

# Subdivision design in evolution

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## Introduction

The investment in New Zealand housing development could not be better than right now. The demand for new and exciting subdivisions is insatiable. New Zealand is becoming a popular place to live, attracting those who love the outdoors and a safe green environment. New developments, suburbs and even whole towns are appearing. Will these new suburban designs be a positive experience for the people who live there, and how will it influence the neighbouring communities?

## A clean sheet of paper

New Zealand is a young country with fast growth. Its towns and cities have not increased in size and matured slowly like European cities, which have slowly transformed from medieval villages into large bustling towns experiencing wars, fires, epidemics and floods. New Zealand was settled 160 years ago when town planning theories were in their infancy. The early surveyors and land developers had a clean sheet of paper when it came to designing the country of the future. They had the perfect opportunity to start afresh and leave old poor ideas behind.

## Development of rural land important

In reality this was not always the case. The development of rural land was particularly important in determining the future shape of our cities. The subdivision pattern, the street layout, and the location of different land uses and facilities, which are determined at that time, persist for many decades. More mature cities in the world are developing by changing and redeveloping established areas. New Zealand cities are still growing mainly by spreading at the fringe, in what we call greenfield development.

For us, the modern breed of subdivision designers, it is necessary it look back at where we have come from, how the designs of the past implicate the wider community, and where this will lead us in the future.

## Early design trends

Early in the 20<sup>th</sup> century two great inventions were taking form before our eyes, the aeroplane and the garden city. The first gave mankind wings to leave the ground, the second provided a better living place once we came back down to earth. Both of these ideas originated from the talented Leonardo da Vinci.

The garden city is the great concept of the last recent times, and the basic theory has been applied to the majority of cities around New Zealand in one form or another. Dunedin, Christchurch, Wellington, and Auckland were all based on this concept of a town centre with a green belt separating the residential housing components.

The early New Zealand towns were located around, or in close proximity to ports, harbours, rivers, and lakes as these provided access to transport links and hence trade. As time progressed and over land travel became more available towns sprang up along these routes to provide service points.

## Familiar elements of urban design

Although the settlement of New Zealand gave early designers a chance to start afresh, it was not easy to change the habits that had been developed over centuries. The first subdivision designers were expected to reproduce familiar elements of urban design from their home towns in often unfamiliar surroundings. Auckland was designed in 1840 by colonial surveyor, Felton Mathews, who based the design on his hometown of Bath, an example of Georgian urban style.

Mathews when first designing Auckland attempted a logical approach 'consulted the peculiar character and formation of the ground'. He was attempting to avoid the difficulty faced by most of New Zealand's early designers of imposing a grid formation of streets, creating a familiar element for the early settlers, on the hilly topography of New Zealand. Mathews adopted the crescent form of roads to attempt to fit the topography.



Looking towards the route of the unformed road shown on DP 2622 from the southeast – the red line identifies the road position. This is now a track called the Zig-Zag as it is impossible to construct a road on this terrain.



A copy of DP 2622, Clifton Hill, Sumner, Christchurch. The highlighted area shows a road created.

The grid pattern of streets, widely used in English towns generally, could not be adapted with the same success. Most older areas of cities have street layouts located where the grade is very steep and often the roads cannot be formed. This occurs particularly in parts of Wellington, Dunedin and even Christchurch, despite being predominantly on flat land.

The surveyors in colonial New Zealand attempted to design the proposed towns and cities with reference to the prescribed metropolitan models, particularly of the Victorian town and city. They attempted to subdue the new environment, transforming the foreign into the familiar.

Grid street patterns and the garden city model were familiar to the settlers as these ideas had originated from the European towns. The early government was significant in forcing these ideas into the new designs. A Bill brought before parliament in 1875 by Charles O'Neil – which became the Plans of Towns Regulations Act 1875 – identified among other things that roading patterns should, as far as the natural features of the land would permit, be laid out in straight lines and right angles to each other. The 1875 Act did not introduce the grid-iron system of street layout to New Zealand, but was certainly instrumental in extending and perpetuating it in many of our

towns. This provision was incorporated in all legislation relating to subdivision design up to and including the Land Act 1924 (7).

Transportation and communication were paramount in the design and location of the early towns, and following expansion as the country was settled. Similar to Australia, New Zealand has only been exposed to major development in the last few hundred years. Therefore a large proportion of development has taken place since the introduction of mechanised transport. This has had a relationship on the development of the towns and cities, in that they have relied on these forms of transport for access. Studies in Australia have found that the outer suburbs contain high proportions of families with children. Migrants concentrate in inner suburbs and low-status outer suburbs, and high-income groups locate mainly in particular sectors of the middle and outer suburbs.

Another other major influencing factor on the subdivision design is the impact of local and central government policies. When the first settlers arrived the government had full control of the impending development. An early reference to the Land Registry Act of 1860, only operative in the Auckland district, suggests that subdivisions at that time were solely the function of the state. Since

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then, local government have had an increasing role to play in the nature of the town and city. The following outline lists the legislative history concerning controls on development.

- The Municipal Corporations Act 1867 authorised local councils to make bylaws dealing with the subdivision of land to regulate widths of roads, alleys and courts, and to provide front side and rear yards.
- The Land Act of 1892 provided more minimum restrictions, however did not require reserves to be set aside. This was enforced in the Land Laws Amendment Act 1912, and subsequent Land laws Amendment Act 1920, which required those reserves to be vested in the crown upon deposit.
- The Municipal Corporations Act 1920 required a plan of subdivision to be approved by council before development commenced.
- The Land Subdivisions in Counties Act 1946 came about to control the boom in building on the fringes of towns and cities after World War II.

Various amendments have since been passed, all giving control to local government, until the Local Government Act 1974. This act summarised many separate acts in force to this date. The Resource Management Act 1991 and subsequent amendments provide further refinements and controls for local government.

### Present trends

Developers are now looking for a point of difference with which to put their development ahead of others in the market place. As mentioned earlier the origins of New Zealand subdivision design have originated from overseas. The recent boom in land development has been brought on by a higher than average net immigration. This immigration is made up of returning expatriates and immigrants who have money to spend. Developers are looking to create subdivisions with overseas influences, offering some familiarity in surrounds, just as for the early settlers. These development ideas from overseas have made their way to New Zealand.

### Gated communities

The gated community is a development taking hold around the world. A gated community separates the development from the surrounding area, usually by means of a perimeter fence and a locked gate with access only for residents or their guests. The general public are forbidden entry as legal roads stop at the front gate. These developments offer security, and an elite sense of achievement in getting into the gated community.

Gated communities tend to offer something a typical New Zealand development does not have. In Christchurch the Styx Mill Country Club offers people a swimming pool, gym and tennis court complex, while the Hampton Grange development offers a private court and gardens.

It has been well documented that gated communities in the United States have grown to the point where such developments now account for roughly 11 % of all new housing, and provide housing for about four million people. However these developments are not just an American phenomenon. This form of housing has also seen huge growth in South America, South Africa, the Middle East, and Southeast Asia. However, in Europe, Canada, Australia and New Zealand, development of gated communities is relatively new, although almost every country now has some examples.

One reason gated communities have become popular is because people are insecure about society outside the community. This is particularly relevant in overseas countries. The massive growth of



An example of an old street layout, mainly road, with fences on the road boundary creating a corridor for vehicles, and not very pedestrian friendly.

gated community developments has been one of the major urban changes in the 1990s in the suburbs of Buenos Aires. Today, Argentina's capital city has approximately 350 gated communities, covering 300 square kilometres of land, and having a population of about 50,000 permanent residents.

### Problems for town planners

Such developments create a lot of problems for town planners and local governments. This type development requires large amount of land for the golf courses and country clubs. The land is only available on the fringes of the city, which tends to be where the slums made up of the poorest and more recent immigrants to the town are located, therefore creating a striking contrast between luxury gated communities and the surrounding slums. Residents of gated communities are often reluctant to pay their share of local taxes, arguing that they already contract private companies to provide them the urban services they need.

Conflicts between neighbours and the general feeling that gated community residents do not want to know their neighbours, suggests the gated communities do not represent a new form of community living.



An example of a new urbanism street with berms, no front fences and landscaping, creating a more pedestrian-friendly environment.

While controversy reigns over this concept, the demand must be there as the developers are providing these new communities. Time will tell for the success of these developments.

### New urbanism

Another world trend is the new urbanism movement. This is a positive reaction to urban sprawl and fringe development. The fundamental concept is based on principles of planning and architecture which work together to create human-scale, walkable communities.

New urbanist developments create walkable neighbourhoods, as opposed to large single use developments connected by streets hostile to pedestrians – fringe and sprawl development. Fringe developments are based on the reliance of mechanical transport, and create streets hostile to pedestrians. This occurs with fenced off road boundaries creating a corridor of which vehicles have the dominant use.

There are three basic principles to new urbanism –

1. The region
2. The neighbourhood
3. The block

Region towns and cities require definite boundaries from the rural surroundings. The neighbourhood should have a centre and be small enough in size to encourage walking. Research has shown people will tend to drive if the walk is greater than five minutes roughly equating to 600 metres. Ideally the block should be made up of buildings that provide a consistent and understandable edge – shop fronts opening on to the street, houses visible from the roads, no fences along road boundaries and garages at the rear hidden away.

New urbanism design has applications over a wider community. These include in-fill development, transit-oriented development,

transforming the existing suburbs, and new subdivisions. The overall belief is that of the power and ability of traditional neighbourhoods to restore functional, sustainable communities.

### Future trends

Attempting to determine the subdivision designs of the future is difficult if not impossible. Subdivision designs are influenced by a variety of contributing factors – topography, transportation to and from the area, current market trends such as gated communities and new urbanism, along with local government policies. Each of these has an effect, but the effect may be different for a particular economic climate or location. As such it is the author's view that there is no such perfect model. Ideally, concepts based on existing developments should be applied to the designs of the future, therefore creating specific designs.

### Conclusion

Currently new urbanism is the 'trendy' design concept being used by council officers, surveyors and landscape architects alike, to explain the concepts behind new developments. Evidence of new urbanism is apparent in the majority of new developments, with landscaping and fencing covenants opening up the road spaces, small parks and reserves dotted around communities, allowances for public transport, storm water treatment areas being utilised as recreating places etc. This trend appears to be creating developments that are pedestrian friendly, ecologically safe, and that will be enjoyed by the inhabitants over the years to come. The concept of gated communities is new to New Zealand and as such untested. Time will tell as to the success of this type of development, and if it fits in with our culture.

There are many influences affecting the final design of subdivisions, from market forces, economic climate, local government policies, developers preferences, the list can go on, but there is no such thing as a perfect model.

The subdivision design process can be likened to a mediation event. The most complete design occurs, when all parties come away feeling slightly dissatisfied. In this situation the developers, local government, and affected parties have all had to compromise in some way. This ensures no one party has complete control of the outcome, and hopefully ensuring the end result is something all can be proud of in the future years. It is the job of designers to look at the past and present in order to create the communities of the future.

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