A TALE OF FOUR PARCELS: A STUDY OF NEW PROPERTY INTERESTS AND THEIR ON-GROUND IMPACT

Rohan Mark Bennett

1Department of Geomatics:
The University of Melbourne
Department of Geomatics, The University of Melbourne
Parkville, 3010, VIC, Australia
rohanb@unimelb.edu.au

ABSTRACT

To achieve sustainable development, governments have increasingly turned to legislating new rights, restrictions and responsibilities over land. These laws are designed to control the community’s behaviour in relation to land. Examples include the creation of tradeable water rights and the reallocation of land to indigenous peoples. Whilst the new interests aim to improve land management, they significantly increase complexity. Much research has focused on untangling the web of laws and administrative processes. To date, the focus has been the top-down requirements of government: less attention has been afforded to the bottom-up requirements of individual parcels and citizens. This paper aims to provide this perspective by presenting the results of a mixed-methodology study of four land parcels: a dense inner urban property, a medium density property, an agricultural property (dairy), and an isolated rural/recreational property. For each property, both a quantitative and qualitative studies were undertaken. Each property was visited in order to understand what type of land interests applied, how they affected the land and how they were managed on-ground. The studies provided a detailed insight into the effect of old and new land interests on individual parcels. The impact of their creation, modification and removal was assessed. The lack of integration between policy, legal and administrative systems was experienced first hand. Additionally, the applicability of interests to different places, people, times and activities also became apparent. It is concluded that the results obtained must be considered in any new model attempting to improve the management of property interests and land administration systems in general.

INTRODUCTION

To achieve sustainable development, governments have increasingly turned to legislating new rights, restrictions and responsibilities over land (UN-FIG, 1999; Bennett et al., 2007). These laws are designed to control the community’s behaviour in relation to land. Examples include the creation of water rights and the reallocation of land to indigenous peoples. Whilst the new interests aim to improve land management and equity, they significantly increase complexity. Much research has focused on untangling the web of laws and administrative processes (Kaufmann and Steudler, 1998; Ting, 2002; Lyons et al., 2002, 2004; Bennett et al., 2008). To date, the focus has been the top-down requirements of government: less attention has been afforded to the bottom-up requirements of individual parcels and citizens.

This paper aims to provide this bottom-up perspective by presenting the results of a mixed-methodology study of four land parcels: a dense inner urban property, a medium density property, an agricultural property (dairy), and an isolated rural/recreational property. First, a brief description of the research method is provided then the results for each parcel are discussed separately. The discussion focuses on describing the on-ground impact of the applicable rights, restrictions and responsibilities. The paper concludes by describing the opportunities available for improving the management of property rights, restrictions and responsibilities with respect to modern land administration systems.
METHOD

How should we organize the management of property rights, restrictions and responsibilities in a way that improves land administration at the parcel level? A mixed methodology study design involving a series of case studies was used to address this question. The case studies involved analysing small areas of land, typically a property or parcel. For each property, both a quantitative and qualitative study was undertaken. The quantitative component enabled the number of property rights, restrictions and responsibilities impacting upon individual properties to be determined. The qualitative component provided guidance on how these property rights, restrictions and responsibilities should be designed and managed.

The case studies could be undertaken in one of two ways: individual property inspections of a small number of properties or a broader survey of many properties. The first option was chosen. It was decided that it would be very difficult to determine which properties and how many should be studied. Additionally, it is doubtful whether a clear understanding of the complex on-ground system could be gained using a broad study (Ting, 2002). The selection criteria were as follows. First, basic documentation relating to the property needed to be available before commencement. Basic documentation was defined as a property title and planning zone information. Second, permission from the owners and primary users of the land to access the parcel/property was required. Third, each property needed to be unique in its location and use. A better understanding of the citizen requirements could be gained by using a range of different cases including urban land, rural land, recreational land, etc.

Four case study sites were chosen: a dense inner urban property, a medium density property, an agricultural property (dairy), and an isolated rural/recreational property (Figure 1). This was considered to be a good range of properties and also fit with the time and resource limitations of the researcher. Three properties were based in Victoria and one in New South Wales.

The ‘qualitative’ component of the studies involved a number of steps (Table 1). First, a study of the social, environmental and economic context of each site was undertaken. This involved consulting authoritative websites, government reports and newspaper articles. Second, the surrounding parcels and features of the site were studied. This involved visiting the area and recording visible features of interest. Third, the property itself was visited. Boundaries, dwellings, easements and other visible features were noted. Fourth, all available documentation relating to property rights, restrictions and responsibilities was collected. Finally, existing online and offline services for identifying interests on land were utilised. This process resulted in a very strong understanding being formed of the properties’ context, problems and related land interests. It enabled an understanding of land information and transaction issues to be gained.

Tab.1: Qualitative study for each case study parcel

<table>
<thead>
<tr>
<th>Steps</th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis of site’s surrounding social, environmental and economic context</td>
<td>Local government websites, books, government reports, newspapers, independent reports</td>
</tr>
<tr>
<td>Analysis of parcels and key features surrounding each site</td>
<td>Local government websites, State government websites,</td>
</tr>
</tbody>
</table>
The ‘quantitative’ component of the studies served a number of purposes. Along with determining the number of interests applying to the properties, it also revealed gaps in the qualitative study. The qualitative study only showed what interests could be observed on the property (and in the documents obtained from websites/owners), it did not uncover all of the interests that applied and could potentially apply to the property. The only way to discover this information was using a systematic review of local, state and federal statute books and the related administrative systems. Authoritative online databases were used to assess which statutes applied and the amount of impact they might have (Table 2).

### Tab.2: Data collected in the quantitative studies

<table>
<thead>
<tr>
<th>Data collected</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of institutions involved in the administration</td>
<td>Local Governments: various council websites</td>
</tr>
<tr>
<td>Number of offline/online information services</td>
<td></td>
</tr>
<tr>
<td>Number of interests not identified in qualitative study</td>
<td></td>
</tr>
</tbody>
</table>

The overarching process for integrating the quantitative and qualitative components of mixed methodology study is represented in Figure 2. The distinction between ‘above the line’ and ‘below the line’ components requires articulation. A title search only reveals interests ‘above the line’. These ‘above the line’ interests (e.g. ownership rights, easements etc.) make up only a small portion of the total interests that may apply to an area of land. Many exist off the title and these are considered “below the line” (e.g. planning zones, heritage etc.). There is no organized way to find these on a given property: no title to search, no single government office or identified multiple offices to visit. Instead, there are many government offices and computer systems that administer the interests. The combined qualitative and quantitative components of the study aimed to identify not only all the ‘above the line,’ but also all the applicable ‘below the line’ interests. The results of these studies are now presented.

![Fig.2: The mixed methodology design including qualitative and quantitative studies](image-url)
RESULTS AND DISCUSSIONS

148 Albert Street: Inner-City Living

Brunswick, in Melbourne’s inner north, is considered a very diverse suburb. Older first generation migrants live side by side with inner city professionals and young families. Victorian terraces abut modern imposing apartment blocks. Small laneways feed into major traffic routes. Factories and warehouses lay in close proximity to housing and retail outlets and many house students. Within this maze of built environment, pockets of reinvigorated parkland, community farms and waterways succeed.

148 Albert Street faces north and fronts Albert Street between Sydney Road and Lygon Street (Figure 3). A laneway runs along the rear of the parcel and two residential blocks abut either side. The majority of the block is occupied by a terrace house, which shares common walls with matching houses either side. The main buildings on 148 Albert Street consists of a hallway, from which two small bedrooms, a small living area, a small kitchen and a bathroom all connect. An old outhouse sits at the rear of the property but is no longer in use. The renovated kitchen and bathroom were added in the 1980s. A sole proprietor currently leases the property.

148 Albert Street is a relatively small, common, urban, residential parcel that hosts a large number of interests and issues, both legal and non-legal. Many of these are difficult to understand and equally difficult to research. It was thought that ownership information or “above the line” would be the easiest to acquire; however, even this first stage encountered complexities. The online map and address searches indicated that the property did not exist: the documents were not correctly linked, stored or represented within the new electronic titling system and online digital cadastre. After investigation it was found that the information was burdened with historical quirks and a number of documents were incorrectly stored.

After the Land Registry remedied the errors, the seemingly simple process of searching for owner information revealed that 148 Albert Street comprised a complex set of plans and titles that could not be deciphered without the help of a licensed surveyor and lawyer. The search illustrated the complexities of the land registration system even for an individual parcel. It is a system burdened with historical legal and administrative idiosyncrasies. It is only by using this digitised paper-based system that one can appreciate the impossibility of it ever encompassing all parcel-related interests, especially those relating to portions of a parcel. However, the system did eventually provide the two core requirements of a reliable cadastre: a title identifying ownership and a map identifying location. Attention is now given to interests not kept on title, those that are ‘below the line’.

The ability to source information on ‘below the line’ interests was variable. Over thirty statutes were found to apply directly to the parcel. Of these, many were well managed and easily available to the
public, even if they were managed outside the cadastre and registry. A number were found to be poorly managed from the perspective of a citizen trying to source information. The majority of these related to the roads and land surrounding the parcel rather than the parcel specifically. This finding indicates that information systems based around parcels will only satisfy a small portion of the information needs relating to a parcel. Detailed information about the parcel and the surrounding areas are still required.

Overall, an overwhelming number of the ‘below the line’ land interests identified in the Victorian statute books (620 land related statutes – c.f. Bennett, 2008) simply did not apply. Moreover, identification of the tenure, land use and development information alone provides a very good picture of the land and its utility. From here we can greatly reduce the list of applicable interests. For example, 148 Albert Street is freehold and urban residential; any interests relating to public land, common land, conducting commerce, agriculture, industry, the marine environment etc. are immediately not applicable. This framework may provide some utility for organizing land interest information and could be part of an overall framework for managing land interests.

In summary, this case demonstrates how one hundred and fifty years of land activity have complicated the Torrens system. New technologies may have helped speed up search times; however, digitization and new electronic processes have also increased the number of errors in the stored information. As shown by the initial search, Victoria’s digital cadastral map is certainly not authoritative, although the scanned plans are. The current systems used within Victoria are ill-equipped to manage multiple interests per property: the current model of scanned paper plans needs a radical overhaul if it is to accommodate an increasing range of interests. Attempting to use the current system for the registration of all new interests would most likely create further complexities rather than certainties for owners.

5a Kara Grove: Bay-side Suburbia

Historians have often used the Yarra River, Melbourne’s major waterway, as a means of discussing the social and economic landscape of Melbourne. To the north are the industrial working class suburbs and in the south, leafier bay-side housed the bourgeois. By the late twentieth century this framework had lost some of its relevance: the distance one lived from the city’s centre was becoming a better indicator of economic and social conditions. The Melbourne suburb of Aspendale sits on the bay and to the south of the Yarra River, but it remains more than twenty kilometres from the city centre. It does not fit comfortably into any of the frameworks and makes for a very interesting case study. It is part of the City of Kingston. The local economy is mixed with over 4,000 industrial sites and a number of village shopping centres. The population of 135,000 is diverse with 34% being born outside Australia. The population is ageing with more than 26,000 aged over 60, significantly more than the Melbourne average.

The property in this case study lies roughly a kilometre north of the centre of Aspendale. In this area a small strip of land, roughly a hundred meters wide, runs parallel to Port Phillip Bay on the west and the Nepean Highway and Frankston rail line on the east. Kara Grove is a small-unmade gravel road that comes off the Highway. It is lined with large Cypress trees. The grove leads to a dead-end, off which a common stone driveway provides access to 5A Kara Grove. 5A is double story single dwelling with three bedrooms and open living spaces upstairs and down. Views of the bay are available from the top level and considerably appreciate the property value. A garage connects to the dwelling which leads into a fenced off backyard which also provides access to the beach via a side fence.

5A Kara Grove (Figure 4) again demonstrates the importance of looking outside the parcel: while the property may not have been directly subject to many below the line interests it remained affected by a significant number of them. The parcel boundaries of 5A Kara Grove were irrelevant to current planning issues and road management disputes. Interests applying almost hundreds of meters away could potentially have a large impact on future land uses and value. Systems attempting to improve information provision to citizens must take this into account.
5A Kara Grove also illustrates the large amount of knowledge kept at the local level (Figure 5). Like a floodplain issue at 148 Albert Street, many of the most important issues were not listed on the title or any other registry. It was only by visiting the site and learning of the on-ground issues that one could gain a reasonable understanding of the parcel and its surroundings. Creating systems to easily capture this information from locals would be of great benefit to the government and other citizens. It could negate the need for many restrictive statutes; parcel limitations would be freely available to the public. However, in a market based system, land owners are encouraged to hide problems and potential issues relating to their land. It is difficult to see how this can be overcome in the short-term.

Finally, 5A Kara Grove again highlighted the major problems underpinning this research: the lack of a coherent system for managing land interests, compounded by poor legislative drafting and overlapping laws. The wider impact of the Road Management Act 2004 was not properly accounted for, particularly its impact on other laws. The law also led to many administrative errors at the Kingston City Council. The existing system encouraged disputation and tension, leaving administrators and legal systems to arbitrate
fractured issues. No one could take a holistic view or encourage mediated and negotiated solutions. Legislative guidelines and limitations on legislation clearly need to be a consideration for any framework improving the management of property rights, restrictions and responsibilities.

**485 Morrison Road: Life on the Farm**

Labertouche is located at the foot of the Dandenong Ranges about 100km east of central Melbourne. At the local level it is governed by Baw Baw Shire Council. The climate is usually cooler and wetter than the rest of the Victoria and has many ideal places for dairy farming. The jurisdiction includes prime farming land, towns and densely forested mountains that are the subject of the forestry industry. The Shire has a population of over thirty eight thousand people and is growing at an increasing rate. The population is expected to reach forty-one thousand by 2010.

Morrisons Road begins near the Princess Freeway. The road is unmade and in Spring its pale orange gravel contrasts with the lush green dairy grazing paddocks that it intersects. A small creek lies a few kilometers to the north (Figure 6). A reasonably modern 1970s style farmhouse fronts the road. The farm consists of roughly 140 hectares of paddocks and is bounded by Morrisons Road to the east, two neighboring farms on the northern and southern sides and Bunyip Creek in the east. Farm infrastructure (milking sheds) and equipment also occupy the land.

![Figure 6: Location of 485 Morrisons Road, Labertouche](image)

This case again demonstrates the complexities of the existing registration system. With respect to above the line interests, many of the same issues were encountered: the complex system of maps and titles tended to complicate the on-ground situation. The systems for managing above the line interests were found to contain errors and were ill-equipped to deal with the diverse range of interests existing below the line. An owner’s perceptions of his/her land can be very different from those kept in the registry. For example, the farm consists of multiple parcels and the boundaries of these parcels do not match with the existing physical fences. In addition, other parties and government agencies perceived the land and boundaries differently. These different perceptions inhibit the integration of information and, while in some cases they may be necessary, a more universal model of the parcel layer is needed. The PIP project tries to achieve this as integration between local level governments and the land registry; however, many other agencies and private bodies continue to operate very different datasets relating to parcels, properties and addresses.

The property was subject to many below the line interests, more than the inner city properties. These related to diary production, land development and environmental conservation (Figure 7). For example, to improve the yield of grass, farmers often use fertilizer, herbicides and pesticides. The use of these chemicals is governed under the Agricultural and Veterinary Chemicals (Victoria) Act 1994 and the Agricultural and Veterinary Chemicals (Control of Use) Act 1992. Many of these types of interests did
not fit comfortably into the parcel based framework: they were better viewed as spatial objects or polygons layered above the parcel. In terms of organizing the interests, classifying them according to what activity they governed (e.g. development, dairy production, and environmental conservation) appeared to be useful. However, some interests such as those relating to planning and development are relevant across many activity categories.

Fig. 7: Most aspects of dairy farming are subject to land restrictions and responsibilities

Activities such as dairy production would greatly benefit from spatial enablement, both at the individual (farm) and industry management level. The proprietors of 485 Morrison Road currently use a paper-based system to manage their farm (Figure 8). An online, map based system would allow direct uploading of chemical usage reports, milk test results, yields and other required records relating to the parcel. Paper based management maps need to be replaced. The sharing of metrics between government and individual farmers could be automated and visualized using online maps. Whilst the parcel layer would be an important component, these systems would not need to be managed by traditional land administration systems. The responsibility for managing the dairy industry and its information logically belongs with the dairy industry.

Figure 8: Paper based farm management systems

The local level was again shown to have high levels of tangible and intangible knowledge. Systems for encouraging the capture and transfer of this knowledge are required. These knowledge networks reduce the need for legislative action. The state’s policy and decision-making structures in some cases (e.g. planning) require more flexibility, decentralization and inclusion of the local level. Additionally, the knowledge held at this level must be efficiently communicated with the state level.
In summary, there are many land interests relating to farming and dairy farming in particular. It is only through experience that one can discover them and understand how they apply. However, this tends not to be a problem: many farmers belong to generations of family farmers and understand the laws inherently. Moreover, dairy farmers are generally not isolated: the existence of neighbouring farms, industry groups and government agencies means a strong network of support is available. In essence, those who need to know the laws generally do: others outside the dairy industry would most likely not be interested in their application. The laws and their management are organized around an activity (i.e. dairy production): the legal system is actually based around a set of layered activity objects (which have a spatial component) rather than parcels. There is no need to include dairy regulations on a title or deed: they apply to an activity so their location is a secondary (but vital) concern. Indeed, there appears little reason to include any business activity information on a guaranteed title, be it lavender farming, liquor retailing or yoga classes; registries are designed to manage and secure ownership interests. Nevertheless the availability of a business site licence can be a major asset, adding high value to land and premises.

23 Acacia Avenue: Coastal Wilderness

Wonboyn lies on the eastern coastline of Australia; just pass the Victorian/New South Wales border. It lies within Bega Valley Shire. Agriculture, tourism, fishing and forestry are the dominant industries. Village activity is centered on a large lake, local shop and local fire shed. A small permanent population of one hundred and fifty caters to the needs of eager fishermen and campers. Towards the end of the twentieth century the lake was declared a recreational fishing haven by the New South Wales government. It is off limits to commercial fishing to ensure that fish stocks remain sustainable. Surrounding the lake are Nadgee Nature Reserve (a World Biosphere Reserves), Ben Boyd National Park and Ben Boyd State Forest. The area is laden with conservation regulation from all levels of government.

23 Acacia Road is a property used primarily for recreational purposes (Figure 9). A gravel driveway dips immediately and forks into two. One route leads towards a two-story cottage. It sits on a stone base, has a metal roof, carport and includes decking. The other route snakes around the house and runs down towards the lake and large boat shed. A stone retaining wall runs next to the road and secures the land from slippage. The land is relatively clear of large vegetation, although many smaller shrubs exist. A dam collects drinking water and a garage is located to the east of the house.

Figure 9: Location of 23 Acacia Avenue, Wonboyn

23 Acacia Avenue provided a very unique case study. Its isolation and proximity to the coast and pristine wilderness meant a whole new realm of interests applied. New South Wales’ above the line interests were found to be a slight improvement on Victoria’s: title plans were more up-to-date and contained more information (e.g. a jetty licence). The digital titles were being used to link crown tenures to titles: this still does not occur in Victoria. Where an interest creates or removes significant value or utility to a property, and is not fixed (i.e. removable or transferable), it appears sensible to link it to the title.

Below the line interests were prevalent (Figure 10), including the same issues relating to planning and development identified in all other case studies. Again, surrounding interests, not necessarily parcel in
nature, were found to be of equal importance to those that applied to the case study parcel. Wonboyn’s community again demonstrated the power of local activity: they have significant input into what developments happen in the local environment. Additionally, they help enforce local laws.

**Figure 10:** Example of ‘below the line’ restrictions relating to 23 Acacia Avenue

**CONCLUSION**

This research provided a detailed insight into the effect of old and new land interests on individual parcels. The impact of their creation, modification and removal was assessed. The lack of integration between policy, legal and administrative systems was experienced first hand. Additionally, the applicability of interests to different places, people, times and activities also became apparent. The paper now concludes by outlining the opportunities for improving the key components of all land administration systems (Williamson, 2001) in relation to property rights, restrictions and responsibilities.

**Policy principles:** Land policies appear to work better when they are driven from the ground up and involve plenty of local consultation. While governments may have large amounts of information relating to parcels, local communities provide vast amounts of tangible and intangible information that should be utilized in land administration. If policies are created at higher levels, flexibility for local contexts needs to be embedded.

**Legal principles:** Individual parcels are affected in different ways by legislative sprawl; however, the important point is that potentially all will be affected. Legislative controls should be the last option for modifying human behaviour. It is costly to produce and administer. It tends to be designed for governments rather than individual citizens. Many of the case studies reveal how the local level is capable of regulating itself and were proactive in terms of land management and conservation. When legislation is created, it must define place, people, time and activity in uniform ways in order to promote integration and ease of administration. Finally, while many interests were found to apply to the parcels, the majority of them did not have a large impact on the activities that could occur on the property: solutions to legislative sprawl must concentrate on the problematic interests rather than on all of them.

**Tenure principles:** Traditional means of classifying tenure concentrate too much on ownership parcels. A whole new realm of interests now exists over land parcels: they may relate to different people (not owners), different places (portions of the parcel), different activities (i.e. not just alienation and transfer e.g. dairy production), and different times (i.e. applying for short periods and even indeterminate periods). New systems for understanding and organizing tenure must be flexible and incorporate this reality: even though some interests apply to all properties, different properties face very different issues. Importantly, it should be noted that only residential properties were considered (although one doubled as a dairy business...
and one historically as an oyster farming business). Had commercial, industrial and government properties been studied an even wider realm of tenures would have been discovered.

**Cadastral principles:** Cadastral systems, although modernized using ICT, are still encumbered with historical complexities and quirks. Unless property law and the administrative systems used to manage property are completely overhauled and re-engineered, the systems will become increasingly ill-equipped to deal with the majority of new interests. An extensive overhaul is unrealistic and unnecessary. The registry should concentrate on managing interests that can be owned, transferred and require government security (these may or may not relate to parcels). The actual parcel map has much wider application: it can be used in the management processes of most activities and industries (e.g. dairy production).

**Institutional principles:** While local level governments were found to have limited legislative powers, they played a significant role in each of the case studies. Similarly, local community groups, where they existed, were also found to be powerful institutions for activating projects and enforcing laws. Greater empowerment of these institutions and their decision-making abilities would appear beneficial.

**SDI and ICT principles:** A range of systems were used to access information, however, most of the information collected was still in paper-based form. Paper and the mailing systems is still the greatest means of communication between government service providers and individual citizens. Traditional land administration information was the easiest to access: maps relating to below the line interests were generally available on a piece-meal basis. The lack of organization of spatial information did not stop procedures from occurring or tasks being completed, however, it increased search and transaction times.

**HR and capacity building principles:** All properties (and therefore people) are impacted by new land interests. Because so many interests apply to all properties in the jurisdiction, it could be said that each property (and the people who use it) is subject to well over 100 interests. Therefore, there is clearly a strong need to educate individuals and wider society about the existence and nature of these interests. However, in reality a only few key interests (tenure, taxation, rates, planning zones and overlays) were relevant to all properties, then depending on the land’s location and use (e.g. business, residential, coastal, rental) a set of other interests were important. This suggests a blanket approach to community education would be a waste of resources. At any rate, in general, proprietors and occupiers accepted the need for most restrictions; it is the allocation, identification and dispute resolution procedures that are more contentious. This suggests the institutional capacity of government is a greater issue than that of individuals on the land.

**REFERENCES**


**BRIEF BIOGRAPHY OF PRESENTER**

Dr. Rohan Bennett works the Department of Geomatics, The University of Melbourne. He completed his PhD in 2007 where he focussed on the spatial management of new property rights, restrictions and responsibilities. He is currently working with the Centre for SDI and Land Administration on a number of projects and is also involved with the implementation of the Melbourne Model for teaching, in particular, the new Bachelor of Environments and Geomatics Masters programs.

**ACKNOWLEDGEMENTS**

The author acknowledges the assistance of colleagues in the Centre for SDIs and Land Administration, Department of Geomatics, University of Melbourne in the preparation of this article. We also acknowledge the Department of Sustainability and Environment, in Victorian Government for their support and also thank Public Sector Mapping Agency (PSMA) of Australia, The State Government of New South Wales (NSW), The Government of Western Australia (WA) and Moreland City Council for their guidance and assistance with data collection. The author also wishes to acknowledge that some parts of this paper are extracted from his PhD dissertation.