibit a common historical built-form and architecture containing almost exclusively, single detached houses with a 2A residential zoning. Interestingly enough, the HCA also included some smaller, medium-density blocks, but these were deliberately excluded from the analysis herein. This was purely to ensure that the comparisons used were of identical zones and built-form, namely detached

single dwellings in 2A zones. In the North Randwick HCA, these denser blocks were all zoned for 2B residential uses and were located at the southern end of the HCA. The comparison areas were thus confined to single detached dwellings inside and outside both HCAs. The housing stock used in the analyses thereby only differed by the additional DCP restrictions imposed on the houses (including their land) within both HCAs.

6.5.2 - North Randwick Development Control Plan

The North Randwick HCA was also governed by a detailed DCP herein referred to as the NRHCADCP. The Plan was specifically put into force to provide greater detail on the type of development that may be permitted within the NRHCA. It applied to all land within the HCA's boundaries and set out prescriptive development standards for development that might be permitted within the NRHCA, specifically for the construction, alteration or addition to any item within the HCA, including the dwellings that comprised the comparative statistical sales analysis contained within this chapter. The comparisons made herein were with similar properties outside the boundaries of the HCA and not governed by the provisions of the NRHCADCP. This was specifically designed to be the main point of difference between the two sets of data analysed.

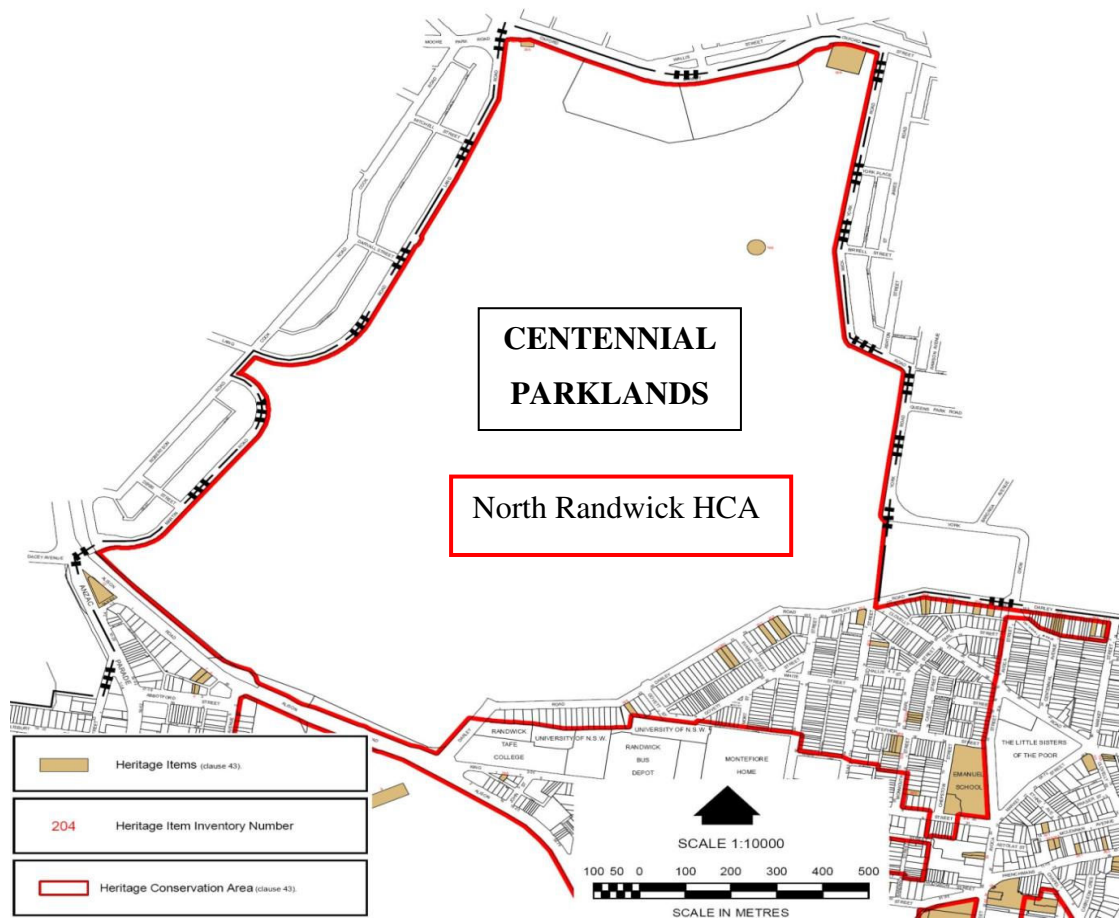
There were 171 properties analysed within the HCA and 76 properties outside. For completeness and additional clarity, the Heritage provisions contained in the NRHCADCP are briefly summarised in Section 6.5.3 hereunder.

6.5.3 - Specific Heritage Provisions of NRHCADCP

The NRHCADCP outlines strict provisions that apply to any works that may be permitted for new construction, renovations or maintenance work on any houses located within the NRHCA (Figure 6.1). The DCP gives detailed notes and commentary on how items within the HCA (in our case detached dwellings) need to be dealt with for the purposes of new construction, restoration and maintenance. These included notes on those works which were permitted to be carried out on any structures, and also

within the HCA, that need to appear “sympathetic” to the existing character and streetscape of the surrounds, especially the house facades forming the streetscape. This also included notes on demolition and construction methods (Part 3 Randwick City Council DCP 1998).

Figure 6.1 - Map of North Randwick HCA



Source: Randwick Council LEP, modified by Geha, 2012

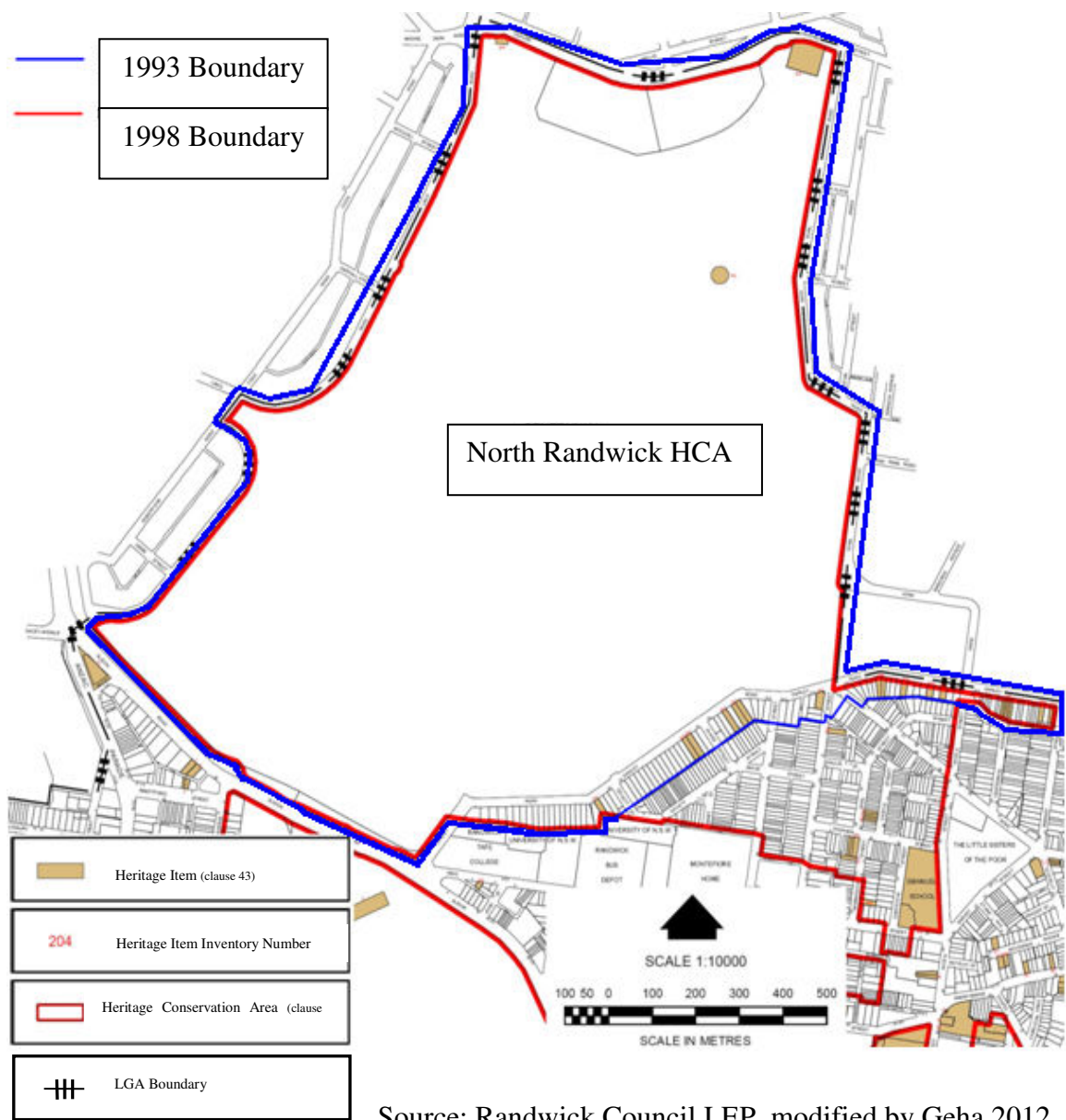
6.5.4 - Two Historical NRHCAs

Historically, records show that the current NRHCA is the permutative product of two earlier HCAs. The two earlier HCA overlays, were superimposed in 1993 and 1998 respectively, on residential low-density areas with the few anomalous, above-mentioned medium-density 2B exceptions. All such heritage impositions are effectively “zones

through restrictions” and are aimed at creating and maintaining, in zoning perpetuity, a certain visual aesthetic feel to the streets and houses within them.

Also worthy of note, is that both the 1993 and 1998 HCAs were superimposed over comparatively-small geographical areas in North Randwick. Though not identical in geographical location and extent, as may be obvious from Figure 6.2, the HCAs were similar in both area and proximity to Centennial Park (also referred to earlier as Centennial Parklands) and were imposed consecutively. The boundary of the NRHCA was thus physically expanded from 1993 to 1998 but there were large common regions governed by both HCAs. The geographical land area covered by the NRHCA was around 75,000 sqm in 1993 (or about 7.5 ha). This was expanded to some 101,250 sqm in 1998 (or around 10.1 ha). In both cases, the NRHCA boundaries included Centennial Park which was a common factor in both HCAs for both the 1993 and 1998 HCA boundaries. These areas exclude the Centennial Parklands (i.e. contains only the residentially-zoned land).

Figure 6.2 - Comparison of North Randwick 1993 and 1998 Boundaries



Source: Randwick Council LEP, modified by Geha 2012

6.5.5 - Heritage-Listed Items within NRHCA and WKHCA

Adding yet another layer of comparison to the market-price analysis, was a number of houses within the North Randwick HCA that were also individually-listed in the Randwick LEP as items of Local Heritage Significance. Thus, for additional analytical purposes, a further numeric comparison was performed on the selling price variations of individual, heritage-listed houses, with those also within the HCA but that were not heritage listed per se. Summarising the observations, the heritage-listed dwellings within the North Randwick HCA, numbered precisely 30. There were also seven entire

streets within the NRHCA that contained no heritage listings, two streets with only one listing and two streets with only two listings. The heritage-listed homes sold within the NRHCA and in the comparative analyses were only 30 out of a total of 171 observations inside the NRHCA (refer to data in Appendix V). These were the observations used in the analysis relating to houses within the HCA that had sold more than once within the observation period (1975-2007).

There were exactly 14 streets in the NRHCA, containing some 570 dwellings. Thus the heritage-listed items constituted only a small percentage of the overall housing stock inside the NRHCA (5.3% of total number of houses inside the NRHCA). There were no individually-listed properties within the WKHCA. Capital gain comparisons of those heritage-listed items with non-listed items in the NRHCA showed no difference in market terms. These have not been separately graphed as such comparisons are not a primary focus of the research contained in this chapter. This observation is nonetheless supported by the statistical research contained herein and is listed in the conclusions in Section 6.11. In summary, the research showed that individually-listed properties did not have any price-change patterns that were different to other HCA properties.

6.6 - West Kensington HCA (WKHCA) Case Study 2

The second study area examined was in West Kensington, only 2 kilometres away from the first HCA at North Randwick. The second statistical study at West Kensington, was undertaken for two reasons. The first was to diversify the analysis geographically and the second was to confirm the results of the first study at North Randwick to more ably compare results. Both HCAs comprised detached homes and were of similar general land price and prestige value as suburbs (Randwick and Kensington are the suburbs). They were also both located within the Randwick Local Government Area and were thus governed by the same LEP controls. It is for these reasons of standardised comparability and others, that the inter analytical and intra analytical statistical results for the HCAs and between the two HCAs, is of relevance to the overall aims of the research question contained in this chapter.

6.6.1 - West Kensington HCA - Introduction and Background

West Kensington forms part of the established suburb of Kensington, also a relatively affluent, inner Sydney suburb located some 6 km east of the Sydney CBD. Kensington contains predominantly residential, detached housing stock in one part of the locale which has also had, as in the case of the NRHCA, a heritage conservation area overlay superimposed upon it by Randwick City Council (Figure 6.3).

Figure 6.3 - Map of West Kensington HCA Area



Source: Randwick Council LEP, modified by Geha 2012

In the West Kensington HCA Case Study, as in the North Randwick HCA Case Study detailed earlier, the heritage conservation controls had been imposed on segments of the area that exhibited common, historical built-form and architecture, containing almost exclusively single detached houses, with a 2A zoning.

The WKHCA is roughly in the shape of an isosceles triangle, with the equal sides measuring around 350 metres. The area covers some 165 detached houses and a geographical area of some 122,500 sqm or around 12.25 ha. The HCA observations

numbered 88. This is the number of houses within the HCA used in the research. Covering roughly 50% of the total housing stock inside the HCA, the sample size is deemed statistically significant. There were 92 observations outside the HCA, for which capital gain was measured over time.

6.6.2 - West Kensington Development Control Plan

Like the NRHCADCP, the West Kensington Heritage Conservation Area Development Control Plan (WKHCADCP) is also specifically designed to apply to all land in the West Kensington Heritage Conservation Area. The WKHCADCP contains detailed development controls, standards and guidelines for development within the WKHCA.

In order to better understand the effect and intention of the DCP, it is useful to examine broadly its main provisions, including those that may be applicable to the properties within it, especially as it may relate to the regulations regarding alterations and additions and the approval of such works. This is an important consideration, because it is one main point of differentiation between those properties located within and those outside the HCAs. The Heritage provisions contained in the WKHCADCP, are summarised in Section 6.6.3 below.

6.6.3 - Specific Heritage Provisions of WKHCADCP

The WKHCADCP, like the NRHCADCP, stipulates several provisions that must be adhered to for all maintenance, renovation and construction works within the boundaries of the WKHCA. These include Part 2 of the DCP titled Maintaining and Altering Existing Buildings, where the DCP gives detailed commentary and guidance on the restoration and maintenance of items within the HCA.

There are also more specific notes on those building works which may be carried out to listed heritage buildings and structures for both new construction and alterations, together with stipulatory provisions for all remedial work that results in “unsympathetically altered buildings” (Randwick City Council West Kensington Heritage Conservation Area DCP). Under Part 3 of the DCP titled New Building Work,

detailed commentary is offered by the DCP on all new building work, including streetscape design principles covering additions to existing buildings, new buildings and stipulations for both building and car parking designs, including site demolition requirements. The WKHCADCP controls mirror those contained in the NRHCADCP mentioned in Section 6.5.2.

It is also important to observe that the controls stipulated in both the WKHCA and NRHCA DCPs might seem harsh and difficult to administer but this may not be the reality, with Council possibly being more permissive in such zones if certain basic principles are adhered to by property owners. This precise point is one which has a bearing on what a buyer might pay for an HCA house as opposed to one outside the HCA (refer to expert market opinions by real estate agents in the Qualitative Analysis in Section 6.9).

6.7 - Theory underpinning Statistical Examination

As heritage overlays form a restriction on a property, in both planning and practical (planning controls are placed on properties which translate into additional building restrictions) terms, it is thus posited that actual housing price increases over time for houses within an HCA and outside it, should give a reasonable statistical idea of whether planning restrictions such as heritage conservation, actually affect the supply-demand dynamic of houses in such areas, causing an increase or decrease in the price of such houses over time. Indeed where the analysis is made between houses in close proximity and differentiated only by the HCA effect, as is the case in the research herein, the comparisons are easy to make. This is precisely what has been attempted in North Randwick and West Kensington in measuring the effects of zoning and planning overlays (such as heritage) on value.

6.7.1 - Supply Demand Considerations

Another important question to address here is that of how a heritage conservation area, in a standard zone, might actually affect the supply-demand dynamic and the housing

prices of comparable products in the same location, which only differ from each other in broad terms, by being either inside or outside an HCA.

It has been advocated by Shilling, Sirmans and Guidry that “there is a positive and significant relation between price and quantity” (1991, p. 89), especially in regards to the inelasticity of supply and demand dynamic. This is also very much an Australian phenomenon, given that the Supply-Demand Equation for housing in Sydney may be deemed inelastic at the best of times. This is mainly due to the time lag between when a certain housing demand is identified and when that demand can actually be satisfied. It is also fair to assert that, theoretically at least, a heritage overlay such as that imposed on a zone by an HCA, should lower price in a perfectly elastic market. This is mainly because it makes conditions for development on the land more restrictive.

Thus, limiting housing demand, in a localised area, to people who might like to purchase a house in an HCA and who can live with all the restrictions of an HCA, should in theory reduce price or have the observable effect of a lower price increase over time, than an unrestricted house outside the HCA. Of course, an “unrestricted” house is merely a phrase of comparison. All such “unrestricted” houses are in fact in a 2A zone. These are restricted in a planning sense but simply less restricted in terms of development possibilities than those properties within the HCA.

There is also the well-understood converse view that overlays, such as those of an HCA, do create a strong urban aesthetic and area ambiance to a highly-desirable extent that does lure buyers to the certainty of such an outcome. They also do provide purchasers with better guarantees with respect to negative externalities, especially in regard to streetscape and built-form (discussed further in Sections 6.9.1- 6.9.3 of this chapter).

So which of these two directions did the market take with respect to comparing its choices for a home purchase? Indeed, the research results described below do tell the story. The market, as evidenced by actual purchase prices, did not distinguish between the two types of homes and paid no premium (nor discounted) based on the presence of an HCA. It also did this over a considerable period of time. Clearly there is in such areas as much benefit, whether perceived or real, associated with being in a heritage

conservation area as there is in the unrestricted environment immediately outside it. Can this be logically supported and explained?

6.7.2 - Statistical and Experimental Methodology

In order to determine the overall effect of heritage controls, as a manifestation of planning regulation in addition to zoning on the price of housing, a statistical observational study was conducted between April and December 2007 using market sale prices of detached houses both inside and outside each HCA. The capital gain for each dwelling was calculated and averaged over the time taken to achieve the total (and also the annual) average capital gain. The data for North Randwick contained a total of 171 houses located within the HCA and 76 houses outside the HCA. For West Kensington, there were 88 houses analysed within the HCA and 92 houses outside it. The comparisons were all made using actual sales data for low density, torrens-title houses with a total of 854 sales results over a period spanning 1975-2007, constituting the overall analysis. These results represented every recorded sale for every single house in the sample that had had a publicly-registered transaction over this period.

All results were raw, meaning that the results were not adjusted for inflation or the time-value of money. The results were also not adjusted to include rental yields or the value of any renovations performed on the properties. As this was the same for all houses both inside and outside both HCAs, it was decided that the results should be unaffected by the impact of such refinements on the numerical outcomes.

To that end, for recorded results observed both inside and outside the HCA, the houses examined were assumed to have had an identical exposure to all macroeconomic and external market factors, as well as being subject to the same general property cycles. This is a reasonable assumption it was felt, but an assumption nonetheless.

6.7.3 - The Analytical Methodology

For each house statistically included in both the North Randwick HCA and the West Kensington HCA, several important measures were used to calculate the annual percentage increase in sale price over time. Firstly, values were all recorded using

statistical computations using the transactional selling prices and the exact dates of each sale. The calculations then produced numerics for: change in selling price at each sale date; an overall increase in selling price; percentage change in selling price and percentage change in the selling prices over the entire observation period; the annual change in selling price; and the area of land of each house in square metres. Another statistic calculated for the houses was the selling price per square metre of land. These are more fully set out in Appendix V.

For clarity, each house was analysed using its street address. Each house was then given an observation number so as to identify which house the data related to; this was and allowed for inspections of the houses to be carried out when required.

Using the latest sale price and the earliest recorded sale price for the same house allowed the total capital gain for each house to be measured. Dividing this difference by the original sale price gave the overall percentage capital gain. This number was simply then divided by the number of years it took to achieve the total increase in capital value. This revealed the percentage average annual nominal capital gain for each house in the analyses. These could then be meaningfully compared, to ascertain how the average annual capital appreciation of houses differed between inside and outside the two HCAs.

Observing the percentage increases in sale prices, was deemed to provide a clear assessment of which sample increased more in price over time. The hypothesis here is that this should give an accurate empirical measure of whether heritage restrictions impact positively or negatively on housing price. This simple rate of average annual return is known in mathematics as the Arithmetic Mean (Ra).

6.7.4 - Formulae used for Calculating Returns

6.7.4.1 - Arithmetic Mean (Ra)

There were two main computational techniques used in this thesis to measure the price effect for a change in landuse designation. In particular, these were the arithmetic mean

return (Ra) and the geometric mean return (Rg) of capital gain for each. The arithmetic mean (Ra) is the simple average annual return. It is the overall gain in percentage terms divided by the number of years needed to achieve it. The geometric mean (Rg) is a compound calculation and represents the percentage at which the capital gain would be reached if the gains were compounded over the same time period. These give slightly different results given the application of two different computational formulae.

The arithmetic return is one common way of calculating the average annual capital gain (return) over the time period, but does not account for compounding. For this reason, it is sometimes referred to as the simple yield.

For the purpose of this thesis, the Average Annual Percentage Capital Gain, calculated using the Arithmetic Mean method, can be represented as follows:

$$Ra = \frac{(V_t * - V_o *)}{V_o} \times \frac{1}{T_n} \times 100$$

and

$$\Delta MV = \frac{(V_t - V_o)}{V_o}$$

*** V_t and V_o are the unadjusted values for the same property**

Where:

V_t = Market Value at a moment in time (as measured in nominal, unadjusted dollars).

V_o = Initial Market Value (Purchase Price as measured in nominal, unadjusted dollars).

ΔMV = Change in Market Value (as computed from sales transactions).

T_n = Time as measured in years and decimal fractions of years.

Ra = Percentage Simple Annual Capital Gain using the Arithmetic Mean method.

It is important to note that the Arithmetic Mean (Ra) was the primary method used in the analysis contained in this chapter. The Geometric Mean (Rg) was used simply as a checking mechanism to confirm results.

Example

In order to best explain the workings of the formula, the example of the property located in Darley Road North Randwick is used with both its simple average capital gain R_a (the arithmetic mean) and its compound annual return R_g (geometric mean) computed. The simple return is 49.96% p.a. and the compound return is 10.5%. This property is located inside the NRHCA.

1. Sample Property: Darley Road Example

We begin with the purchase price and the selling price, without costs

$V_o = \$260,000$ AUD in July, 1981.

$V_t = \$3,725,000$ AUD in March, 2008.

$$R_a = \frac{\$3,725,000 - \$260,000}{\$260,000} \times \frac{1}{\text{Years}} \times 100$$

$$R_a = \frac{\$3,465,000}{\$260,000} \times \frac{1}{26.674} \times 100$$

$$R_a = 13.3269 \times \frac{1}{26.674} \times 100$$

$$R_a = \frac{1332.69}{26.674} \%$$

$$R_a = 49.96 \% \text{ p.a.}$$

Therefore, the average annual capital gain for this property over the 26.67 years of measurement is a 49.96%.

6.7.4.2 - Geometric Mean (Rg)

Whilst the arithmetic mean return shows quite a distinctive annual percentage gain, it is important to compare such gain with one which takes into account other elements. In particular, the geometric mean formula takes into account compounding effects and is thus relatively similar to having money in an account earning compound interest. The geometric mean is the average of a set of numbers calculated by multiplying all the numbers (called the number of scores “n”), and taking the nth root of the total (Oxford Dictionary of Statistics, 2011). It is more common and more accurate to use the geometric mean (Rg), rather than the arithmetic mean (Ra), when calculating growth rates for instance but as both sets of data are being compared using the same methodology i.e. using the Ra, it was not deemed necessary to introduce the additional calculations of the Rg into the computations used within this chapter of the thesis.

Consider the formula for calculating the Geometric Mean (Rg).

$$\text{Geometric Mean} = ((X_1)(X_2)(X_3).....(X_N))^{1/N}$$

Where:

X = Individual score

N = Sample size (Number of scores)

The geometric mean return can be calculated in two ways: 1) Using periodic returns 2) using the initial and end value of an investment. The geometric average rate of return, also known as the True Time-Weighted Rate of Return, over n periods is defined as:

$$Rg = -1 + \prod_{i=1}^n (1 + Ra, i)^{1/n}$$

Source: Compiled by Geha

The $\prod$ (pi) symbol is a mathematical operation that means to multiply all the terms, within the operation's range. As an example, $\prod_{i=1}^n y_i = y_1 \times y_2 \times \dots \times y_n$ would mean to multiply all the terms from y_1 to y_n .

Following on from the above, the arithmetic mean of a series of data points is simply derived by adding all their values and dividing by the total number of data points. This is typically used when the data points are independent, for example, the height of a group of random people. Each height is independent of all the other heights.

The Geometric Mean is used typically when the data points are not independent, for example, annual returns on an investment, then the geometric mean is the correct measure of central tendency. For example, assume that an investment yields the following annual returns: 50%, 70%, 80%, -90%. So if we invested \$100 in this series, it would have become \$150, \$255, \$459 and then ended at \$46. The last drop of 90% is extremely damaging, as it destroys most of the value.

The arithmetic mean of these returns is: $\frac{50\%+70\%+80\%+(-90\%)}{4} = \frac{110\%}{4} = 27.5\%$ p.a. which deceptively suggests that the \$100 investment grew at 27.5% p.a. making it \$264 at the end of the 4 years, which we know to be wrong. The arithmetic mean in this instance is not only deceiving, it's simply incorrect.

A correct measure of central tendency (average) for these four data points would be the geometric mean. We know the investment went from \$100 to \$46 in 4 years, which is a compound return of -17.7% p.a. This is very different to the arithmetic mean's estimate of 27.5%. On the other hand the geometric mean results in the following: $((1 + 50\%) \times (1 + 70\%) \times (1 + 80\%) \times (1 - 90\%))^{\frac{1}{4}} - 1 = -17.7\%$ which is the correct result.

In calculating R_g for the purposes of this chapter, the calculation of the average annual return was performed by calculating the geometric average of the product of one plus the period returns, in accordance with the following steps:

Step 1: Calculate the return for each period.

Step 2: Add 1.0 to each return.

Step 3: Multiply the 1+ return terms for the n periods.

Step 4: Take the nth root.

Step 5: Subtract 1.0.

In the first case we may know for example the return that was achieved in each year. So if the holding period is three years and the returns for each of the three years are R1, R2 and R3 then the formula for calculating the geometric mean of these returns (R_g) is as demonstrated in the Darley Road example below:

Example in Calculating R_g:

1. Sample Property in Darley Road as previously:

	Sales Price	Date Sold	Capital Gain in Sale	Return on Investment
1	\$260,000	13/07/81	Original Price	
2	\$1,650,000	20/05/99	\$1,390,000	534.62%
3	\$3,200,000	12/06/03	\$1,550,000	93.94%
4	\$3,725,000	09/03/08	\$525,000	16.41%

$$R_g = [(1+R_1) * (1+R_2) * (1+R_3)]^{1/N} - 1$$

$$R_g = [(1+5.3462) * (1+.9394) * (1+.1641)]^{1/26.67} - 1$$

$$R_g = [(6.3462) * (1.9394) * (1.1641)]^{1/26.67} - 1$$

$$R_g = [14.32692]^{1/26.67} - 1$$

$$R_g = 1.1049531 - 1$$

$$R_g = 0.1049531 \times 100$$

$$R_g = 10.50\%$$

Thus the comparison between the two averages is as follows:

$$R_a = 49.96\% \text{ p.a.}$$

$$R_g = 10.50\% \text{ p.a.}$$

The arithmetic average (R_a), which ignores the compounding of values, is 49.96% p.a. for this property. By comparison, the geometric average (R_g) shows the property's annual capital gain is 10.50% if compounding is taken into account.

6.7.5 - Arithmetic and Geometric Return Comparisons

The results for all observations within both the NRHCA and WKCHA are detailed in Table 6.1 below:

Table 6.1 - Annual Return Comparison Results Ra vs. Rg

	North Randwick Inside HCA	North Randwick Outside HCA	West Kensington Inside HCA	West Kensington Outside HCA
Annual Return (Ra) Arithmetically	35.56%	35.04%	33.79%	30.10%
Annual Return (Rg) Geometrically	13.99%	15.52%	19.24%	12.99%

Compiled by Geha, 2012

The geometric mean computations in Table 6.1 confirm those of the arithmetic mean calculations. They clearly show that the market did not distinguish between properties located inside the two HCAs, compared with those outside. The compound annual return data showed the same pattern and direction as the simple mean analyses, though the numeric spread was wider for the latter. The arithmetic mean calculations, though apparently high in absolute terms (e.g. 35% p.a. for NRHCA results) have thus been confirmed to be accurate and statistically reliable. Anecdotally, total Sydney property capital returns for this part of the city sit historically at around 10% to 15% p.a. The results above, particularly those of the geometric mean returns, confirm this historical view and reaffirm the validity of the statistical arithmetic mean data.

6.7.6 - Standardisation of Analysed Results

In order to ensure that the comparisons made herein were truly valid, all houses in all the samples selected, were deliberately standardised across a large number of characteristics. The houses examined both inside and outside each of the NRHCA and the WKHCA could be described as having:

1. Torrens Title fee simple⁶⁰ deed of title.
2. A single house as well as “private open space” on the same title.
3. Approximately the same location from a market perspective.
4. Very similar geographical attributes including the same postcode.
5. Same distance to Sydney CBD and other amenities.
6. Same topographical attributes with no results on top of hills or within valleys.
7. Same external amenity offerings.
8. Same 2A zoning.
9. Same views. None had water views.
10. No other substantive views that might strongly impact on price.
11. Detached residential houses used for purely residential activities.
12. Same opportunities to general housing trends and macroeconomic forces.
13. All data used was raw and excluded Stamp Duty⁶¹, agent fees and charges.

Thus, given the importance of effective comparability, the results contain an added significance. The results are certainly statistically valid and show clearly that the market did not differentiate between houses located outside or inside either HCA.

6.8 - Summary of Results - Arithmetic Mean (Ra)

The results below relate to statistical analyses conducted for both the NRHCA and the WKHCA. Table 6.2 summarises the results of all the observations made in this chapter for both the North Randwick HCA and the West Kensington HCA. The results represent the number of properties used in the studies for both inside and outside each HCA. There are at least two sales results for each observation.

⁶⁰ Fee Simple refers to the greatest estate in land that can be held against the Crown. It is characterised by its inheritability, i.e. it is capable of being passed to heirs and/or assigns forever or for so long as an owner can be found. The estate may be passed by a Grant from the Crown, a deed, a transfer or by will or devolution of law etc. (LPI, 2012).

⁶¹ Stamp Duty is the real estate transaction fee paid to the NSW State government at the point of registration of a land title and was around 4% of the gross transaction value as of September 2012.

Table 6.2 - Summary of Data NRHCA and WKHCA

	NRHCA	WKHCA	Years
Inside	171	88	1975 - 2007
Outside	76	92	1975 - 2007
TOTAL	247	180	32 Years

Source: Compiled by Geha

As the table shows, there were 427 properties analysed in total over a 32 year time period. The average annual capital gain for each property was calculated using selling price information of transactions recorded for actual property sales. The comparisons made were for each property computing its arithmetic mean annual capital gain (Ra), as recorded over the exact number of years (or fractions thereof) over which the capital gain was observed. In this first set of data below, only the arithmetic mean was used. This would be the same for capital loss, though none of the results in either study exhibit a capital loss.

Table 6.3 - Ra Mean Observations for NRHCA and WKHCA

Summary of Observations			
	Number of observations	Average Annual % Change in Selling Price	Median Annual % Change in Selling Price
North Randwick Inside HCA (All Observations)	171	35.64%	27.31%
North Randwick Outside HCA (All Observations)	76	35.04%	27.90%
West Kensington Inside HCA (All Observations)	88	33.79%	24.55%
West Kensington Outside HCA (All Observations)	92	30.10%	22.97%
North Randwick Inside HCA (Observations spanning at least 10 years)	99	42.09%	30.15%
North Randwick Outside HCA (Observations spanning at least 10 years)	44	42.25%	33.94%
West Kensington Inside HCA (Observations spanning at least 10 years)	42	35.82%	31.22%
West Kensington Outside HCA (Observations spanning at least 10 years)	43	41.97%	29.03%

Source: Compiled by Geha

What the summarised information in Table 6.3 shows, is that the mean average annual capital gain for inside the NRHCA was 35.64% p.a. This is almost identical in magnitude to the annual average price increase outside the NRHCA of 35.04%. Given the number of observations and the time span of the data, one would have to say that there is no real difference between the two averages. Put differently, the results show that the market did not distinguish between properties inside and outside the NRHCA.

As for the WKHCA results, inside the WKHCA the properties had an average annual Arithmetic Mean of 33.79% compared with a slightly lower figure outside of 30.10%. The results are very congruent however, and lead to an identical conclusion to that derived for the NRHCA, namely that there appears to be no appreciable difference according to market consumers, between purchasing properties either inside or outside an HCA. Table 6.3 also summarises those observations spanning at least 10 years for the NRHCA. Here we observe once again, almost identical annual results of 42.09% p.a. and 42.25% p.a. for inside and outside the NRHCA respectively.

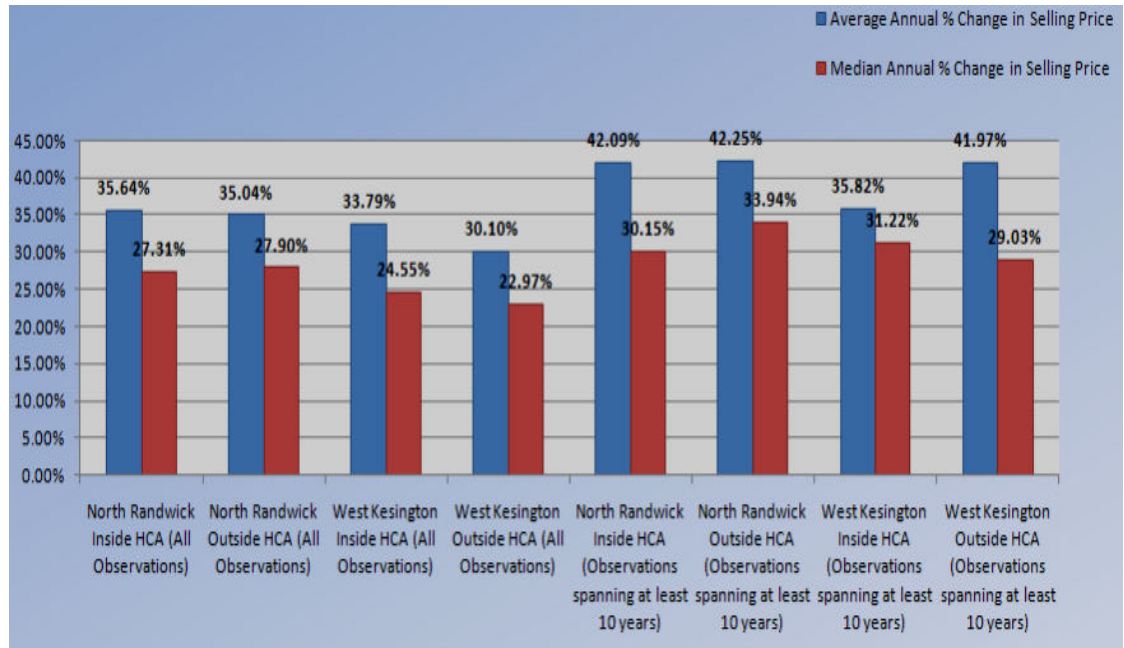
The ten-year results for inside and outside the WKHCA diverge a little more with inside properties showing a 35.82% p.a. gain and those outside exhibiting a 41.97% average annual increase. These results are consistent with the NRHCA findings. To confirm the arithmetic mean results, the median price for each set of data was also calculated. The median observation (for all observations) for the NRHCA was 27.31% p.a. (inside) compared with 27.90% p.a. (outside). The comparison shows again congruency with the arithmetic mean results.

For the WKHCA, the inside median house had a 24.55% p.a. gain compared with 22.97% p.a. outside (see Table 6.3). The median house had a slightly higher annual average for outside the NRHCA than inside for those houses that had sales data spanning 10 years or longer (33.94% vs. 30.15%). This median price was slightly higher however, for inside the WKHCA (31.22% p.a.) as opposed to the median house outside the WKHCA (29.03% p.a.).

These results are further compared using bar graphs in Figure 6.4 where the average annual capital gain is shown in blue and the median observation's annual average

capital gain is shown in crimson. The comparisons are performed for each of the comparison categories. The first is for all observations.

Figure 6.4 - Summary of Observations (Graphed)



Source: Compiled by Geha

The vertical axis is the arithmetic mean Ra as a simple unadjusted annual capital gain.

6.8.1 - Commentary on Results (Ra Calculations)

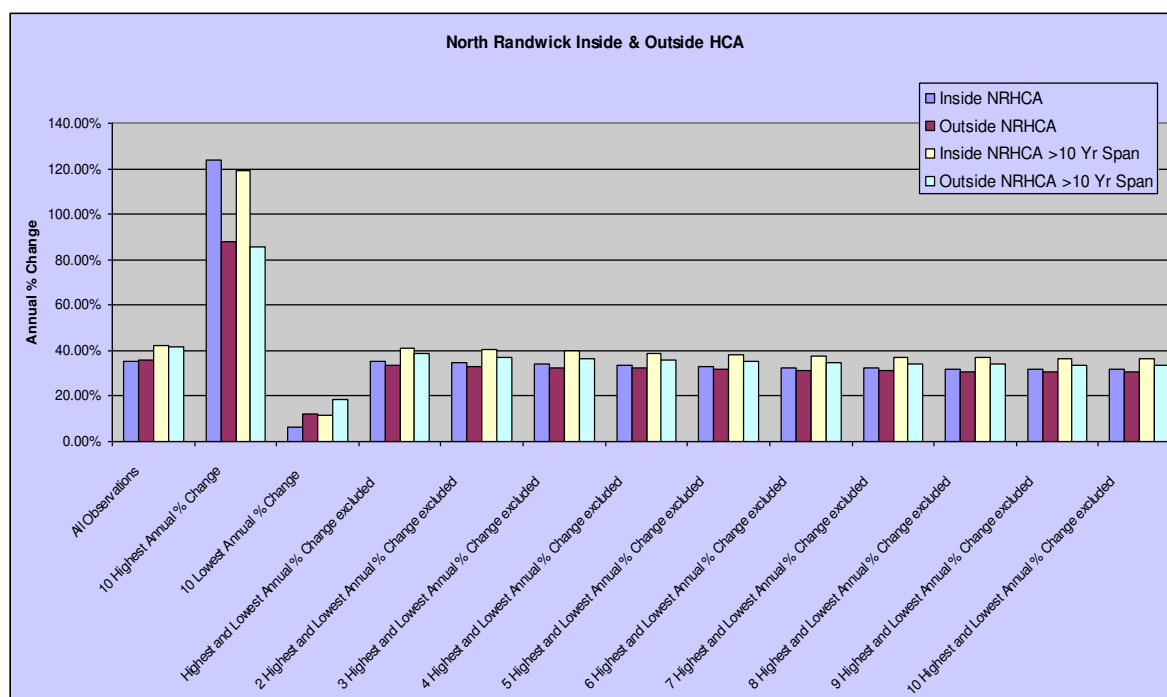
The following conclusions can be made based on the data contained in Figure 6.4 and Figures 6.5, 6.6, 6.7 below. These are also shown in Appendix VI, which contains extra graphical analyses.

The following may be meaningfully concluded from the above observations and analyses:

- Given the number of observations, the results are statistically significant.
- Given that there was only a 0.08% difference for North Randwick and only 3.45% difference for West Kensington, the market did not distinguish in price terms, between HCA and non-HCA areas.

- The overall percentage of capital gain is quite consistent over all four averages, ranging in a narrow band between 30.46% and 35.72% p.a.
- Given that the observations were made over a 32-year period, they are certainly significant and transcend market aberrations and fluctuations.
- The best 10 houses inside the North Randwick HCA if averaged separately have a staggering arithmetic mean annual capital gain of 123.86% p.a. whilst those outside had an annual mean growth of 87.94%, as represented in Figure 6.5.
- The worst performing 10 houses in the North Randwick HCA, had a modest simple annual gain of only 6.4% p.a., whilst the worst 10 houses outside had an annual capital gain of 11.88% p.a.

Figure 6.5 - Graphs Representing Results for NRHCA

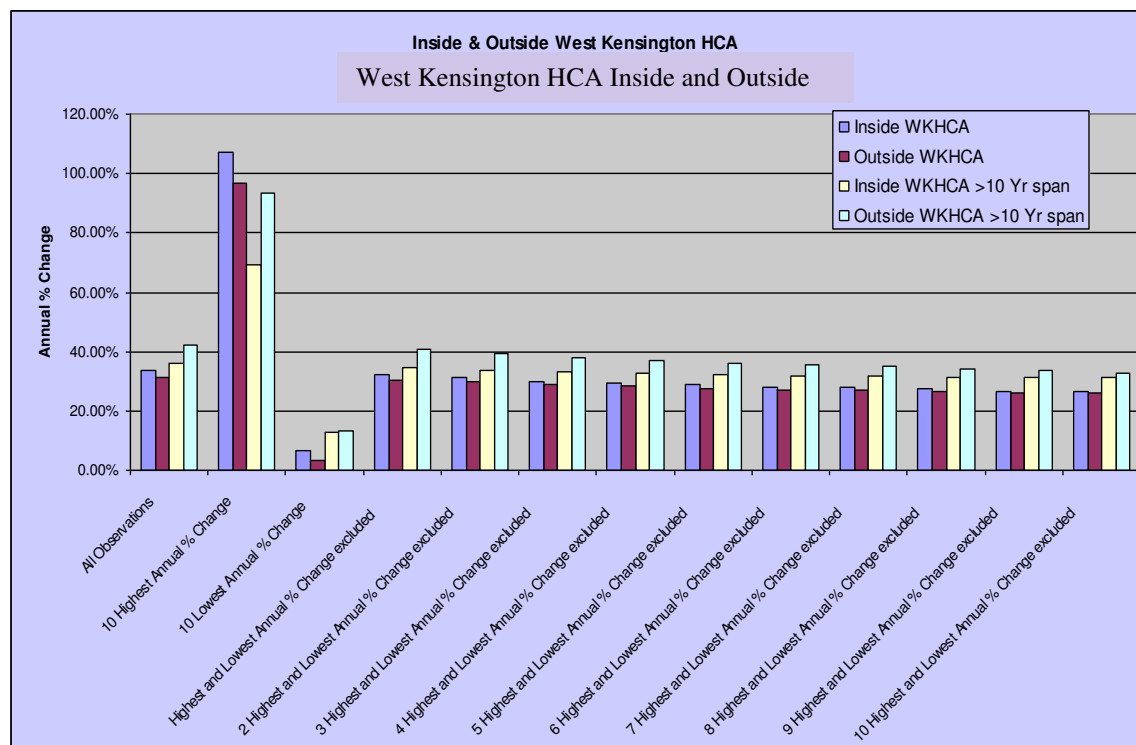


Source: Compiled by Geha

- The best performing 10 houses in the West Kensington HCA, had an annual capital gain of 107.19%, whilst the best 10 houses outside averaged 85.77%. These are represented in Figure 6.6.

- The worst performing 10 houses inside the West Kensington HCA averaged 6.7%, whilst the worst 10 houses outside grew by only 2.28% p.a.
- If the houses whose data spans more than 10 years are averaged, the average annual simple capital gain is even higher than the overall averages. Houses in North Randwick HCA averaged 42.09%, whilst those in the West Kensington HCA averaged 35.75% p.a. (as per Figures 6.5 and 6.6).
- Houses spanning more than 10 years, also showed equally-strong growth for those homes outside the two HCAs. For North Randwick Outside, this was 42.25% p.a. and for West Kensington Outside, the average annual capital gain was 41.97% p.a. (see Figure 6.6).

Figure 6.6 - Graphs Representing Results for WKHCA



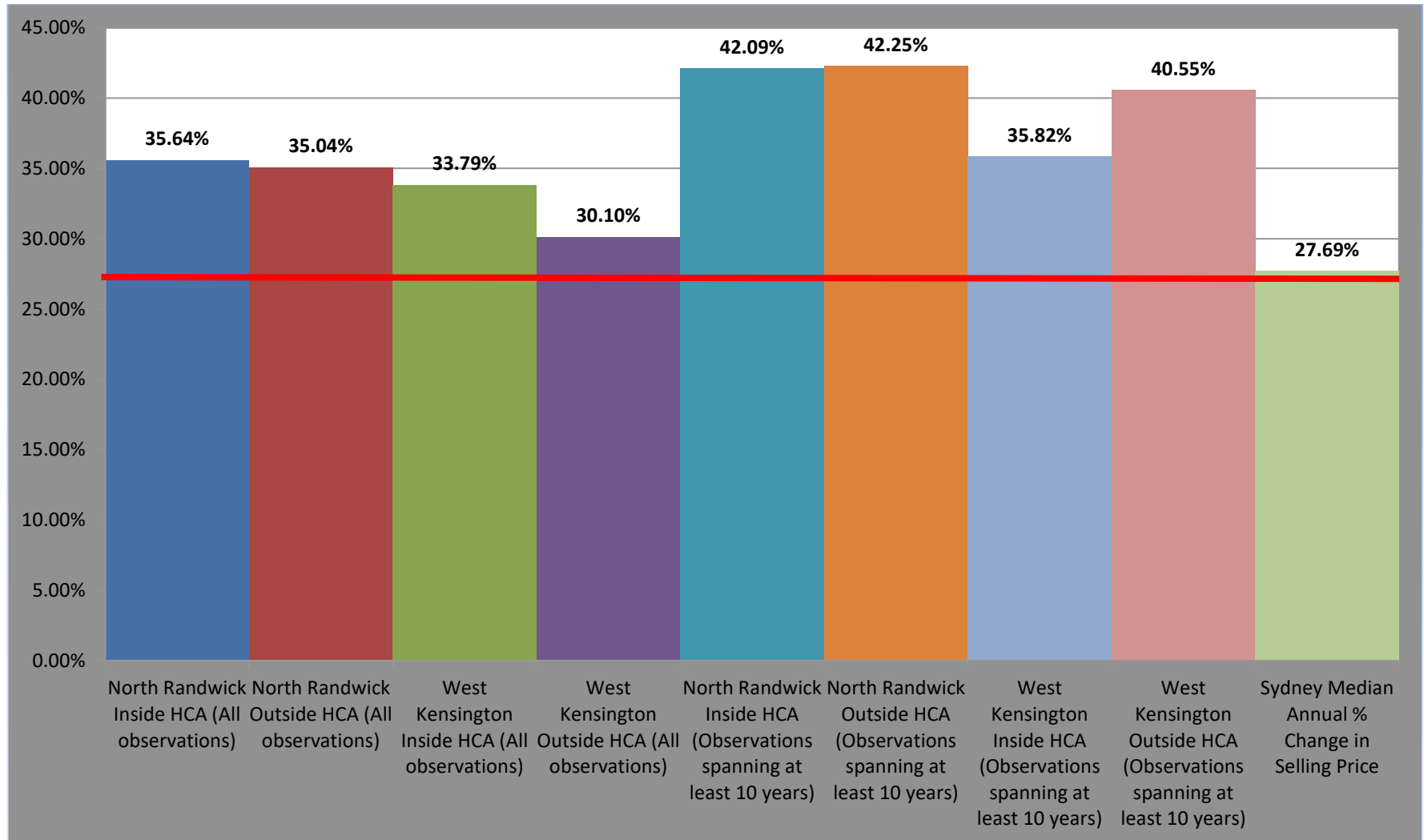
Source: Compiled by Geha

- There does not appear to be a pattern in the data that points to an obvious difference between the statistics for the houses inside and outside the two HCAs (see Figures 6.5, 6.6 and 6.7).

- When looking at the reduced averages, meaning the average capital gain excluding the top 6 and bottom 6 observations for example, the averages are 32.67% p.a. for Inside compared with 30.84% for Outside (NRHCA) and 28.21% Inside and 26.77% for Outside (WKHCA). This is clearly seen in the bar graphs depicted in Figure 6.6 and Figure 6.7.

Comparing these results with the Sydney Detached House Median Average Annual Change in Selling Price for 2007 of 27.69% (see Housing Industry Association 2007 Report), every average for both HCAs exceeds this number. Thus the period around 2007 does appear to have produced high notional annual capital gain results for Sydney detached homes. The North Randwick and West Kensington inside and outside statistics when mapped against the Housing Industry Association Average Annual Change Selling Price in 2007 for Sydney, as shown graphically in Figure 6.7, still outperform the Sydney average growth rate.

Figure 6.7 - Statistical Comparison with Sydney Median



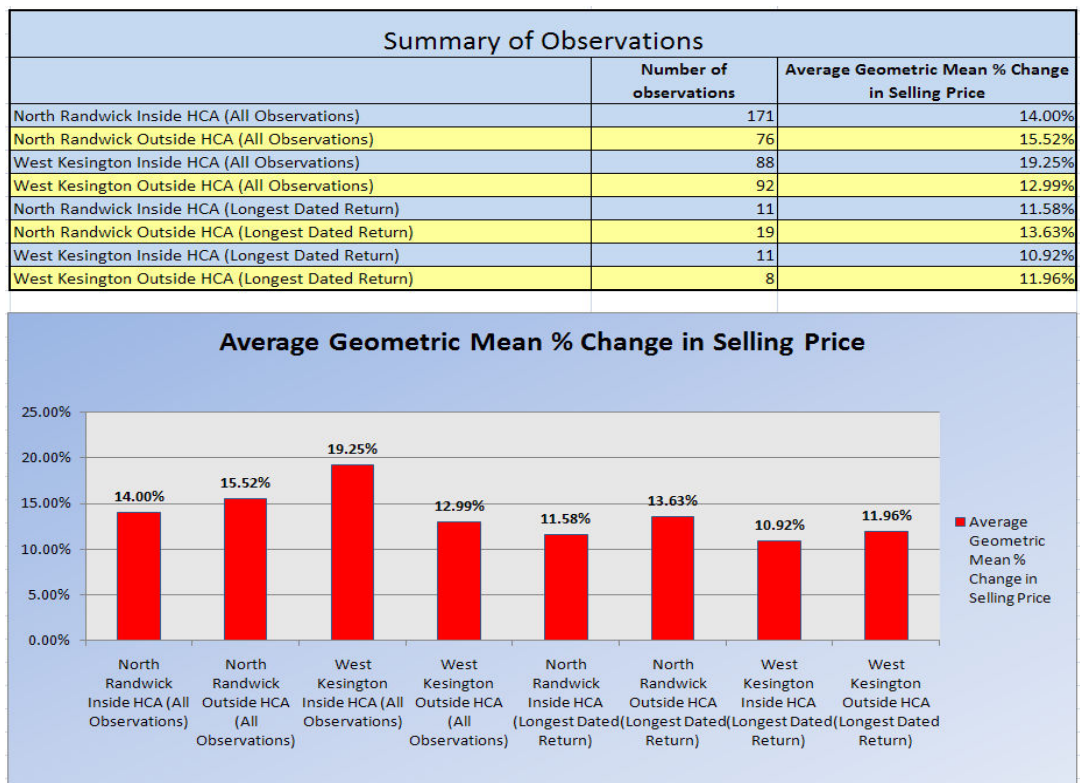
Source: Compiled by Geha

6.8.2 - Summary of Results - Geometric Mean (Ag)

To confirm the arithmetic mean results, the average annual capital gain for all observations was also analysed using a compound interest formula or a geometric mean (Ag) calculation. This compares with the arithmetic mean method used in Section 6.7.4.1. This is perhaps the more accurate financial method of calculating annual average returns and was included for both comparative purposes and to gain another measure of capital gain percentages for the houses analysed.

It must be emphasised here however, that as the analysis conducted is simply comparative, it is purely a comparison between the average annual gains inside and outside the two HCAs. The results of the arithmetic mean method were deemed equally valid for analytical comparisons. The table and graph in Figure 6.8, summarise the geometric mean results for all observations. This compares favourably, by reinforcing the arithmetic mean results shown in Table 6.3 and the graphed results in Figures 6.5, 6.6 and 6.7.

Figure 6.8 - Summary of Geometric Mean (Ag) Observations for NRHCA and WKHCA



Source: Compiled by Geha

6.8.3 - Discussion of Results (Geometric Mean)

As the calculations in Figure 6.8 show, there appears to be little difference between the compound annual returns for the NRHCA (14% inside vs. 15.52% outside). The results were more widely spread for the WKHCA. If the longest-dated returns are used however, the returns are very similar with only about 2% separating all four compound returns for outside and inside for both HCAs. The geometric mean data confirms the historical anecdotal capital returns expected in good locations of between 10-15% p.a. compound (RP Data, 2009).

6.8.4 - Detailed Graphing of Results

There is no doubt that one can draw many relevant conclusions from the abundant data and statistical and graphical comparisons found in this chapter. A full spreadsheet of all data used in this chapter is contained in Appendix V. The above graphs are a summary of the overall results, with more extensive graphing found in Appendix VI, providing more detailed graphical comparisons of the results above.

6.9 - Qualitative Analysis - Market Opinions on HCAs

Theoretically a heritage overlay, such as that imposed on a zone by an HCA, should lower price because it makes development on the land more restrictive. This is balanced out however, by the fact that such overlays create street atmosphere and area ambiance to a highly desirable extent that lure buyers to the certainty of such an outcome.

So was this the experience of real estate experts in the field? As part of the qualitative analysis, interviews with three local real estate sales experts were conducted. Market opinions were sought including interviews with Mark Simon (of Elders and later Raine and Horne); Alan Byrnes (founder PRD Nationwide Randwick); and Matt Lahoud (McGrath Real Estate chief Eastern Suburbs sales agent).

The experts were interviewed without any knowledge of the quantitative results of the research. The primary question posed to all three was whether, in their experience, the

market, over the periods of their experiences, had paid more or less for properties located within the North Randwick HCA and the West Kensington HCA compared with neighbouring, unrestricted properties? Their responses are detailed in the sections below. The date of each interview is shown, along with the questions posed to each and the responses given.

6.9.1 - Interview with Real Estate Agent Mark Simon - 15/04/08

In the view of Mark Simon, there was little difference being inside or outside an HCA zone, even though this represented a level of restriction by Council. The house buyers generally and solicitors specifically, this agent felt, do not have negative feelings towards an HCA because good quality homes inside an HCA have character and also because a niche price range is created by the HCA.

Mark Simon also noted that across boundary roads outside both Randwick and Kensington HCAs, the houses would still achieve an “attractive” price. Around Govett Street (near NRHCA), prices were highest, in this agent’s opinion. Mark Simon also commented comparatively on a shop inside an HCA in neighbouring Waverley Council, which was burdened by huge costs and time delays, associated with obtaining signage. This was a property in the suburb of Waverley, where heritage restrictions had produced a real effect on price.

Generally however, Simon felt that there was not an appreciable difference between the prices achieved inside and outside the HCA in West Kensington or North Randwick. Mark Simon’s property sales experience spanned 30 years. He had sold his first house in the area about 25 years prior to the date of the interview. In overall effect terms, this agent believed that the primary benefits of HCAs was their ability to preserve the character of the HCA area and give it an owner-occupier feel and a better look of home and better quality of space.

6.9.2 - Interview with Real Estate Agent Alan Byrnes - 15/04/08

Alan Byrnes was the principal and founder of PRD Nationwide Randwick, a respected⁶² and active agency in the eastern suburbs market. Alan Byrnes had the considered view that houses in some streets were worth more because of proximity to Centennial Park. His view was that property inside an HCA is usually more valuable than outside for houses. In comparing specific examples, Byrnes believed that streets inside an HCA were superior. For example, if he compared Govett St. (inside) and Pine St. (outside) say, Govett St. would have higher values.

Byrnes also felt that West Kensington contained many large federation homes inside its HCA, which were better overall than those outside and with larger block sizes also. Another factor which made HCA houses more valuable, in Byrnes' view, was that those located outside the HCA in West Kensington, bordered a Residential 2(c) zoning (apartments), which he thought reduced value. As an HCA designation is noted on a property's s.149 Certificate⁶³, this may be a factor but many or most HCA property owners, according to Byrnes, can still generally undertake work on an HCA property.

So even though a property inside an HCA has some restrictions, the property can still be cement rendered for example or renovated and painted. Byrnes did offer a different view on heritage listing however. Heritage listing has a far greater effect on prices than HCAs, in Byrnes' view. Byrnes believed that heritage listing had an effect of lowering price. He cited the example of a heritage-listed 3-Bedroom Semi with a 2(c) zoning, recently placed on market in Clara St. which sold for \$675,000 at a considerable discount to its market value (market value was estimated at \$750,000). The property needed work and had no parking. Byrnes compared Tunstall Avenue (outside the

⁶² Reputationally within the local area and the real estate market around Randwick, Alan Byrnes had established respect as a real estate agent over the four decades he had continuously operated his business in the local area. This is confirmed by the author's own experience as a property professional and by the other agents interviewed Matt Lahoud and Mark Simon.

⁶³ Under Section 149 of the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act), a local council will, upon application, issue a certificate providing information about planning controls or property affectations relating to any piece of land within a council area. The s.149 Certificate can be obtained at the point of sale by a prospective purchaser.

WKHCA) with Lenthal St. (inside the WKHCA). In this context Tunstall Avenue would command a higher price Byrnes felt, but not just for that reason, equally for the fact that it overlooked a golf course.

Byrnes felt that some stock in North Randwick would not bother a buyer either way. He had not had any sales fall over since 1988 (Alan Byrnes' first sale) because of an HCA, which definitely appears on the s.149 Certificate. The main reason for this Byrnes felt, was that people inside an HCA can still add a second storey, as is the case for the houses outside the HCA. Suburbs such as Rosebery, Byrnes noted, had covenants regarding putting a second storey and that affected price more negatively than HCA controls.

6.9.3 - Interview with Real Estate Agent Matt Lahoud - 2/05/08

Matt Lahoud was also a veteran of some 20 years in Real Estate (from 1987) including his then-current role with the McGrath Agency. He had extensive experience in Randwick, Coogee, Kensington, and Clovelly - areas that include both HCAs. Lahoud had sold apartments as well as houses in the area. Lahoud's view was that the profile of a typical buyer inside the two HCAs in question, was 90% that of a couple in their 40's with young children. The price range quoted was \$2-3 Million for nearly all properties.

Lahoud was also of the strong disposition that buyer profiles for inside and outside HCAs were no different. He commented that people buying Inside-HCA properties typically want to know "if in five-to-ten years, parking could become an issue or the restrictions inside the HCA on garages" for their vehicles. He also confirmed that an HCA restriction appears on a property's s.149 Certificate, pointing out that in his experience, solicitors of purchasers were not overly-worried by HCAs. Though the price of a house can be discounted within HCAs, Lahoud said that this was counteracted by the fact that a portion of the market liked heritage controls. He also believed that there was a major part of market that did not like heritage controls.

Lahoud's extensive sales experience included over 2000 sales of which 90% were not heritage related and some 10% were in HCAs. He had the firm view that there was no

“discernible difference in price at the end of the day” between properties inside and outside the HCAs. He personally would buy outside if the property was in poor condition but if in good condition, he confirmed that there would be no difference to price.

6.9.4 - Qualitative Conclusions

Thus the verdict of the three real estate experts, was that there were almost as many purchasers willing to pay for the streetscape and certainty of being inside an HCA, as there were buyers wanting the freedom of being outside. This set of independent expert market views above, confirms the statistical analysis and is a strong qualitative affirmation of the conclusions of this chapter. It is important to state openly here also, that none of the three agents had been given the data contained in this chapter, until after their views had been formally recorded.

6.10 - Limitations of the Research

There are several limitations to the research. Firstly the results were not adjusted for inflation over the time span of the observations. Also the time-value of money was not considered in an opportunity cost of capital sense. Nor did the analyses contained in this chapter, take into consideration any of the additional property expenses such as stamp duty on purchase, annual land tax, rates or maintenance costs. They also did not include any rental income.

There is also an obvious anomaly in the data, namely the lack of knowledge on the extent and frequency of these houses undergoing renovations and additions, including internal and external changes which by virtue of being carried out, increase the selling price of the house (including its capital gain over time). It was in fact assumed that, given the long time span of most observations, that most dwellings both inside and outside the HCAs, would have all undergone a form of renovation, as evidenced by the observably-good condition of almost all the properties recorded in the study during numerous site visits in 2008. Thus a simplifying assumption was made that renovations

and maintenance had occurred at least once for every property and thus they were equalised in this regard.

Where several sales existed for the same property, the intermediate sales growth was measured and recorded but not used in the results, except for those calculations where the geometric mean (R_g) was derived. Again even for the R_g calculations, only the first and last observations were necessary for the calculation of the compound capital gain. For all properties, a standardisation of methodology was adopted by using the latest and earliest recorded sales to give the arithmetic mean (R_a) or simple average annual growth for each property. This was considered to adequately reflect the average annual capital gain for the property, as it produced an average over several market cycles. As the main intent of the analysis was comparison, using the same calculation method for inside and outside both HCAs, was considered appropriate.

6.11 - Overall Conclusion

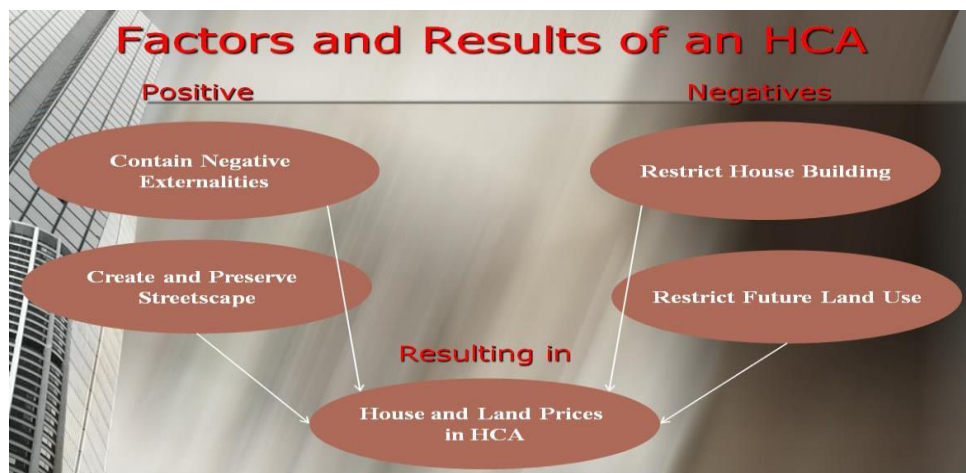
This chapter has examined, in some detail, the total effect of heritage conservation area overlays on the price of residential land (and housing), in two separate studies. The data used was made as homogeneous as possible, in order to compare like with like and spanned over 30 years. The analyses contained a total of some 427 primary observations, empowering the final results with statistical significance. A high number of results also spanned more than 10 years, further confirming the data's significance and ensuring that the results were not statistical aberrations.

The results of the research, as reflected by the market data analysed herein, are unequivocal: the market does not distinguish between properties inside compared with outside an HCA. It can thus be concluded from the above analyses, that an HCA has no market effect on house values. The houses inside and outside HCAs have exhibited very similar price behaviour to each other, leading to the conclusion that the market, at least for the two HCAs of North Randwick and West Kensington, did not differentiate between houses located inside or outside an HCA. Additionally there was no difference observed for those properties individually listed as local heritage items.

The comparative analysis contained in this chapter also suggests that macroeconomic factors were far more significant in determining price movements for the houses observed, than location within a heritage conservation area. The most plausible explanation posited here, is that as the houses were all at their “Highest-and-Best-Use” (i.e. dwelling houses), and the additional restrictions imposed by the HCA overlay were almost fully counterbalanced by the guaranteed streetscape and minimisation of negative externalities they offered. Figure 6.10 below depicts a simple summary of the conclusions gained from the analysis.

The various factors that have been found to impact upon house and land values on residentially-zoned properties within an HCA are summarised in Figure 6.9 below. On the one hand, HCA overlays restrict building and renovations of a property as well as the future use of the land. These factors were judged to have a negative impact on market value. On the other hand, HCA controls had a positive impact on creating streetscape and containing negative externalities in the areas surrounding the property. These factors, the statistical empirical research showed, were in balance producing no impact on sale price.

Figure 6.9 - Positive and negative HCA Considerations



Source: Compiled by Geha

Theoretically a heritage overlay, such as that imposed on a zone by an HCA, should lower price because it renders development on the land more restricted. The converse

however, is that such zoning restrictions create street atmosphere and area ambiance to a highly-desirable extent, that lure buyers to the certainty of such an outcome.

This is only one explanation for the similarity of the results. The other explanation is a zoning one, namely that those houses inside and outside the HCAs, are both at their “Highest-and-Best-Use” outcomes. All that could be built on every block of land analysed was a house and that had already been achieved in all cases. It is perhaps primarily for this reason, that the market did not price negatively the loss of opportunity for houses inside the HCAs. The land’s potential was unaltered. If on the other hand there was an inability to reach the land’s “Highest-and-Best-Use” in height, FSR or built-form, then the price of such properties would most likely have been reduced, in line with the supply-demand dynamics of classic land economics theory.

It is also important to compare the conclusions arising from the qualitative and quantitative research carried out and analysed in this chapter with those of the overall thesis. The view put forward in this thesis is the premise that zoning and planning change land value. By extension therefore, it can be assumed that manifestations of zoning and planning such as heritage overlays (including HCAs) should also change land value. As HCA overlays are in essence restrictions on use, they should by deduction affect prices negatively.

The results of this chapter showed however, that the effects of an HCA on housing prices (including land) were negligible. This leads to the conclusion that an HCA listing, in the form examined within this thesis, is not a true manifestation of zoning or zoning change as the zoning does not change nor do the zoning controls governing the land. Equally an HCA overlay does not affect the property’s “Highest-and-Best-Use” outcomes. The property’s ability to generate income or capital is therefore unaltered by such control and for this reason its price is unaffected by the HCA. This is consistent with the overall conclusions of this thesis.

Chapter 7: Conclusion

7.0 - Introduction

The subject topic of this thesis, as succinctly stated at the outset, was that of measuring the interzonal price differential of land under varying landuse controls. The main aim of the thesis was thus to explore the complex relationship that might exist between zoning and land value, including the effects of zoning and planning and such manifestations of zoning, as heritage conservation overlays, on the value of detached housing and hence land. This chapter will reflect upon the key findings, processes, theories and conceptual tools covered within the auspices of the thesis, encapsulating its findings and conclusions including the literature reviewed, the zoning examples and case studies analysed and the HCA research conducted. It also summarises the conclusions reached from the data and the qualitative analyses conducted within the thesis. It also highlights the scope for future research, its main limitations and closes with final observations.

This thesis concludes as it had begun on the discussion topic of landuse change and its connection with value. The 20 parcels selected for the case study examples, exemplify the value-creation cycle through the various pathways of the planning system. Zoning and planning change in all of the case study examples discussed in this thesis, have produced a change in the market value of these land parcels. This is akin to the “rent gap” as suggested by Neil Smith (1987) and others, namely the difference in rent between what the land commands at a point in time and its ultimate rent at its most productive land use. The rezoning uplift in value is at its most rudimentary conceptualisation, simply the capitalisation of this rent gap.

The Empirical Value Change Equation put forward within this thesis, embodies these concepts, in formulating a general equation that can be used to predict the quantum of value change after rezoning. The formula’s truest strength is that it works between any two zones and in any part of the State of NSW, even nationally. It allows a quantitative measure of the change in land value following zoning and planning change. The change

of zoning recalibrates the land's capacity to absorb (or relinquish) value, namely by changing its productive capacity to earn income or acquire capital value or both.

In contrast to the various theoretical land rent models however, when the case studies examined experienced their value transformations, under the auspices of the NSW planning system, their value-change came to incorporate much more than a simple "rent" gap. The final land values included the effects of added market certainty, marketability of final product and negotiated outcomes. As the market priced the difficulty associated with achieving such results in both planning and financial terms, as well as time efficiency, it revalues the land accordingly and the value-change occurs at the point of transformation but is usually confirmed at the point of resale. The average increase for the 20 parcels was 455% (see Table 5.3). The average time to achieve the augmented results was only 2.36 years (see Table 5.4), making the value-change highly significant in both market and timing terms.

In all the literature examined however, it is clear that one of the largest gaps both conceptually and empirically, remains the lack of direct commentary linking zoning and planning changes with land value. It has been the aim of this thesis to provide new empirical research that may be used to establish such a relationship with land value, within the context of the research questions posed at the outset. The theoretical perspectives on "bid rent" and "rent gap" (see Section 2.2), though cogent and explicative, were found to inadequately explain the land-value relationship through the narrow concept of a land "rent" attributable to property. Land rent was found not to be an accurate proxy for market value nor simple to correlate with land's supply-demand dynamic or its rezoned value as far as the empirical research findings of this thesis. The land-value transformation occurring in many of the case study examples (see Table 5.11) for instance, increased land value by considerable percentages but were not found to be a direct consequences of future "bid rental" projections. Rather, the research in this thesis has found a far more direct connection between the market value of the land and its ability to generate market certainty on new and increased quantity and value of saleable product (whether new lots or increased GFA). This was found to have been directly created through zoning and planning processes.

Within the examples, it is also notable the many different pathways for the value to have been created. Some parcels underwent a planning change through a DA, others received the certainty of a masterplan approval. Some were rezoned through council-sponsored “spot rezonings”, whilst others went down the state-significant former Part 3A pathway. Indeed the examples used were specifically selected to show the large number of variables, zoning permutations and complex considerations that often make up rezoning and planning outcomes. All the examples examined, in different ways and to differing degrees, did produce a positive value-change, as can be seen from the tabulated results shown in Table 5.11 earlier in the thesis. They were all negotiated outcomes as expounded by Ruming (2007; 2008; 2009) using the ANT model to explain how such outcomes are often brought to bear in the context of a modern statutory approval process in NSW, where new zoning and development approval confers new market value upon a parcel of land. The empirical research confirms the Ruming view on negotiated outcomes.

The results of this thesis have also demonstrated the importance of change in evolving and growing cities. This civic evolution however, is both connected to need and economic value. If there is no need through growth, demographic change or gentrification for landuse change, it simply does not occur in the absence of an economic imperative, especially in a complex planning system where change might be both costly and time-consuming. For zoning and planning processes to meet changing needs in a city, there simply has to be an economic driver, at least under the capitalist system. If value does not change to create new opportunities for risk and reward, change would simply not occur.

So it is perhaps fair to assume that legislative mechanisms are not only important for governance (as shown in the examination of the statutory rules contained in Chapter 4) but have been aimed at reorganising the regulatory environment to align with state-recognised economic objectives. State Environment Planning Policies were certainly tools that consecutive NSW governments have used, in order to reorganise the regional and employment priorities in a highly complex statutory milieu, including the birth and demise of former Part 3A (operated 2005-2011) which was specifically designed to elevate those projects that were deemed to have state or regional significance. To that

end, reform is always needed for better and more effective governance, including the most recent efforts to realign the planning and approval processes. The Green Paper (2012), discussed in Chapter 1 of the thesis, is a new attempt to reform the highly-complex and time-consuming NSW plan-making, development approval and zoning processes. Time will be the truest judge of the efficacy and success of these new reforms.

The literature reviewed mainly in Chapters 2 and 3 but also 5 and 6, centres on the subjects of land economics planning and zoning, as they relate to the primary research question of whether planning and zoning processes impact on land value. The literature was reviewed with several objectives: to explain the relationship between land value, location and land use; to demonstrate the complexity of land use change and the many factors that constitute land value; and to provide a coherent narrative that supplements the considerations of this thesis. Also, through the reviewed information, it was intended to give focus to the rezoning effect and the concept of land-value creation, in order to provide wider and more insightful perspectives in answering the questions posed in this thesis.

Chapter 2 includes a detailed review of the published academic literature on the commoditisation of land and its economics. It also contains a brief overview of the main theoretical models relating to the economics of land, including the various models. Broadly, Jack Harvey (1981, 1996) and Neil Smith (1979, 1987) expound the idea of a “rent gap” as a means of explaining value-change, whilst others such as Evans (1985), Clark (1951), Alonso (1960), and Vernon (1964) explore the theoretical ideology behind the “bid rent” on a land parcel as a calibrator of value.

It is also important to note at the outset, that the literature covered in this thesis (in Chapters 2 and 3) related specifically to zoning and planning and the concomitant value changes created by those processes. Though traversing its classical theorisations, it did not explore in any great depth literature relating to the specifics of the economics of land, nor does it deal in detail with the more numeric land economic models relating to value, as may be examined from a pure land-economics perspective.

The literature was deliberately selected to traverse a breadth of views, some centred on subjects relating to the topic of this thesis directly, others a little further afield. All were considered important in providing a thorough account of researched publications that might offer deeper insights into the concept of value in the land rezoning process.

The literature builds towards identifying and explaining how the demand for living and working space in urban areas is connected to the orderly supply pattern created by zoning. This limitation of supply for land use becomes, in a highly-regulated planning system, one of the governing factors in balancing the demand pressures of a growing city.

7.1 - Thesis Segments - Description

This thesis in Chapter 1, commenced with a historical appraisal of land as an asset class, postulating how land value and tenure may have come into being, in the form we recognise today. It then went on to set out the clear historical significance of land as an asset class and its transformation, in the last few hundred years, to a tradeable commodity. It was through this commoditisation, it has been argued, that land as a source of wealth finally became accessible to the land and home owners of today. In attempting to explain the economic significance of zoning change and its ability to transform land value, this thesis has thoroughly explored many of those intrinsic qualities of land, particularly its economic ability to produce both income and capital.

The main methodologies of the empirical research used in this thesis centre around the tenets of zoning, including a focus on other planning regulation in the form of heritage conservation areas and land value. These have been documented and explained in terms of the research question. The principal foci of this thesis were the investigation of the effects of planning and zoning regulation on land prices and the measurement of such effects through actual sales data and zoning and planning examples. The empirical data was used to formulate the Empirical Value Change Equation, which connects zoning and land value. The other body of empirical data was that used in Chapter 6 to explain and quantify the effects of heritage conservation on property value.

There has also been some explanation afforded early in this thesis as to the importance of land as an asset valued within the dynamic context of the changing requirements of cities. It is these evolutionary requirements of cities that have arguably created the need for constant changes to the modern city's planning, functionality, zoning and also land values. In attempting to document this constant need for civic transformation, it was hoped to fulfil the main aims of the research in the thesis, namely the quantification of value-change attributable to zoning change with all of its manifestations, including rezonings, Major Project approval, development consent and heritage conservation zoning overlays.

This thesis has attempted to establish planning's theoretical and practical definitions for rezonings, spot rezonings and the overarching rationale for landuse regulation under existing landuse models. The various types of zoning have also been defined and described in some detail, including Euclidean zoning, Performance zoning, Incentive zoning and others, in an effort to demonstrate the various alternatives that are frequently discussed as viable total or partial substitutes to current segregational zoning practices. There has also been a summary of some of the more pertinent criticisms of segregational zoning, as currently practiced in Australia and the United States.

Yet zoning, as explained in this thesis, can easily be viewed through negative lens, with many town planning critics highlighting its limitations through the "dead hand" effect it is touted to impose upon a city and its inability to effect dynamic and timely civic change. Notwithstanding, it is fair to say that given zoning's widespread appeal and ease of use, that the segregational Euclidean zoning model as currently implemented in most major Australian cities, is certainly here to stay.

The thesis then went on to explore, in some detail, the main factors that constitute and contribute to the creation and destruction of land value in both statutory and planning terms. It did so by closely analysing a long and detailed list of some 20 zoning examples, highlighting the value-creation numerics for each. It also examined, through the empirical evidence described within, the total land-value change, as observed for each land parcel, explaining the changing planning or statutory controls that have created such change.

Both quantitative and qualitative explanations of the resultant value change were then proffered, together with mathematical formulae that represent numerically the modelling of such outcomes. The final product of Chapter 5 has been the Empirical Value Change Equation which offers the quantitative reasoning for zoning and planning value-change. The Empirical Value Change Equation uses the empirical research to mathematically interconnect zoning with land value. It suggests that zoning has a complex but definite and measureable effect on land value. As a parcel of land “upzones”, its productive capacity is permanently changed and therefore its value. The Empirical Value Change Equation can be used to quantify the value change between any two zones and works equally for both “upzonings” and “downzonings”.

There has also been a detailed outline given throughout this thesis of the methodologies of the empirical research employed, as well as those used in analysing and quantifying the effects of heritage conservation area manifestations on house prices in two Sydney examples. The data has been analysed and described both quantitatively and qualitatively and has also been collated and depicted diagrammatically and graphically.

In summary, this thesis builds on the limited available existing literature and data on land rezoning, using market and property sales information to explore zoning’s impacts on market value. It has proposed a new empirical formula for the measurement of the effects of zoning and planning on land value. As well as quantifying the effects of zoning and planning, it has also explored the effects of zoning restrictions such as HCAs, by measuring their impact on property values.

7.2 - Summary of Findings

This thesis has produced a number of new findings with respect to some important aspects of land value, zoning and planning. It has formulated a new equation to interrelate zoning-change with value-change. This has included research on the impacts of other planning restrictions and the effects of such processes as former Part 3A listings, development approvals and heritage overlays on land value. Listed below are the main findings of the research and analyses. The outcomes of this thesis can be summarised in more detail under the following subheadings.

7.2.1 - Literature Review

The literature reviewed in the thesis, particularly in Chapter 2 and Chapter 3, has traversed a full range of zoning and planning topics, especially the academic observations and commentary relating to how both of these processes might affect land value. The literature reviewed has agreed with the view expressed in this thesis that value-change can be either positive or negative, depending on whether the land is being upzoned or downzoned and the timing and quanta of such processes. The literature has also supported the notion that land value, as affirmed by the results of the research, should ordinarily be closely linked to the productive capacity of the land or its ability to generate revenue, as dictated by its zoning or the planning outcome approved under that zoning. Thus the literature was consonant with the findings of this thesis that zoning and planning processes alter land value. The key aspect relating to the literature, is in responding to the research questions raised initially in the first chapter, namely as to whether a definite relationship does exist between zoning and land value, including the effects of zoning and planning and such manifestations of zoning as heritage conservation overlays, on the value of detached housing and hence land. The research contained in this thesis, as supported by the large body of researched literature, has found that a definite relationship exists between land value and zoning. It reaches this conclusion both through theoretical and quantitative pathways. This rezoning effect “rezoning effect” on land value has been quantified in the Empirical Value Change Equation as set out in Section 5.8.

More specifically, the thesis has included academic literature on the subject of segregational zoning, in an attempt to understand its available support rationale, as well as to capture the criticisms levelled at its deficiencies. These have included the many opinions affirming its efficacy, necessity and structure, as well as the vituperations slating its undesired economic and social outcomes. There has also been a thorough assessment, summarising most of the prevailing views on landuse systems, as practiced in the Anglophonic western hemisphere. These have included growth management, urban growth boundaries and urban containment policies in their various manifestations. The main objective was to encapsulate and understand the prevailing views on zoning’s functional and economic effects on land. The first part of the chapter (Sections 2.1 - 2.5) covered the main literature relating to the concepts of land value, gentrification, the

rent gap, urban location, and bid rent. This literature was deemed important in setting up a conceptual basis for the discussion on zoning and rezoning and their economic connection with land and its ability to generate income or value.

This theoretical assessment of the literature on landuse models, has specifically served as a prelude to the assessment of the incremental effect of upzoning on land value (or its converse diminutional effect in the case of a downzoning). Conceptually these are not dissimilar to the notion of a “rent gap” or “value gap”, being the difference between a land’s existing use and its “Highest-and-Best-Use” outcome. The thesis in this part of the Literature Review therefore evaluated various conceptual and economic landuse models such as the “rent gap” as postulated by J. Harvey (1981, 1996) and N. Smith (1987); and the “bid rent” models of Alonso (1960), Clark (1951) and Evans (1985). The third conceptual model type examined was that advocated by Ruming (2007, 2008, 2009) on “actor network” methods of achieving negotiated outcomes. Drawing on such theorisations has thus proven helpful in threading together a more complete picture for how a change of a parcel’s zoning could change its value, as all three broad concepts can fit to some degree into the value-change dynamic for land parcels undergoing a value transformation in a complex planning system.

The literature reviewed in the second portion of Chapter 2 (Section 2.6) centred on the expert opinions relating to zoning and whether certain types of landuse zoning can alter land value. In one form or another all of the academics reviewed in the latter half of the chapter (Section 2.6) supported the hypothesis that zoning had an effect on land value. About 71% concluded that zoning and planning could alter land value, with another 29% of critics not able to contradict this position.

The views ranged from those who believed that zoning created certainty (Jud, 1980) to those who believed that it created value through the elimination of negative externalities (Jud, (1980); Crone (1983); Peterson (1974) and Stull (1974, 1975)). There were also those who felt that zoning land as a process, added certainty and value (Speyrer (1989); McMillen and McDonald (1991); Munneke (2005); Schiller (2001) and Adams et al. (1968)).

There were also those whose research showed that rezoning one type of land increased the price of another (Stull (1974); Asabere (2005)). Also those who believed that enforcement of strict zoning and planning regulation raised land prices (Fischel (1979); Downs (2002); Rosen and Katz (1981); Peiser (1989); Ohls, Wiesberg and White (1974); Hendershott and Thibodeau (1990); Courant (1976) and Stull (1974)). Most importantly there were also those who believed that rezoning land created immediate windfalls, such as Gurran (2007) and Stein (2008) - the very contention of this thesis.

It can be concluded from the vast amount of literature reviewed in the thesis, that zoning and rezoning have a significant and measurable effect on land value and that this value change actually occurs due to the zoning (or planning) change itself rather than other economic factors.

The various academic views covered, also serve to highlight the complex nature of zoning systems, whilst focusing on the effects of land use as may be viewed from a market perspective, including the work of Knapp (1985), Misczynski (1978), Hagman (1978) and Glickfeld (1978), which deals with how land value may be created through zoning. There has been an intentional focus on the concept of market value, as legally defined by *Spencer v The Commonwealth of Australia* (1907) and zoning's legitimisation in *Euclid v Ambler* (1926) as well its non-compensable nature as defined by *Baker v Cumberland County Council* (1956). In describing the transformation of land value through zoning and planning, the literature concludes that zoning and rezoning have a significant effect on land value and that the value change experienced is due to the zoning or planning transformation rather than other factors.

The thesis also contains a separate literature review in Chapter 6, specifically focussing on heritage and heritage conservation, and how these relate to the main research question of how planning and zoning (and its manifestations in the form of overlays such as HCAs) impact on the market value of land and property.

7.2.2 - Statutory Considerations

The next section of the thesis in Chapter 4, continued the focus on zoning and planning, by examining some of the more significant statutory considerations contained within the EP&A Act, specifically those sections that relate to zoning, rezoning, State significant development and planning approvals. These sections form the statutory settings required to generate the value outcomes contained in the empirical research detailed within the thesis.

The EP&A Act and all of its associated Regulations, State Environmental Planning Policies (SEPPs), Regional Environmental Plans (REPs), Local Environmental Plans (LEPs) and Ministerial Directions, remain the single most important body of legislation governing the land approval and value-change processes in NSW. The aims of this thesis are primarily centred on the proper explanation of the link between a change of land use, as empowered by such legislation and market value, as defined earlier in Chapter 3. To that end, an understanding of the Act and its associated regulations was considered apposite for the subject of this thesis, namely the assessment of land value and land value change.

The chapter sets out a foundation of the statutory and bureaucratic processes by which planning interacts with value, within the auspices of the NSW planning system. There is discussion of the main instruments of the Act which relate to plan-making, including the SEPPs, REPs, LEPs and also former Part 3A which governed those projects deemed to be of state or regional planning significance between 2005 and 2011.

Discussion was concentrated on those sections of the Act deemed relevant to the aims of this thesis, primarily for the elucidation of the methodology and the statutory steps involved in the ability to rezone land and approve development upon it. The chapter also attempts to explain the way in which the planning system actually operates in NSW and the method by which zoning changes are given statutory effect. It also explains the certainty gained in the marketplace through both the zoning and the development approval processes.

This chapter's key contribution to the thesis was in the explanation it offered of how the planning system gives rise to value and value-change, as it relates to development and land generally but to the 20 rezoning case study examples used in this thesis specifically (refer to Chapter 5). The planning system and its complex range of rules and instrumentalities, is and remains key to unlocking land value, particularly in the state of NSW. It is this very complexity that has come under review in the State government's Green Paper of 2012, as discussed in Chapter 1 and at the outset of this chapter.

Many developers, large and small, in the past 20 years have typically sought land sites that had already gained statutory determinations such as rezoning and DAs, simply due to the complexity and uncertainty associated with developing any parcel requiring zoning or planning approval, prior to construction. For such certainty, a premium is usually paid, highlighting the difficulty of the New South Wales approval process, particularly where projects are financially large or technically intricate. This is perhaps due to two main factors: time and certainty of outcome. A statutory consent allows immediate project finance and the technical and construction-price definitiveness required prior to construction commencement.

Planning can also explain the observable value gained, as affirmed by the market for a given parcel, through both the zoning and the development approval processes. Land values have historically comprised (and still do today) a large proportion of housing and project value. The planning systems and the zoning of land in cities, such as Sydney, are therefore important determinants of this value.

7.2.3 - Case Study Examples and Analytical Data

The thesis then went on in the early sections of Chapter 5, to establish a connection between the effects of planning and zoning outcomes on the value of land, as empirically modelled, quantified and qualified through specific market transactional data. The examples used had all undergone either a zoning or planning change and also a value change. The land value before and after the transformation was measured and modelled, in order to quantify the impacts on market value and the factors contributing to such impacts.

This chapter detailed 20 actual zoning and planning examples, where land value-change had occurred. These examples had been specifically selected to traverse the zoning spectrum, including Rural to Residential and Low Density Residential to High Density Residential, as well as Special Use to Residential zoning transformations. The data also contained examples where the land value had been changed through planning processes such as a DA or a former Part 3A approval, which is a de facto zoning change.

All 20 case study examples used in the thesis displayed, to varying degrees, a positive economic effect on land value. The results showed that there was an average (arithmetic mean) change in market value for each example of 453% over the observation period (average of 2.36 years), with the ten highest results having an unadjusted value change of some 749%. The 10 lowest results for value change exhibited a nominal increase of 158%, all sizeable and definite land value increments both in absolute and comparative terms.

7.2.4 - Empirical Value Change Equation

The collated empirical data was then used to describe all the relevant factors that were deemed to have contributed to the rezoning effect on land, as modelled and quantified in this thesis. The data and values in the rezoning and planning examples, documented in Chapter 5, were then used to construct a general mathematical model that is able to both explain and quantify the movement in land price. This was termed the Empirical Value Change Equation. Value-change can of course occur either upwards or downwards, depending on the zoning or planning outcome and the economic direction produced as a result of the change itself.

The formula was thus derived using the empirical evidence, documented within this thesis to inter-relate the market price of real land parcels to both zoning and planning outcomes and hence value-change. The quantification of the rezoning effect was thus modelled, by measuring the change in land value both prior and subsequent to either zoning change or planning approval and explaining it in numeric and market terms. The Empirical Value Change Equation thus relates the land's final rezoned value V_r , to the economic nett outcome of the value of the new product able to be generated from the

new zone V_{ns} , after deducting all rezoning and development costs C_d , fees and charges C_{fc} and an appropriate profit and risk margin M_{pr} .

The primary question posed at the outset of this thesis had been one of whether the rezoning of land actually changes the value of the land. The simple answer is that it certainly does by changing the ability of the land to generate new marketable outcomes, investing it with new future earning capacity that gets reflected in its rezoned value. The land is simply able to produce more therefore its value is increased. The derived empirical value equation was:

Empirical Value-Change Equation

$$V_r = V_{ns} - C_d - C_{fc} - M_{pr}$$

Source: Compiled by Geha

Where:

V_r = Value of Land post Rezoning or Planning.

V_{ns} = Gross Sales revenue of the rezoned land less commissions and legal fees.

C_d = Cost of managing and constructing project to deliver Nett Sales Revenue (V_{ns}).

C_{fc} = Cost of design plus statutory fees and charges imposed on project, including s.94; GST; Stamp Duty and holding costs.

M_{pr} = Profit and Risk Margin required before the market undertakes the project.

The Empirical Value Change Equation thus links mathematically the maximum market value payable for a parcel's "Highest-and-Best-Use" that might reasonably be expected to be reached under the land's newly-created zoning and planning controls, with the certainty of achieving such an outcome. It also relates the final sellable value of the

product generated by the new zone, with the total costs associated with its delivery. These necessarily include rezoning and design fees, construction costs, statutory fees, subdivision costs and marketing and other costs.

Simply put, the value created or destroyed by a new zone or the new controls applying to a land parcel, as a direct result of a rezoning, a Part 3A (which is no longer operative) or other statutory planning approval, is always related to the market value of the new product authorised by the new zone or approval. If the rezoning allows the creation and sale of new lots for instance, then the increase in the land value, is the market value of those lots less their creation costs and servicing costs, less a profit-and-risk factor. This entire quantum increase is added to the land price and is the new value that is directly attributable to the land. The land now simply has a higher price in the market place. It is also likely, subject to normal market conditions *ceteris paribus*, that the increase in land value would occur at the point of zoning change, or immediately thereafter, as long as sales are possible at that moment in time.

This formula is general so as to be applicable to the entire gamut of zoning and planning circumstances, where landuse controls are altered from any one landuse type to another. This may be the case for land parcels changing from rural-residential to residential uses or industrial to residential or low-density residential to high-density residential or industrial to commercial. It is thus able to be reasonably concluded that when circumstances exist whereby new controls might permit an increase in sellable development potential, land value should ordinarily increase in accordance with the value-creation mechanism stated in the equation above.

The next question posited was one of how such a value-change may be best explained, specifically because the land itself does not experience any physical, topographical or locational change. The answer to this question can be simply summarised by the notion that the market value of landed assets is necessarily related to their measurable or projected productive capacity in marketable terms. This also encompasses the notions of certainty of outcome. It is also contingent on the marketability of the final product made permissible by the change of controls and the main assumption that the land has reached its “Highest-and-Best” use after rezoning.

This occurs primarily because the land, post its zoning or planning transformation, is able to produce more sellable product that is able to be traded at a profit, in the case of an upzoning, or a loss of such productive capacity, in the case of a downzoning. Thus the market will calculate the total additional sellable product resulting from the new use of the land or building, and discounts it by the value of the cost of delivering the extra product to the market and incorporating sufficient margin of the perceived risk associated with achieving the desired final outcome. The residual final value is the nett total value of the impact of the new controls and is entirely added to the price of the land. The land is therefore more valuable by a commensurate amount and is almost inevitably re-priced by the market, reflecting its new earning (and capital) status. This notion of value transformation has been fully discussed throughout all the chapters of the thesis.

This is the case for both gross floor area (GFA) increases and for increasing lot yields, as described theoretically in Section 5.2 and in Section 5.5 and all the documented examples in Section 5.6. Equally the reverse also applies for a loss in sellable development potential.

This thesis has found therefore that in a GFA increase example, there would be a value increase attributable to a building permitted to have additional GFA. This change can be calculated by quantifying the extra nett sellable GFA and multiplying it by the selling price per square metre of that GFA, less the total cost of providing that GFA, less an acceptable profit margin. This will be the quantum of the increase caused by the new zoning or planning controls. Again, all of this value increase will flow onto the land and will be reflected in the land price.

As the empirical evidence quoted in this thesis suggests, when any rezoned land is marketed, the increase in its earning capacity, as captured by the above formula, is reflected in a higher land price. The quantum of the value-increase is naturally related to the quantum of productive marketable change, created by the land's new zoning or planning controls. If the controls permit more marketable product to be sold, then there is a commensurate increase in the land price.

Of course, the converse is also true. If the land's new zoning controls are more restrictive, causing its capacity to create marketable product to be curtailed or diminished, then its value is proportionally reduced. This would be the case if the land, for example, is downzoned from residential to open space uses. The loss of value in such a case, as the above Empirical Value Change Equation might suggest, would be prodigious under such extreme circumstances.

It is also important to stress a significant qualification, namely that the product created and permitted by the new zoning change, must be a marketable product. This means that it must necessarily produce a final outcome that is readily recognised and valued by the general market and not an esoteric item that even when approved and built, is unable to attract a suitable buyer.

7.2.5 - Heritage Conservation Area Considerations

Finally, this thesis has researched the important topic of heritage conservation areas (HCAs). The purpose was to more fully understand how these HCAs actually operated, including their impacts, in zoning and market terms on property values. The research contained in Chapter 6 of this thesis, compared housing prices outside two separate HCAs with housing within the two HCAs.

The HCA research, particularised in Chapter 6 of the thesis, examined in some detail the total effects of restrictive zoning overlays, on the price of residential land (and housing), in two separate studies. The data used was also made as homogeneous as possible, in order to compare like with like. HCA restrictions, at least in theory, should reduce the demand for land. The research conducted both quantitatively and qualitatively in this thesis however, confirms otherwise. Such zoning mechanisms as HCA overlays had no observable effect on their own, on the price of houses and also land, as measured in two separate studies documented in the this thesis. The results of the research, as reflected by the market data analysed herein, were unequivocal: the market did not distinguish between properties inside or outside an HCA, as reflected through some 854 transactions, spanning over 30 years.

It was thus concluded from the above analyses that an HCA has no marked effect on house (and land) values. The houses inside and outside HCAs had, under very similar market conditions, exhibited similar price behaviour, leading to the conclusion that the market, at least for the two HCAs of North Randwick and West Kensington, did not differentiate between houses located inside or outside an HCA.

The explanation posited within this thesis for such a result lies in the complex but counterbalancing planning and market forces at play. Certain negatives including planning restrictions, more expensive heritage maintenance and the inability to consolidate blocks of land for upzoning, are all downsides from a market perspective. These are offset however, by market certainty on amenity and streetscape and the minimisation of future market externalities, which are market positives. It is also possible to conclude from the results of the two case studies, that HCA overlays are not a true manifestation of zoning and do not have an effect on property value in the way a change of zoning might do under the NSW planning system.

7.3 - Limitations of the Research

There are some important disclaimers to make with respect to this thesis and the research contained within it. Firstly, with respect to the accuracy of any information summarised in the literature reviewed, the critiques offered only reflect the opinions of the author of this thesis and may not always accord with the views of the original authors.

Another important limitation is with the data used in the examples, which in some cases reflects the book value of a property, rather than its transactional market value. In the absence of a sale however, this value was deemed the most reflective of true market value at that moment in time.

There are several qualifications and limitations that must be put forward with respect to the research overall. Firstly, none of the sales results used were adjusted for inflation over the time span of the observations. Also the “time-value-of-money” was not

considered in any of the comparisons, including in any “opportunity-cost-of-capital” sense. The analyses also do not take into consideration any of the additional property expenses such as stamp duty on purchase, annual land tax or rates or maintenance costs. The observations also do not take into account any rental income for the properties or borrowing expenses associated with either the purchase or the rezonings or DAs.

There is also an obvious anomaly in both the HCA analyses, namely the lack of knowledge on the extent and frequency of any of the houses undergoing renovations or other added capital costs. These it must be acknowledged, whether internal or external in nature, by virtue of being carried out, increase the value of a property and hence are reflected but not accounted for, in the selling prices of the houses on the parcels analysed.

It was in fact assumed that, given the long time span of most HCA observations, that almost all dwellings, both inside and outside the HCAs, would have undergone a form of renovation, as evidenced by the observably-good condition of almost all the properties used in the statistical study. Thus a simplifying assumption was made that renovations and maintenance of a capital nature, had occurred at least once for every property and to that end were equalised in terms of the overall property values.

Another simplifying limitation to the HCA research concerned intermediate sale prices. Where several sales existed for the same property, the intermediate sales growth was measured but not used to calculate the average capital gain for the arithmetic and geometric mean calculations. For all properties, a standardisation of methodology was adopted by using the latest and earliest recorded sales only. This was also considered to better reflect the average annual capital gain for the property, as it produced in most cases, a mean (average) value measured over several market cycles. As the mean capital gain calculations performed were identical for the houses outside as for those inside each HCA however, the methodology used should have no impact on either of the two sets of results or the comparisons performed.

The HCA research though ostensibly presenting a different result within the thesis, is in fact in consonance with the application of the Empirical Value Change Equation. The

inclusion of land in an HCA did not change either permissibility or amount of marketable product that these parcels could produce. Thus their values remained the same over time when compared with other houses outside the two HCAs.

It is also important to note that this thesis has not concentrated on the question of “cui bono” or who might be the ultimate beneficiary of rezoning gains. Rather, it has focused more as to whether such windfalls actually occur as a result of zoning and planning processes and how such value changes are empowered, explained and given effect. To that end, there appears to be a strong indication from the results of all the research contained in this thesis, that planning and zoning changes, in fact, do have a strong incremental (or diminutional) effect on land value. This view is drawn upon the literature reviewed, the case study research documented, the theoretical models examined, the statistics collated and the Empirical Value Change Equation derived.

7.3.1 - Limitation of Available Literature

Another challenge for this thesis has undoubtedly been the limited amount of academic material covering the topic of zoning, especially its connection to land value and land value change. There was also limited commentary covering the theoretical aspects of changing land use.

Even though a considerable number of the academic and journal articles researched do elucidate on some of the significant methodological and theoretical aspects associated with zoning, the precise material relating to the topic of this thesis, had not been covered by any of the available literature. Though many of the articles and texts referred to, cited and reviewed, do offer detailed commentary about various aspects of zoning and or value, none proffer explanation or reveal any existing views, directly addressing the thesis topic of how zoning change may affect land value. Thus the ability to compare the work contained in this thesis, directly with other research, was quite limited. There was also a paucity of information in the literature cited on the effects of a heritage conservation area, or its international equivalents, on land value.

Even though this thesis necessarily charts unknown territory, to the extent that it traverses new ground, it could have been further enriched and strengthened by the availability of other literature or empirical research relating to zoning's effect on land value. The ability to compare more directly the research of this thesis with other studies would have proven useful in confirming much of the thinking and many of the conclusions reached. This would have also helped to illuminate many of the more difficult dimensions associated with the explanation of land-value change, as affected by zoning. Wide-ranging international studies in particular, would have proven useful in comparing inter-jurisdictional outcomes, allowing independent confirmation of final conclusions, especially as they might relate to zoning and land-value change as has been documented in the 20 New South Wales examples.

The considerable literature which exists and that has been reviewed, from both the US and UK and Australia is undoubtedly useful but little research is available that directly looks at value-change experienced due to the change of zoning of the same land parcel. Nonetheless, what has been drawn upon is a vast body of literature, much of which refers to the theoretical and empirical work done in numerous reviews and studies. So, on theoretical input at least, it is doubtful that there are major "omissions" in overall external consideration terms.

7.3.2 - Limited Data Availability

With only a limited number of comparisons, aberrations in the data or the analytical conclusions, may be more difficult to detect and remedy. Another obvious data limitation was the veracity of the sales data obtained from RP Data, the on-line subscription data provider of all sales records in New South Wales. This was how all of the HCA data, used in the comparisons, was obtained. The total accuracy of recorded sales and dates is also difficult to guarantee. Nonetheless, large discrepancies and inaccuracies are improbable and are easy to detect, because of the obvious magnitude and quantum of the results and the timing of the sales.

There is also the obvious limitation of the accuracy of the data in the main rezoning examples used to arrive at the Rezoning Value Equation. Despite this limitation, the

accuracy of much of this information is confirmed by actual sales and the author's own recollections of the examples, all of which were experienced by the author personally. The main methodology for data collation was the documentation of those examples that the author had intimate personal knowledge of and could thus verify as being accurate. These detailed facts, are also all able to be confirmed through public information such as council records, publicly-available submissions, company reports and RP Data sales records. Notwithstanding, unavoidable inaccuracies may still exist with several facets of the information.

7.3.3 - Limitations of Qualitative Analysis

The qualitative analysis contained in Chapter 6 of this thesis, involved the interview of three independent market experts, whose opinions were captured in three separate face-to-face sessions and subsequently documented. An obvious limitation that may exist here, is if the views documented were not reflective of the exact views of the three interviewees. Of course, every care has been taken to ensure accuracy. Another limitation that must be made explicit is that the information shared with each expert prior to the recording of their stated opinions, was standardised but was not absolutely identical.

Should the author have intimated or hinted at the statistical conclusions of the HCA studies, prior or during the interviews, the views of the three market experts may be different to their actual views. Whilst the utmost caution was taken during these interviews of not disclosing any of the outcomes of the statistical research prior to obtaining each opinion, the author cannot categorically guarantee that the expert opinions were totally uninfluenced by the views of the author of this thesis.

Nonetheless, as the expert opinions concur reasonably closely with the conclusions of the statistical research, then this is perhaps not a highly critical factor in reaching the final outcomes. Also the results of the research were eventually shared (in 2012) with all three agents and they have unanimously expressed concurrence with the stated views as documented.

7.4 - Need for Future Research

Despite the research findings of this thesis, further confirmation of zoning's effect on land value would be very interesting to further model and such effects could be analysed at even greater depth, should a larger number of examples and larger data samples be available for additional analyses.

As the rezoning of land increases in importance, particularly in the context of a new planning system, new studies will need to be produced to further contribute to the investigation of the precise effect that zoning may have on land value. This could also lead to more sophisticated modelling techniques and new mathematical and land economic formulae, to describe and predict the effects of a zoning change on the intrinsic value of the land.

7.5 - Final Observations and Reflections

This thesis has sought to provide a fresh and new perspective on a topic which has, to date, been largely overlooked in the land economics, planning and zoning value analyses of projects generally and land specifically. It is therefore not totally surprising that rezonings to date have been embedded within a complicated system, where value change is ambiguous and difficult to quantify. This is especially significant, at a time when the important questions of city growth and population increase, are being reviewed critically in the context of creating more compact cities and limiting urban sprawl. Practical and considered town planning therefore must not only accept and embrace zoning change in a civic context but must properly have a means of accommodating, measuring and quantifying its effects. This is a critical part of any effective tactical process regarding land use and a city's ability to house, employ and provide food and recreation for its growing number of citizens, as is the case for the urban area of Greater Sydney.

The new ability to quantify planning and zoning processes, might thus become a highly-prized tool, in the overall strategic context of good city planning and city making. The

research contained in this thesis, would thus be of great assistance, not only to companies and private landowners wanting to quantify future land value but equally to centralist planners and governments needing to understand the true economic, financial and social effects of changing landuse. The Empirical Value Change Equation may well become not only an explanatory tool but rather a predictive one.

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