PUTTING PEOPLE FIRST

AN ARCHITECTURAL APPROACH TO IMPROVING QUALITY OF LIFE TO CREATE A SAFER COMMUNITY IN AN AUCKLAND SUBURB

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARCHITECTURE PROFESSIONAL.
UNITEC INSTITUTE OF TECHNOLOGY, 2017.
ABSTRACT

Crime in Auckland has increased in recent years, and is becoming a more significant problem for Auckland’s residents, as well as for the governmental agencies charged with protecting the peace. While the statistics for some types of crime have been relatively stable for example car theft, burglaries and ‘white-collar crime’, other types of criminal activity including drug-related offences, personal violence, and crimes that affect the sense of people in the city and their security indicate trends which suggest that Auckland is becoming a less safe, more unstable urban environment. This may be partly the result of rapid economic and population growth, the development of new neighbourhoods where residents are less well-known to each other, and the changing form of urban societies in terms of more complex social and economic patterns as well as more diversity in urban communities. In this evolving context, it becomes vital to make cities safer places for existing and new residents.

This research project critically analyses the principles gathered from the scholarly work of Jane Jacobs, other notable authors as well as the Crime Prevention Through Environmental Design techniques which are applied in other countries to reduce crime and their relationship to architecture in New Zealand context. The project also looks at how lower-level crime has an impact on one’s quality of life and wellbeing. A number of different research methodologies are utilised in this study including literature review, precedent studies, site analysis and quantitative research conducted by various organisations across Auckland.

The suburb of Henderson is an area in Auckland which has experienced significant levels of crime yet at the same time, facing population growth. The design intervention will be therefore be firstly master planning a site in Henderson using the selected Crime Prevention Through Environmental Design techniques followed by focusing on one part of the site for a mixed-use building design proposition. The project explores and pushes the boundaries surrounding existing building typologies and how appropriately increasing density as proposed by the Auckland Unitary Plan and mixing uses can lead to a safer and more secure environment. Currently, there are no architectural projects that have applied the Crime Prevention Through Environmental Design theories in New Zealand. Although the project has been developed specifically for Henderson, insights from the research and the research approach utilised can be employed in other parts of the country affected by crime and similar circumstances.
Many people have been part of this journey for whom I am very grateful. Firstly, I would like to thank my supervisors David Tuner and Cesar Wagner for their support and guidance throughout the year. I would not have been able to achieve this level of work without their constant feedback and also, for allowing me to tackle an issue which architecture alone cannot solve and steering me in the right direction when needed.

Secondly, my family for their endless support throughout the years of study and continuing. Thank you for believing in me and always guiding me on the right path whenever it was needed. None of this would have been possible without you.

Finally, thank you to all my friends for their constant help and motivation throughout the Bachelors and Masters degree. Your opinions and input did help shape this project better than what it would have been otherwise.
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1.0 INTRODUCTION
1.0 INTRODUCTION

This project is inspired by one of the leading topics in the news recently, crime, which has become a significant part of one’s daily life and is causing unease in the communities. The central questions, which arose when considering the project, are summarised as: how could built form assist with reduction of crime in a suburban area where crime dominates it; how can people utilise their private space to its maximum and feel safer at the same time? Beyond these fundamental questions, it is necessary to ask: what role does density play in this process and how does it impact one’s day-to-day life? Moreover, in the detail of urban planning, can mixed-use developments increase foot traffic to create safer streets?

Looking at Auckland’s existing infrastructure, it can be said that majority of the streets are designed in a way where the top priority is given to vehicles. This restricts the potential for pedestrian interaction hence resulting to lack of communication and less natural surveillance, creating conditions in which crime can occur more quickly. The current situation ultimately became the driving force for this project followed by data gathered from various sources which showed that Auckland is gradually increasing in crime and safer communities need to be created to assist with the reduction of offences.
The presence of crime in various forms has been a characteristic of urban life in New Zealand for most of our history. It has also been the subject of numerous studies in cities elsewhere, notably the 1985 report *Utopia on Trial* in the UK by Alice Coleman\(^1\), and research by Bruce Judd and others in New South Wales in the 1990s and 2000s.\(^2\) AHURI, the Australian university-based government funded urban research group have produced regular detailed reports on crime in Sydney, where multiple factors relating crime to inner-city conditions, gang activity, and ethnic influences have been analysed all to reducing the impact of the offence on otherwise ordinary communities.

In many cases, the combination of low levels of employment opportunities, welfare dependency, and other social conditions that encourage “ennui” (hopelessness) and social dis-engagement have been related to the high-density housing design that characterises these communities. In the worst examples “public or council/city housing estates” have been written off by municipal authorities because they are “no-go” areas for police. This means that they are beyond control: properties cannot be maintained, drug and crime activities are not prosecuted, rents cannot be collected, and then essential services such as water and power are disconnected, and the housing becomes a ghetto. Eventually, these projects, often built in the 1970s and 1980s, are forcibly evacuated, demolished and redeveloped, and the remains of the original communities dispersed to other housing. The Hulme housing project in Manchester, UK, is an example where this process has been employed and numerous blocks in Melbourne such as the 18 storey Napier Street block and Sydney both have followed the same disciplines.\(^3\)

Auckland, with no significant tradition of high-density public housing, has not experienced similar problems of serious crime in this context, but a comparable pattern of increased criminal activity exists particularly in some areas. Re-housing economically disadvantaged communities in high-density public housing schemes, from overseas experiences,

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this appears to be a recipe for providing the sites for criminal behaviour; in Auckland’s expertise, crime seems to be able to expand in low-density suburbs as well.

For distinct reasons, the Auckland Unitary Plan 2016 (and all other strategies for the city’s growth over the last 50 years) has adopted a policy of housing intensification. In the main relevant literature on urban planning, this plan is supported in the interests of sustainability, urban economic efficiency, and better community cohesion. However, these higher density developments need to be designed to prevent the expansion of criminal activities. If this is a likely consequence of this policy, it should also aim to remove, through intelligent design, the increasing levels of crime being seen in recent years.
1.2 AIMS AND OBJECTIVES

This project considers progressive ways to provide a betterment in lifestyle for the growing suburbs of Auckland which is gradually being influenced by crime. The research project aims to provide a safe and secure environment for the growing population and be one of the first of its kind in New Zealand addressing the issue of increasing lower-level crime. The key objectives for this project are:

**Social Change** – Architecture alone is not able to solve socio-economic issues however it can mitigate crime through known crime prevention techniques. One of the primary goals of this project is to consider progressive ways of crime reduction in growing cities like Auckland where a safer environment is desirable.

**Respond to Site and Surroundings** - To investigate further, it becomes vital that the site responds well to the research project and is close to the town centre and the average range of services and facilities. This will demonstrate the potential contribution of the proposed community to its neighbourhood and existing amenities. It becomes necessary that the project should have a positive impact on the context in which it is located creating an overall constructive environment.

**Increase Natural Surveillance** – Natural passive surveillance is essential in this project, as it is important for the community to influence, through its visible presence in the neighbourhood and what is happening outside. The final design outcome needs to be a design in a manner which maximises visibility of people, parks, building entrances: doors and windows that look out on the streets, and parking areas, see-through barriers, pedestrian-friendly sidewalks and streets.³

**Increase Foot Traffic** – Many notable authors such as Jane Jacobs have mentioned that an increase in foot traffic increases ‘eyes on the streets’ creating safer streets. An increase in density will cause increase of foot traffic creating a more secure environment.

**Improve Quality of Life** – Crime and fear of crime have a tremendous impact on one’s day to day life. By proposing an improvement to the physical environment, it is expected that the quality of life experienced will gradually improve. In urban context, this outcome is achieved by enhancing public spaces which encourage social interaction.

**Be the first of its kind in New Zealand** - Currently, no housing projects in New Zealand address the issue of crime in terms of established anti-crime design techniques. This project is a proposal that tests them out to verify if these techniques are the answer or a possible solution to the city’s increasing crime problem.

1.3 ARCHITECTURAL RESEARCH QUESTION

HOW CAN AN INCREASE IN DENSITY, AS PART OF A POLICY TO INTENSIFY THE CITY FOR SUSTAINABILITY REASONS - ASSIST WITH CREATING A SAFER COMMUNITY IN AN AUCKLAND SUBURB?
1.4 SCOPE AND LIMITATIONS

The extent of this project involves creating an environment with reduced crime levels in an area of West Auckland, which is at present highly influenced by crime. The architectural approach for this issue, consists of a mixed-use community with its primary focus on Crime Prevention Through Environmental Design strategies. The main impact will be shown in the spatial layout of the dwellings, as well as natural surveillance and incorporating different building typologies. Key contributions of the project are demonstrated in improving the quality of life by creating a safer environment and providing a better sense of community.

1.5 METHODOLOGY

A number of different methodologies have been employed in this study. Site analysis was undertaken which involved evaluating the existing housing condition, foot traffic at various times of the day, surroundings and their conditions which were directly adjacent to the site, levels of privacy the existing dwellings have to the main road were analysed. Personal experience and observation during multiple site visits led to a quantitative research method where data from various sources was gathered on the increase in crime in Auckland and how that impacts one’s well-being and quality of life.

Through site analysis, data provided by GIS and photos taken during site visits, the research project continued by investigating the relationship between public and private spaces within and around the area of study. This analysis was helpful as that identified the main routes and destination people living in the test site use, and the amount of natural surveillance currently provided.

With this research, several issues were identified which indicated the sense of unease and inadequate quality of life in the community. The grocery stores not being allowed to sell alcohol and with notices saying ‘no cash or drugs kept on premises’, retail stores having security grills on all their windows as well as security systems and cameras, houses that have gated fences and protective enclosures, and many more.
2.0 THEORETICAL FRAMEWORK
As Garofalo conveys in his book *Fear of Crime*, crime can represent and be a response to many emotional states, mistrust in people, anxiety, fear of strangers and concern about deteriorating communities or declining moral standards. Garofalo defined the fear of crime as ‘an emotional reaction characterised by a sense of danger and anxiety elicited by perceived cues in the environment that relate to some aspect of crime for impacts on one’s well-being’. This definition has a significant application in a design that helps reduce crime and fear of the offence.

In a safe environment, people have the freedom to pursue daily activities without fear of politically motivated, persistent or large-scale violence. This has a tremendous impact on one’s sense of well-being and how people function in day-to-day life. Fear of crime is often related to one’s safety, especially protection from violent crime and harassment in public when alone, particularly after dark. It has an impact on one’s psychological thinking and has the potential to keep people away from public places such as streets, parks, plazas and public transit areas. This can cause a substantial barrier in one’s day to day life.

There are several aspects to the fear of crime— a summary that identifies issues affecting the design of the built environment includes:

- Socio-economic costs and reduced quality of life
- Spatial avoidance
- Deterioration and neglect of public spaces

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5 "Safe and Secure Environment," (United Institute of Peace, USA), 6.
7 P.M.Cozen, *Think Crime!* (Western Australia, Praxis Education, 2014), 71
Spatial avoidance is also said to have an impact on day-to-day life as it can reduce the individual’s and community’s use of public space semi-public space as well as other communal facilities. It can be any space, which is easily accessed by the public such as parks, beaches, neighbourhoods and town centres. For some people, spatial avoidance can also lead to social isolation and reduced level of physical activity. This can affect the quality of life experienced by an individual; Figure 3 demonstrates that if there is a reduced number of people in public spaces due to fear of crime, it results in a decrease in natural surveillance hence resulting in higher levels of crime.

Along with neighbourhood, footpaths and pavements play an important role. According to Jane Jacobs, in her seminal text *The Death and Life of Great American Cities*, they serve three primary purposes. The first is that they provide safety when footpaths are used continuously, and there is a certain amount of foot traffic. Jacobs demonstrates the importance of buildings orientated to the street and how they should not be visually cut off from footpaths through lack of windows, or excessive planting and anything which has the potential of becoming a visual barrier. Her second point is that footpaths should be used as a meeting place to allow people to meet and converse when they are using the area. Thirdly, footpaths in the USA urban experience are the place where children spend most of their time growing up. The New Zealand suburban experience is more related to private open spaces such as front and backyards or gardens. The public street is less commonly used in the childhood pattern of growing up.

According to the 2016 survey done by Professor Geoff Bridgeman from Unitec, more than half of the 159 -people surveyed were afraid to walk on local streets after dark, and more than half of the parents were reluctant to let their children go to the local dairy, school or park by themselves. This resulted in parents being unwilling to let their children travel alone and in turn, this reduces the potential for connections between communities and neighbours. Access to community resources also becomes limited and restricted due to the considerable influence of fear. Bridgeman mentions that “people feel the safest when their experience of controlling their life is increased. This includes having an active family, better community links as well as breaking down cultural barriers, a comprehensive education system, employment, child support funding and support for those with disabilities.”

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8 Ibid., 74.
9 Ibid.

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Research in community psychology has identified that a sense of community is a core component of social capital and can be defined as “the sense where one was part of a readily supportive network of relationships upon which one could depend”.

Berry and Welsh found that a sense of community has a positive relationship to both physical and psychological well-being in some people who participated in the survey. There are several ways in which a sense of community promotes well-being. Firstly, the social support accrued through higher levels of sense of community can enable the fulfilment of the basic need to belong. Secondly, sense of community promotes increased physical and mental health by facilitating increased health-related behaviours and promoting better access to services and amenities. These are crucial factors to consider and take into account as increasing people’s sense of community may possibly have measurable and substantial economic benefits across the society by decreasing downstream burden that low levels of sense of community cause on various outcomes.

Seven of New Zealand’s largest cities regularly commission a survey of their citizen’s perceptions of their “quality of life”, using Colmar Brunton, generally regarded as New Zealand’s most expert opinion poll analysts. The 2016 Quality of Life report found that 51% of the respondents from the seven cities in New Zealand, surveyed felt unsafe around people in their area due to their behaviour, attitude or appearance and considered it a problem. This can be compared to the 2012 and 2014 surveys where 45% of the people surveyed felt unsafe from the seven cities.

In the 2012 and 2014 report, it was addressed that nearly half of the people surveyed felt a lack of sense of community in their neighbourhood where as 42% suggested that the common reason behind this was busy lives followed by 41% suggesting that neighbours do not talk to each other and lastly the preference of socialising with friends and family instead of neighbours. Comparing this to the 2016 report, four in every ten-people agreed that they experience a less sense of community with others in their neighbourhood. The report also showed that the more New Zealanders earn, the less sense of community they experience due to busy lives. Putting this in Auckland perspective, 59% of the people surveyed felt strong

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12 Ibid.
13 Ibid.
or very strong sense of community in their neighbourhood however it dropped to 51% as the household income increased.\(^\text{16}\)

A large group of people were surveyed for the study *Perception of Community Safety in West Auckland*. Close to 40% of the people surveyed defined feeling safe included knowing their neighbours, knowing the community and where to go for help if needed, being able to enjoy parks and walkways, and people supporting each other. Feeling safe was a “state of mind, the condition of a happy life.”\(^\text{17}\) Some people mentioned that they do not let fears dictate their daily life, but for others being in a safe and secure environment was essential for their peace of mind. This perspective was firmly held by people of Asian ethnicity and the least by people of Pacific ethnicity.

The definition of feeling unsafe for a third of the people surveyed involved the feeling of being worried, vulnerable and scared when a person was outside. This also included feeling likely to be harmed, a particular concern for people aged 16 – 34 years as 53% of the people surveyed within that age group had a similar perspective.

Participants from various groups reported that “feeling disconnected from their communities or having poor relationships with neighbours was a significant factor in decreasing feelings of safety.”\(^\text{18}\) One of the participants from a Pasifika Focus Group mentioned “My neighbours, we only communicate by smiling we never know the names, like never know what their job is.”\(^\text{19}\) This is an important statement as a sense of community starts by knowing the surroundings and people in the neighbourhood.

\(^{16}\) Ibid., 98.
\(^{18}\) Ibid., 24.
\(^{19}\) Ibid.
The report confirmed that the Auckland City Council’s *Public Perceptions of Safety from Crime in the Auckland* Report in 2012 stating reasons for feeling unsafe remained fundamentally the same for West Auckland in 2016 suggesting no improvement in the situation. The results also indicated that youngsters (aged 16-34) were more worried, vulnerable or scared that they were more disconnected compared to the older generation who knew the community better.  

Along with that, factors which were negatively influencing the perception of safety included lack of safe pedestrian crossings for children travelling to and from school, the impact of speeding cars, lack of street lighting, and areas of low visibility including walkways.  

Nightfall made a small but significant number of people feel unsafe due to ‘poorly lit streets’ and ‘seeing youth roaming’.  

The participants were also asked to identify the times they felt the safest in their community, 24% of the people identified that supportive neighbours make them feel safe. Support has a different meaning for each person, for some it meant people are looking out for them, letting them know about any suspicious activities in their absence and being there to help in case of an emergency. For others, it means having friendly or approachable neighbours who greet one another.

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20  Ibid., 31.
21  Ibid., 20.
Figure 6: Team Work
2.3 KEY CRIME PREVENTING ELEMENTS THAT CONTRIBUTE TO A SAFE AND SECURE SPACE

Over the years, it has been established that criminal behaviour can be influenced by the design of the physical built environment. Adapting Crime Prevention Through Environmental Design skills can reduce opportunities for penal or anti-social activities, personal safety and perceptions of safety are improved. There are four primary principles which can be adapted to the neighbourhood design to create a safer and more secure environment.

2.3.1 Mixing of Uses

Crime can be deterred through ‘eyes on the streets’ that is, people going about their everyday businesses – making a place more secure by populating it. Having a broad range of activities throughout the day indirectly promotes natural surveillance and increases the use of public spaces.

2.3.2 Natural Surveillance

This principle considers maximising natural surveillance for people as well as the property. It focuses on eliminating isolated areas to aid in deterring crime and increases the chances of the offender and victim being seen. Good natural, artificial lighting and maintained vegetation plays a significant role in physical surveillance. It becomes vital that dwellings be designed in a way that visual surveillance is not blocked and trees and fences should not provide hiding spaces. The leading cause of criminal and anti-social behaviour is the idea that criminals can operate and travel to and from locations without the fear of being seen. The sides of a building and its surrounding spaces should be able to be overlooked by people using the space or people passing. The building and spaces should be designed to allow surveillance ‘outside’ from ‘inside’ and vice versa.

Figure 7: Natural Surveillance Generates Street Life and Better Connections

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23 Ibid.
2.33 Access Control

The success or failure of a place as part of a sustainable community is influenced by the nature and quality of its access routes, particularly to local and wider services and amenities. Very few relationships can undermine vitality, many of them are underused or poorly thought out which increases opportunities for crime to occur. It is also known that, crime and anti-social behaviours occur frequently when pedestrian routes are poorly lit, indirect and away from traffic and surveillance. On the other hand, a well-designed movement framework will consist of direct routes that lead people safely to the places they want to go by various means of transport and catering to all age groups as well as individuals with disabilities.

2.34 Sense of Ownership: Showing a Space is Cared for

Encouraging residents and users of places to feel a sense of ownership and responsibility for their surroundings can make a significant contribution to crime prevention. The uncertainty of the property’s ownership can reduce accountability and increase the likelihood of crime and antisocial behaviour going unchallenged. When responsibility and sense of ownership increases crime is more likely to be detected and responded to. Places which convey a strong sense of community and belonging and are being cared for are more likely to have lower levels of crime.

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25 Ibid.
26 Ibid., 26.
27 Ibid.
28 Ibid.
Aside from crime preventing techniques, the fundamental goal for a building is to create a sustainable indoor environment for its users. A better-designed space will create an indoor environment impacting positively on one's health and well-being. Pushing this idea forward, to what extent does architecture have the duty to ensure that building occupants are healthy and happy? The premise of this question is recognition of the value of people – focused design: design that prioritises the human dimension. The understanding of the relationship between health, well-being and built environment is growing in both research and practice. ‘Wellbeing’ is a comprehensive term that encapsulates a hierarchy of needs that includes physiological, psychological, social and personal needs. For a built environment, this implies an integrated, interdisciplinary approach that relates to attention to design, operation and occupant behaviour. In context to the urban surroundings, a healthy city includes planning that promotes walkability as part of the growth in public health problems.

The built environment can encourage healthier choices and enhance user experience. The physical environment also influences one’s health. In an RIBA survey conducted in 2013, it was reported that people living in the nine largest cities in England would be more encouraged to walk if there were safer designed pathways, more attractive public parks and green spaces. With policies that promote better health, social cohesion is enhanced simultaneously. Studies have found that where places foster well-being, people tend to be more creative, loyal and more productive.

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30 Ibid.
31 Ibid.
32 Ibid., 7.
Crime, fear of crime and anti-social behaviour have a significant impact on the quality of life experienced by an individual. This determines where people choose to live, work and send their children to school. Crime can also have a major effect on the social, and economic viability of the neighbourhood. Creating safer and more sustainable communities enables people to walk more hence reducing traffic congestion as well as pollution. For most people, it also creates a better quality of life. A neighbourhood with amenities within walking distance creates “eyes on the streets” during most parts of the day. Collective surveillance ostensibly deters criminals.

Various theories in urban planning have recognised, and to some extent, addressed these issues. In some cases, particularly European cities such as Amsterdam, an accurate local theory has been developed to respond to existing site characteristics. In Amsterdam’s case, the “woonerf” approach to street design, which protects pedestrians, allows public spaces (shared spaces) to function as playgrounds, and obstructs criminal activities. Woonerfs have contributed significantly not just in improving the quality of the built environment in the Netherlands, but also in reducing street crime and the fear of crime in residential areas. This has been achieved by increasing neighbourliness, lessen the fear of ‘stranger danger’, reduced isolation amongst older people and by increasing passive supervision from the streets. It is believed that if the residents are provided with a sense of ownership of the area, it has an impact on their quality of life.

36 Ian Colquhoun, Design Out Crime (S.l.: Taylor & Francis, 2016),139.
37 Ibid.
In the USA, a planning theory known as New Urbanism stated that there are two movements in the architecture and urban planning communities. The first one commonly known as ‘neo-traditional’ focused on using urban design to give people a sense of community. The neo-traditionalists believed that the loss of ‘place-less suburbs’, caused all sorts of social ills, ranging from crime to teenage suicides. They recommended design features such as sidewalks, front porches and other communal areas all aimed towards maximising social interaction.38

The second movement considers the relationship between land use and transportation. The modern suburbs have made people feel more dependent on automobile compared to anything else. This also led to more pollution, obesity and other social illnesses. Some of these developments in theories of city planning made connections to parallel disciplines. For example, in the book *Crime Prevention through Environmental Design*, (also referred to as CPTED) Greg Saville and Gerry Cleveland from the Civitas Corporation suggest that 2nd Generation CPTED is a new form of ‘ecologically sustainable development’ on traditional CPTED design principles but with resident participation and shared responsibilities for management and maintenance. They advocate small, site-specific human-scale neighbourhoods that are located close to work, schools and other facilities for young people.39

A study published by The University of Pennsylvania Law Review examined eight high-crime neighbourhoods in the city of Los Angeles, USA. These were residence-only, commercial-only and mixed-use only areas. It was found that the commercial only areas had the highest crime rates – 45% higher compared to residents-only blocks. The research also stated that when commercial–zones incorporated residences as well, there was a notable drop in crime of 7%.40 It is said that people feel a greater sense of community, ownership and care for neighbours where they live. Modern design solutions are not enough to solve problems of crime, what is needed is a ‘balanced community’ regarding age, profile, culture, and tenure with an appropriate range of local facilities located in the near distant such as schools, shops and meeting places.41

Crime prevention techniques using the CPTED principles have been adapted successfully to areas around the world. Poundbury in Dorchester, in the UK, is a New Urbanist project with highly neo-traditional housing design by Leon Krier. It has walkable neighbourhoods which mainly


39 Ibid.

40 Ibid.

41 Ibid.
consists of terraced housing with higher density compared to traditional layout of single and duplex housing found in the UK. With many of the houses facing the street there is more natural surveillance, however due to the building typology being terraced housing the parking is provided in garage courts. A parking area separated from the houses can become vulnerable to burglary; although, in Poundbury, the danger is lessened through the placement of a small number of houses which overlook the parking.\footnote{Ian Colquhoun, “Safe and Sound Creating Secure and Vibrant Communities from the Outside In,” Residentialarchitect.com, June 17, 2005, accessed July 19, 2017, http://www.residentialarchitect.com/practice/safe-and-sound_o.}
A topic that is frequently mentioned when discussing lower-level crime and architecture is the significance of the gated communities and crime reduction. Although gated communities provide the ability to create a safer and more private realm they also provoke more fear accompanying them. Research in the book *Creating and Crossing Boundaries in Ethiopia: Dynamics of Social Categorization and Differentiations* by Susanne Epple suggest that some of the benefits of gated communities consist of having personal safety and security, privacy, reduced traffic and pedestrian access, separation from unwelcome strangers and much more.  

Having said that, gated communities in other countries such as the USA are often bounded by legal conditions that control lifestyle and social conditions within the community. Gated communities were initially perceived as an exclusive “members only” club and later viewed as a bastion to keep the ‘barbarians’ from the gate. This demonstrated the division between gated communities based on social status versus others motivated by the concern of security.

In a wider urban context, gated communities are known to isolate themselves from its surrounding creating a false barrier between the community and the outside world.

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Due to the shift to apartments being relatively new in Australia, some design issues have been addressed recently, to set proper standards for the expected transition to higher density typologies. In Victoria, for example, long internal corridors with minimum or no natural light, single aspect south facing apartments, poor natural light within the apartments are identified as unacceptable; also, contemporary design guidelines require improved quality outlook spaces from all apartments and real private external spaces such as balconies. Many of the new regulations relate directly to one’s health and well-being of the occupants.

Issue 1: Daylight and Sunlight

Access to natural light is essential for one’s health and well-being. The amount of light that enters the apartment has a potential impact on the quality of life which an individual experiences. Sunlight provides radiant heat as well as light. Along with that, it promotes health and psychological well-being and can significantly affect the comfort of occupants. The amount of sunlight an apartment receives is a primary factor on its orientation of its principal outlook space. Other relevant factors are the distance between the neighbouring properties, ceiling height of the apartments and depth and range of apartments to its windows.

Gated communities may have been successful in some parts of the world where there is a significant difference in the social statuses of lower, middle and upper class but in a suburb of Henderson which consists of a wide diversity of people, demographics and social status, this is not proposed. To add to that, the selected site is situated in busy neighbourhood surrounded by commercial, industrial, residential areas as well as schools. The idea is to increase foot traffic within the selected site to encourage more social interaction which gated communities beg to differ.

As a city, Melbourne is undergoing changes in housing styles from traditional houses to high-rise apartments like many other major cities around the world. Between 2015 and 2017, real estate agents have predicted over 35,000 apartments will be built in Melbourne, Australia. Most of this will intensify the existing commercial, industrial and mixed-use areas. Irrespective of the recent demand for apartments, Melbourne still has comparatively few apartment blocks compared to other cities such as Los Angeles, Vancouver or Greater London illustrating the dominance of detached housing as the city’s preferred housing.


46 Ibid., 12.

47 Ibid.

48 Ibid., 14.
Issue 3: Outdoor Space

Public and semi-public outdoor spaces encourage social interaction, safety as well as household diversity for families with children. Studies suggest that outdoor spaces can drastically enhance social interaction. These areas provide opportunities to increase recreation activities and increase foot traffic. Jane Jacobs reported that the arrangement of traditional neighbourhoods could improve social life with physical features such as footpaths encouraging social interaction. Jan Gehl also found that ‘long duration activities’ in residential streets occur in semi-private spaces which he called ‘soft edges’ for example front gardens. Oscar Newman also supported this view in his well-known book *Defensible*...
Spaces. He argued that territoriality is a critical mechanism to create a cohesive residential environment and thus make it well contained and easy to monitor and control.\textsuperscript{50}

Figure 18: Courtyards and Balconies As Form Of Outdoor Spaces

Issue 4: Entry and Circulation

One of the main issues in recent apartment designs in Auckland is poorly defined entrances. The experience of approaching and entering a building and arriving at an apartment can make a significant contribution to the amenity of residents and visitors.\textsuperscript{51} Irrespective of how someone arrives at a building, the experience of moving into and through the building and the sense of safety and ease of use are all factors that need to be considered.\textsuperscript{52}

Figure 19: Circulation Through a Building


\textsuperscript{52} Ibid., 27.
Figure 20: Issues Affecting Apartment Amenity in Victoria, Australia

Figure 21: Better Apartment Planning Guide for Victoria, Australia
Several projects around Auckland have started to adapt these techniques in the New Zealand context, amongst which is the redevelopment of 1904 Great North Road, Avondale. The development by John Sandler and Young and Richards aims to achieve a clear connection to local amenities for the residents yet at the same time providing a mixture of mixed-use and terrace housing alternatives. The apartments facing Great North Road consist of three bedrooms whereas the terraced houses off main road have two and three-bedrooms. All the apartments and terraced houses have balconies providing constant surveillance onto the main street and the shared driveway. By allowing shared car park spaces, it reduces the entry of excess vehicles, prioritising residents. In perspective to the retail on main street, the Harcourts office maintains the existing streetscape by proving commercial activity however the choice of materials used on the exterior questions the longevity of the building with pvc pipes running down the street facing façade. This weakens the architectural component of the building as not only does it make the building less aesthetically pleasing but also suggests that with time and off-street parking directly adjacent, the chance of physical damage to the exterior continues to remain and could potentially be defined as the new “normal” for the area hence reducing the quality of life as well as promoting criminal activities by being accepting to such circumstances and architecture.

There has been much discussion around apartment design and amenity in Australia and New Zealand in the recent years. Based on this, it is important for designers and councils to take the lead to achieve better outcomes. A high level of skill is required to design apartments well, and any change in the planning system does have implications which affect the developers, buyers and residents. As a community, we must ensure all new apartments are liveable, sustainable and meet the needs of occupants over the cycle of a building.\(^5\) In the shift from low to high density, as part of the objectives of this study, it is also important to include anti-crime design strategies, to avoid the sense that higher densities are more conducive to criminal activity.

Figure 22: External Façade facing Great North Road, Avondale

\(^5\) Ibid., 33.
Figure 23: 1904 Great North Road, Avondale
3.0 PRECEDENT ANALYSIS
3.1 HULME, UNITED KINGDOM

NUMBER OF DWELLINGS: Approximately 2,600

DENSITY: Approximately 40dph

Tens of thousands of inadequate quality terraced houses were built in the UK in the 19th century to meet the demands of the constant growth of urban populations. Manchester in the 1960s saw most of the Hulme suburb swept away as the council replaced the poorly constructed buildings that had become ‘slum’ housing. The replacement, a six-storey block of flats and maisonettes was a disastrous failure with problems such as damp, heating, pest infection, crime and safety.54

By 1991, the Manchester City Council had stopped taking rent and demolition had begun. The Hulme Guide to Development set out principles which considered ‘development that is both human in scale and urban in nature, physically and socially integrated with the rest of the city, encouraging and exchanges of movement and resources and something that offers a wide variety of uses for people to live, shop, work and relax.’55 The redevelopment of the 1990s was far more successful, and Hulme is now a safer and more comfortable space with a significant reduction in crime and anti-social behaviour.

Recently further development at Hulme is proposed by Mecanoo and OMI Architects. The proposal on Leaf Street will provide a place for a 4 to 5-storey live and work typology consisting of 85 apartments and 20 single family homes. The use of S shape as building form allows creating two semi-private enclosed green spaces.56 The entrance court is facing towards the city centre allowing a character of a garden square. The public areas are designed to promote social interaction and provide a safe space for children to play.

Figure 24: Hulme before redevelopment in 2000-2004


55 Ibid.

The existing green space and vegetation plotted on the site will be preserved, and the building will be designed around it. Cycle paths, footpaths and open pedestrian walkways across the development will be used to connect to the wider context and the existing urban surroundings. The income that is generated from the development will be returned to the community to provide a higher quality of living, affordable housing and other opportunities to improve. As an example, the Leaf Street development encourage community interaction with the new proposed green spaces and cycling paths connecting areas.

Figure 25: Proposed Leaf Street Site Plan

Figure 26: Leaf Street Perspective
Figure 27: External Perspective

Figure 28: External Perspective
Figure 29: External Perspective

Figure 30: External Perspective
Figure 31: External Perspective

Ibid.
3.2 HOBSOONVILLE POINT DEVELOPMENT

SITE AREA: 167 ha.
NUMBER OF DWELLINGS: 3000+
DENSITY: 40-50dph

Located 25 minutes from the Auckland CBD, the newly developed Hobsonville Point is a medium density mixed-used housing typology, and a master planned development. It is rated highly in the sustainable neighbourhood category by The Observations 2015 Report. The key elements that make Hobsonville interesting include having multiple facilities within walking distance offering easy access to residents. The development has been designed to achieve ambitious energy efficiency standard which includes renewable energy sources, water efficiency and options have been set for natural ventilation for all rooms. The development layout also provides good passive surveillance and ease of access to footpaths and public spaces as well as opportunities for casual interactions, high-quality streetscapes and public spaces. The street network responds well to natural features; maintaining good connectivity and discouraging fast traffic.

According to a survey performed by Beacon Pathway, 88% of the people surveyed reported that they had no intentions of moving elsewhere compared to 62% in other neighbourhoods. Over 66% said that their neighbourhood “had a strong sense of community” compared to 52% in Auckland. Moreover, 95%

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59 Ibid.
felt safe walking during the day, and over 83% felt safe after dark compared to 91% and 56% in Auckland. Along with that 87% felt that it was safe for children to play unsupervised compared to 70% in Auckland. Hobsonville also has 28% lower power use and 30% less water consumption compared to rest of the Auckland. This demonstrates a significant comparison in percentage which shows that people feel a stronger sense of community and a safer environment in Hobsonville compared to elsewhere.

Bernoulli Gardens by Ockham Development is one of the only developments in New Zealand which has adapted the better apartment design techniques that are currently being applied in Melbourne, Australia and other parts of the world. The development is designed to encourage a sense of community by creating a relaxed, informal garden environment for residents to share.\(^6^0\) The removal of unnecessary fences and concrete driveways have made a new suburban reality possible. The north facing apartments open out to large green open space fostering opportunities for communal activities and interaction.\(^6^1\) By having the carpark off Mapou Road and Nugget Avenue, they have minimised vehicle access into the site creating better pedestrian connections through the site.

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\(^6^1\) Ibid.
Figure 34: Pedestrian Access Into The Apartments

Figure 35: External Perspective Looking Into Communal Space

Figure 36: External Perspective
3.3 SOUTH KILBURN, UNITED KINGDOM

SITE AREA: 7,500 m²
NUMBER OF DWELLINGS: 229
DENSITY: 305.33dph

The regeneration of South Kilburn is a fifteen-year programme that aims to transform the area into a sustainable and mixed-use neighbourhood and create a real sense of place and belonging. The council’s main purpose for this project is to create 2,400 new high-quality homes and rebuild 1,200 affordable homes for social rent for existing residents. The proposal will incorporate a larger high-quality urban park, improve the public realm and offer more opportunities for local businesses, shops and restaurants.

Bronte and Fielding House is the new proposed development by Alison Brooks Architects, consisting of one, two, three and four-bedroom apartments. It offers high specification interiors, private balcony or terrace in each apartment and private gated courtyard.

This development is an approach to improve the local housing and safer community spaces, indoor sports facilities, education, healthcare as well as create a sustainable energy network. The new buildings are characterised by a series of two stories high bay that delineate grand communal entrances and private upper storey balconies. The entrance is designed to provide clear views through to the communal gardens by reducing visual barriers.

Increasing the quality of housing will assist in providing a better lifestyle and enhance the community by improving public spaces and nearby amenities. The key objectives of this project consisted of delivering better homes, in a safer and more sustainable environment for the existing and future residents of South Kilburn and address the inequalities which currently exist between the estate and the surrounding areas.

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66 Ibid.
Figure 38: Site In Relation To Its Context

Figure 39: Apartments Looking Into The Green Space

Figure 40: Perspective From Down The Street

Figure 41: Floor Plan Of The Apartment
3.4 **ODHAMS WALK COVENT GARDEN**

**SITE AREA**: 0.66 ha  
**NUMBER OF DWELLINGS**: 102  
**DENSITY**: 66 dph

**ARCHITECT**: Greater London Council Architects Department

The Greater London Council built Odhams Walk in Covent Garden in 1979. The stepped flats which were organised around shared courtyards, private terraces and elevated galleries generating a fascinating and diverse built environment. The design of Odhams Walk is based on a combination of basic geometries (square and L shaped flats) that creates a rich environment of spaces of different scale and character; a piazza, elevated corridors and platforms for public use, shared courtyards and private terraces. The variety of spaces seeks to generate a gradient in a public-private relationship, from the bustle of the street to the domesticity and calm of the homes.

The design provides each of the 102 flats with their private outdoor space, which is visually connected with the neighbour’s property strengthening a sense of community.

Since all the roofs are flat, the roof of one dwelling forms a private open space for the one above. Sunlight and daylight penetration is used to its optimum in all apartments, which have their main windows opening into a private terrace and overlooking a series of internal courtyard and various levels. Influenced by Jane Jacob’s “eyes on the street”, the upper-level dwellings oversee the lower levels and the piazza. The design consists of multiple pedestrian access points and thoroughfare routes. It is a challenge to conventional housing design and a reaction to similar and repetitive modernist blocks built during post-war times. Once completed, the development received criticism from community stating that it would rapidly succumb to vandalism and decay. However, the opposite happened. The design works well according to Jacob’s and Newman’s theories because of the intended surveillance strategies used. Odham’s Walk became an example of safe and affordable social housing in the centre of London.

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68 Ibid.


3.5 SUMMARY OF PRECEDENTS

From the analysis of both international and national precedents, it shows that there have been several successful examples of projects around the world and locally which have adopted similar techniques to the proposed project. The proposed South Kilburn development demonstrates the idea of centralising public green space with apartments surrounding it. The habitable rooms in the apartments have balconies overlooking into the green space hence increasing the degree of surveillance and socialisation. This idea is also adapted to the development of Leaf Street and Royce Road in Hulme which consists of public and semi-public spaces surrounding the apartments. Characteristics of this concept are also visible in the Bernoulli Gardens by Ockham Development where the apartments which are north facing open out into large open green space encouraging interaction and communal activities.

In addition, all projects explored have been designed to enhance the sense of community and improve the quality of life by creating a safer community for the residents. The precedents based in the UK follow a similar architectural language in relation to building form and materials used. The same language can also be seen employed in Bernoulli Gardens, Hobsonville.

Finally, the also provide users sufficient access routes into the public and semi-public can provide an increase in foot traffic and makes the space well used. This can be seen in Odhams Walk Covent Garden where it challenges the conventional housing design and has been successful. This is also proposed in the Leaf Street development in Hulme, where the use of cycle paths, footpaths and pedestrian walkways across the development has been suggested to connect with the wider urban context more efficiently.
4.0 SITE AND CONTEXT
Location: Henderson, Auckland
Site Area: 199,276m² (19.92 ha.)
Existing Number of Dwellings: 249
Existing Density: 12.50dph
Existing Green Space: 7,637m² (0.76ha.)
Figure 50: Selected Site Area
Figure 51: Rathgar Road (Clockwise)
Figure 52: Normandy Place
Figure 53: Glen Norman Avenue
Figure 54: Glen Norman Avenue

SCALE 1:5000
AREA: 199,276m²
12.50dph
The Auckland Unitary Plan proposes intensification in Henderson and its surrounding suburbs especially areas close to town centre and is projected to have high population growth over the next 30 years.\textsuperscript{71} Henderson is a diverse area with the similar ethnic composition to the wider Auckland. In recent times, the Asian population has grown significantly – doubling to 24\% of the total population from the previous Census.\textsuperscript{72} Despite the significant difference in dominant industries, incomes of Henderson-Massey residents are comparable to the wider Auckland.\textsuperscript{73} By intensifying areas around town centres first, there will be a shift in building typologies that allows the residents of Henderson to transition faster into the increasing density neighbourhood.

The site which is located from the intersection of Lincoln Road and Pomaria Road until the intersection of Pomaria Road and Rathgar Street in Henderson. It was selected on the basis of police statistical data, reference to news articles and research conducted in the area which identified the increase in criminal activities. Along with this, the site was chosen because it defined a typical Auckland neighbourhood, surrounded by amenities

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{figures/figure55}
\caption{Ethnicity Diversion in Henderson}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{figures/figure56}
\caption{People Per Household in Henderson}
\end{figure}

\textsuperscript{72} Ibid., 25.
\textsuperscript{73} Ibid.
such as medical facilities, schools, retail, restaurants and shopping areas. So, for a site which possesses a range of amenities and a significant amount of pedestrian use, an increase in crime does require acting upon as soon as possible. Other areas in Auckland could justify being the chosen site for this study. However, this is a test approach for this research project which can be highly applicable to other parts of Auckland affected by similar circumstances. The site was also selected based on Auckland Council’s Proposed Unitary Plan, which suggests an increase in density that promises an increase in foot traffic: an intensified neighbourhood that suits the purposes of this study. Due to the constant increase in population in the area as well as greater Auckland, the crime is also said to be increasing. With the significant number of schools surrounding the site, it becomes vital to create a safer and more secure place for the existing and new residents.

Having the site stretched out to Lincoln Road enables the link between the current retail and amenities located across the road proposing an increase in flow of foot traffic into the site. This integration will consider the establishment of safer spaces for the routes connecting to the school and more opportunity to provide natural surveillance.
Figure 59: Building Footprint Of Selected Site
Figure 60: Existing Green Space
Figure 61: Existing Amenities Surrounding The Site
The 2016 Auckland Unitary Plan has defined the chosen site area as a mixture of Mixed-Use Zone, Mixed-Housing Urban Zone and Terrace Housing. Mixed-Use Zone is typically located around city centres and along corridors served by public transport. It acts as a transitional area, regarding scale and activity between residential areas and other commercial zones. It is also applied to areas where there is a need for a compatible mix of residential and employment activities. Mixed-Housing Urban Zone is a transition in density between the zones and provides for the intensification of locations close to city centres, large urban facilities and public transport. The zone seeks to achieve an urban residential character and provides for three-story dwellings which include detached, terraced and three-story apartments. Terrace Housing and Apartment Building Zone are high-intensity zones enabling a greater density of development than previously provided. The purpose of this zone is to make efficient use of land and infrastructure, increase the capacity of housing and ensure that residents have convenient access to services, employment, education facilities, retail and entertainment opportunities, public open spaces and public transport promoting walkable neighbourhoods and increasing vitality of centres.

Moreover, converting this area on the eastern side of the site to Mixed-Use Zone aligns well with the existing commercial space across from Lincoln Road. This is beneficial for the project as the foot traffic from the existing commercial area across Lincoln Road can connect through into the site.

The project suggests converting this space into majority mixed-use, as it will be more beneficial and create a better sense of community for the area. Retail and commercial areas will be incorporated into the site at the same time increasing the existing density. This will enable more foot traffic and natural surveillance creating a safer community.

75 Ibid.
Figure 62: Unitary Plan
Putting People First

In some of the reports and surveys, it was also reported that parents feel unsafe to send their children to the playground or shops unattended. The outdoor environment plays an important part in a child’s life, so it becomes vital to create a space which parents feel comfortable with if children will be left unattended. The only public park in the neighbourhood is the skateboard park on the intersection of Pomeria Road and Lincoln Road. Given the number of schools and families in the area, it could be valuable for the community to have more public parks and open spaces that can be safely enjoyed.

The existing streetscape, is made up of the main road, cul-de-sac, small streets and pedestrian walkways. The image shows the road network that is currently employed and reveals the numerous cul-de-sacs that form part of the site. Although the cul-de-sacs typically offer a quieter residential character to the area, they can also provide the ideal circumstances for the commission of crimes given the lack of thoroughfare travel. Having said that, another aspect which determines neighbourhood safety is a way the streets are laid out. The analysis shows that the majority of the existing infrastructure are cul-de-sac which are providing quiet streets, thus beneficial for younger families.

The site provides several pedestrian walkways directed around the school. Based on numerous site visits, it appears that those walkways are seldom used which is unusual considering there are a number of schools which surround the site. The foot traffic on these pedestrian walkways is at a bare minimum, and this includes the 8 am and 3 pm school times which is traditionally a peak transit time for school children. Along with this, the layout of the walkways plays an important part in whether the parents feel safe to send their children on that route. The walkways do not appear to be the safest for children as they are narrow with high fences on either sides, low density, and minimal over-looking creating an unsafe environment.

4.1 THE CURRENT CIRCULATION PROCESS

In some of the reports and surveys, it was also reported that parents feel unsafe to send their children to the playground or shops unattended. The outdoor environment plays an important part in a child’s life, so it becomes vital to create a space which parents feel comfortable with if children will be left unattended. The only public park in the neighbourhood is the skateboard park on the intersection of Pomeria Road and Lincoln Road. Given the number of schools and families in the area, it could be valuable for the community to have more public parks and open spaces that can be safely enjoyed.

Figure 63: Current Street Model
Figure 64: Existing Road Network
Figure 65: Glen Norman Pedestrian Walkway (Clockwise)
Figure 66: Pomaria Road Pedestrian Walkway
Figure 67: Kona Crescent Pedestrian Walkway
Figure 68: Normandy Place Pedestrian Walkway
Figure 69: Pedestrian Walkway In Site Surrounded by High Fences
5.0 DESIGN

5.1 THE PROPOSED HENDERSON

There has been research developing in urban planning over an extended period of time exhibiting the connection between human health, wellbeing, design of the buildings as well as the structure of towns and cities. The population of Auckland is currently increasing significantly, and with an increasing population, the demand for houses is also increasing. Houses and the quality of the built environment have a significant impact on one’s well-being and an individual’s potential of a sense of community. These are crucial factors for new housing design, and it becomes essential to ask the right questions. Does an increase in density assist with mitigating lower level crime? Can selected CPTED techniques be applied to create a safer community and improve the quality of life in the existing neighbourhood?

Henderson is a metropolitan centre located in the heart of West Auckland, with a diverse and youthful population. Significant growth is planned for Henderson over the next 25 years under the Auckland Plan, and the centre has potential to grow as a mixed-use business and residential destination.  

In favour of Auckland Council’s vision, the Henderson – Massey Local Board have developed a concept of ‘liveable growth’ which focuses on higher quality environment supported by urban revitalisation which promotes social, cultural, economic and environmental well-being. The main strategies applied in the Liveable Growth programme will cater to employment areas in Henderson South and the Lincoln Road corridor, stronger transport links, diverse and youthful population, as well as good public parks.

The changes proposed will be outlined by six necessary moves to achieve the desired outcomes and ‘transformational shifts’ of the Auckland Plan and the Local Board’s vision of the liveable growth. From the six moves, three have been adapted which could be applied to the selected site.

The plan recognises that Henderson – Massey’s population is dominated by younger and older people so it seeks to provide adequate infrastructure to create a place where children can get a good start in life, and older adults are well catered for. Key Move 1 proposes to restore Henderson’s Main Street, to revitalise Henderson’s identity. This is intended to regenerate the centre’s regional role in Auckland’s urban structure. Move 2

78 Ibid.
79 Ibid., 9.
80 Ibid.
proposes to consolidate this objective, catalysed by providing better quality access routes to amenities, public open space and alternative transport options. Thirdly, there will be an investment in Trading Place to provide new prospects to younger people living in the area, contributing to social and cultural well-being.81

These “transformational shifts” also identify safety and legibility as priorities: the perception of security is necessary for Henderson to grow as an attractive destination to live, work and play for people and families. To accommodate growth, the plan proposes to enhance community safety in a holistic manner providing opportunities for cycling and walking routes as well as more pedestrianised roads integrated with cost-effective public transport offering a wider range of transportation options.

Figure 70: Key Themes for Henderson

81 Ibid.

Figure 71: Key Moves For Henderson Overview
Figure 72: Catalyse High Quality Living Opportunity

Figure 73: Create Vibrant Mixed Use Precinct at Trading Place
This research project is concerned with issues related to lower and higher levels of crime impacting Henderson that can be related to architecture and planning. Architecture alone cannot solve social issues, but within the architectural design, boundaries crime can be mitigated with several design techniques to create a safer and more secure community. The proposal for this research project is, therefore, to test individual CPTED approaches and techniques for adaptation to improve the quality of life and well-being of the residents. The project master plan has been developed to test these ideas in prioritised stages:

1. Secure access and circulation through the site
2. New housing typologies selected for higher density and the degree of privacy and surveillance they provide, also providing increased numbers of people
3. Increase in foot traffic through the site
4. Improvement in quality of life and well-being through intensified community

5.2 SECURE ACCESS AND CIRCULATION THROUGH THE SITE

Based on Professor Bridgman’s survey and site analysis it has been established that the site is dominated by cul-de-sacs which have their own advantages and disadvantages. Cul-de-sacs create a quiet and peaceful neighbourhood by eliminating traffic; they enhance safety for children to play due to the reduction of traffic. Following from that, they also lower burglary and vandalism rates as they provide only one escape route for the offender. From this research and personal experience, the decision was made to keep the existing cul de sacs in their original state, however, incorporate safer pedestrian streets and routes to the parks and school. This will play a significant role in daily life of the residents as it provides more social interaction and a sense of ease and safety when walking or cycling. A well-designed access route also works as a form of natural surveillance increasing “eyes on the streets” from the surrounding buildings.

It becomes essential for the access routes to the schools to encourage pedestrian activity and to be well lit. The existing walkways are in poor condition, and it was observed on multiple site visits that children seldom used them. Having reduced speed shared streets are beneficial for the project as they will allow an increase in foot traffic into the site and make it less car-dominated; local amenities placed within walking distance assists in increasing the property and retail value.

An alternative to the shared street idea is residential boulevards which will be used in the master plan of the

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proposed site where existing houses are being replaced by terraced houses, similar to the Bernoulli Gardens in Hobsonville model. Using trees and green infrastructure to create a barrier between vehicles and pedestrians creates a sense of safety from cars. Residential boulevards are ideal for this project as they can provide linkage to green open space and other communal spaces in and around the site, and improves the streetscape that promotes walkability.

Figure 74: Proposed Streetscape Giving Priority To Cyclists and Pedestrians

Figure 75: Proposed Streetscape Giving Priority To Cyclists and Pedestrians
Public and private spaces are social constructs that conceptualise different domains of everyday life — from the interiority and confidentiality of our bodies and homes to the publicness of city streets and public spaces. The approach to spatial design used in this project explores how space can be designed to be more efficient but also minimise the difference between public and private realms. Based on the information and precedent analysis, various levels of privacy were analysed and how they can be used in the proposal to augment the spatial experience as well as how well they provide passive surveillance.

5.3 PRIVATE SPACES

It is necessary to provide good quality indoor and outdoor private space for this project, achieved by reduction of unused space and organising the indoor spaces efficiently. A mixture of building typologies will be proposed, and existing dwellings, where retained, will retain their private space, and in new housing, the size of the private space will be determined by the number of bedrooms.

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5.4 SEMI-PRIVATE SPACES

Semi-public spaces are spaces which are used as transition zones and exposed to the pedestrian zone. As mentioned in Stanley Benn and Gerald Gauss’s research “Public and Private in Social Life” the difference between an open space and private space is defined by its access, interest and agency. Where more people use the space, or have access to the space, it defined as more public. This is also determined by the level of permeability in this zone. On the site, this space works as a connection between users via vehicle access or pedestrian access.

Incorporating reduced-speed vehicle access lanes allows for alternate access into the site instead of being dependent on the existing roads and increasing traffic congestion. Semi-
public spaces also increase social interaction and are considered a mechanism to achieve a sense of neighbourhood, belonging, safeness and protection. By having one main park and other smaller green spaces throughout the site, more activities are promoted. These spaces are important as they assist in defining the division between neighbours and provide a sense of belonging.  

5.5 PUBLIC SPACES

Public areas are identified as areas which consist of main roads, commercial areas, retail and public parks. It is critical for the social structure to be reflected in this process and on the natural formation of the space. This way, communal spaces can evolve at different degrees for various groups from small to large and from private to public realm. These gradual steps provide a feeling of security and a sense of belonging. This idea lies in the fact that the residents perceive the public space as part of their residential space resulting in residents knowing the area and neighbours better, making use of the outdoor space, hence increasing natural surveillance and increasing the feeling of collective responsibility. As space becomes more utilised, the residents feel the obligation to maintain of it as they would of their property, making it safer and reducing levels of crime.

85 Ibid., 28.
86 Ibid., 27.
87 Ibid.
Figure 78: Levels Of Privacy

- PUBLIC LEVEL
  Streets, city centres, parks

- HALF PUBLIC LEVEL
  Terraces, courtyards

- BUILDING LEVEL
  Facades, entrances, corridors

- ROOM LEVEL
  Living rooms, bedrooms

PUBLIC

SEMI PUBLIC

PRIVATE
Figure 79: Public and Private Space In The Site
5.6 CHANGE IN BUILDING TYPOLOGIES

Changing the building typology from traditional standalone houses and providing a diversity of buildings allows for additional function and use of the spaces yet at the same time increasing the density. The variety of building typologies allows one to cater to a wider audience whether it is students, growing families or the elderly, thus enhancing the overall spatial experience of the site. Providing a mixture of uses on the site can be an efficient method for creating a safer environment on the site itself and the surrounding areas. When residential units are placed above commercial areas, the tenants contribute to passive surveillance throughout the day. Designing entrances which are directly visible from the street also contribute to safety by ensuring that these areas are informally monitored by people walking by. Incorporating mixed-use developments into the site will assist in creating better access to services within walking distance and a strong local identity. Mixed-use developments also reduce the development cost of urban sprawl and increase the value of the land.

Existing buildings were analysed based on their physical condition and appearance. From on the information gathered, it was decided to replace the west side of the site with terrace housing due to their current state. Mixed-used development was proposed on the edges of Pomaria Road and Lincoln Road as they provide main opportunities for greater exposure to the whole suburb.

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89 P.M. Cozen, Think Crime! (Western Australia, Praxis Education, 2014), 200.

Figure 81: Crime Reductive Qualities Of High Density
5.7 SPACES SHARED BY COMMUNITY AND THE IMPACT IT HAS ON WELLBEING

The idea of collective ownership is expressed when one is provided with a sense of ownership of the space, and barriers are removed. This is another way of gaining awareness of the surrounding context and impacts positively on one’s wellbeing. This can work well with the main public open space as well as smaller green spaces located around the site. When the community takes responsibility for its public spaces, it not only will provide continuous maintenance but also increases a sense of belonging. As expressed by Gil Penalosa, the director of Canadian Organisation 8-80 Cities, “successful public places around the world are successful not just because of the design but also because of the management. That is not just cutting grass and picking up garbage. The bigger part of management is how to involve the community in the parks. We need to think of parks more as outdoor community centres where we need to invest in uses and activities so they can fulfil their potential. When we improve parks, we are improving the quality of life.”

When there is a strong sense of community, it becomes harder for an offender to commit a crime. To achieve this, the green space will be surrounded by mixed-used buildings, terraced housing, existing houses, community amenities and pedestrian walkways creating a lively environment throughout the day.

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Based on the research and analysis, the existing site characteristics, neighbourhood, amenities nearby and hierarchy of streets were identified. The current street infrastructure is preserved for continuity in the process of proposing a safer community in Henderson.

The adaptation of CPTED principles were obtained by maintaining the existing infrastructure yet providing more alternative vehicle and pedestrian access routes into the site for increasing foot traffic. The mixed-use blocks were placed facing Lincoln Road, Pomaria Road and Rathgar Road. This helps with connectivity to the existing commercial areas situated on Lincoln Road.

The pedestrian access created in the middle of the site provides direct access for students to and from school. The existing walkway was long and narrow surrounded by overgrown trees creating an unsafe environment. Improving connections to the public green space has been associated with better-perceived health, reduced stress levels and reduced depression. The proposed pedestrian walkway runs alongside the mixed-use blocks, the new extended green space as well as terrace housing allowing constant surveillance and making the path better lighted during all times of the day.

The main public green space proposed is an extension of the existing green space. It is surrounded by mixed-use blocks and existing detached houses providing access from all surrounding sides. The “pods” in the green space will serve distinct functions such as seating area, children’s playground, picnic area and a cycling path will create a loop around the green space encouraging social interaction. Apart from these uses, it can also be used for events, as a meeting space, farmers market and a variety of social community engaging activities.

The south-west side of the site is converted into terrace housing allowing a variety of building typologies for growing families which leads to a shared green space. Near Liston College, the terrace houses provide privacy and reduce foot traffic maintaining a barrier between the school and the site.
Figure 82: Masterplan Concept 1
5.9 MIXED-USE BUILDING CONCEPT 1

Focusing on the building design, the ground floor consists of retail and commercial areas dominating the north edge of the site as well as one and two-bedroom apartments enclosing the south side of the site providing views into the green space, the walkway leading into the green space and the internal courtyard. The street-facing retail allows opportunities for cafes and restaurants to open out and engage with a wider audience. A service area is located on the east side of the site between the apartment area and retail area.

The two circulation cores run from basement level two to apartment level three providing a secure and direct access from all levels to underground carpark space for the residents.

One can judge the accessibility of a place by its connections to its surroundings, both visual and physical. A successful public space is easy to get to and get through. The access way into the public park is designed to encourage community interaction as people of all different age groups can use this space. When people see friends, meet neighbours and feel comfortable interacting with strangers, they tend to feel a stronger sense of place or attachment to their community. The walkway is designed to accommodate various activities such as people walking their dogs, sitting, relaxing and reading. Public circulation spaces are also affected by other site planning recommendations: for instance, the Better Apartments for Victoria Design Guide recommends a 16-18m distance between the mixed-use buildings to allow for sufficient winter and summer sunlight to penetrate into a four-storey building, such as the one proposed. This distance provides a wide enough walkway-park space for surveillance to be effective, and entrances to be protected by set-backs, changes of level, and angled views onto the public space.

Apartments Levels 1-3
1 Bedroom Apartment = 62m²
2 Bedrooms Apartment = 93m²
3 Bedrooms Apartment = 138m² or 118m²

Parking Spaces for the Apartments
14 x 1 Bedroom Apartments = 1 parking space each
11 x 2 Bedroom Apartments = 1 parking space each
6 x 3 Bedroom Apartments = 2 parking spaces each

Figure 86: Apartment Levels 1-3 Concept 1
Figure 87: Perspective Through Park Access
Figure 88: Perspective Of Green Space Being Used
Figure 89: Short Section Through The Site Showing Sun Angles

16m  18m

45°  28°
Figure 91: Sense Of Community
Developing the design further from concept one, it was decided to incorporate more building typologies into the originally proposed mixed-use block areas. By proposing terrace housing with mixed-use blocks, it allows for a mixture of activities taking place in the area. This also allows improving the existing levels of privacy as blocks are reduced in size and provide more courtyard spaces encouraging social interaction for the residents. By incorporating terrace housing with mixed-use, this helps to reduce the proposed density and provides a better urban model. The mixed-use blocks situated on the east and west side of the site at the intersection of Pomaria Road and Rathgar Road have been designed so that the apartments can obtain views into the semi-public courtyard space as well as having external field of vision.

The terraced housing proposed in the first concept design is changed into detached housing to provide more options for growing families. Provided that the detached housing area on the south side of the site ends to a cul-de-sac, a degree of privacy and noise control is provided compared to the other side of the site. The proposed road network is maintained in the developed design to provide adequate circulation through the site. Residential streets will run through this part of the site reducing the traffic entering the site.
PUTTING PEOPLE FIRST

Figure 92: Masterplan Concept 2
Developed from the earlier master plan, the terrace housing adjacent to the extended park, has been re-orientated to provide optimum surveillance into the parks and to enhance habitable spaces. By doing this, the access points into the park are minimised allowing more control over who uses the space increasing sense of ownership. The green space which was extended to the south of the site has been changed to terrace housing to allow for safer and more monitored pedestrian access to the school. The pedestrian access to the green space has been modified into a residential street allowing access for the mixed-use blocks as well as the terrace housing at the back on the north side of the site. Similar to the previous concept, the terrace housing on the north have one side facing the park and the other looking into the semi-public courtyard space.
5.12 MIXED-USE BUILDING CONCEPT 2

The ground floor will consist of retail whereas the levels two to four will be apartments. The developed floor plan layout for each level consists of one circulation core which will run from the underground car park to level four providing the following number of bedroom options:

- 1 x 1 Bedroom Apartment = 62m²
- 1 x 2 Bedroom Apartment = 80m²
- 1 x 2 Bedroom + Study Apartment = 96m²
- 1 x 3 Bedroom Apartment = 122m²

Each apartment is designed so that the “sleeping spaces” such as bedrooms and “living spaces” such as living room, kitchen and dining room are separated on either wings with central circulation space distinguishing the difference in between the two spaces. The living rooms open to balconies which are north and east facing providing optimum sunlight during various times of the day. The circulation core on each level has a window directly adjacent to it providing natural day and sunlight throughout the day ensuring the corridors are well lit.

Access into the building from the west side through the courtyard space increases the chances of surveillance as restaurants or café can provide outdoor sitting into the courtyard space, and it can be landscaped to give a more urban environment for the residents. This is also one of the most important elements of the design encouraging community growth and has a positive effect on wellbeing. Currently, there is no common ground between the public realm and private spaces, the idea of semi-public courtyard spaces uplifts this idea and provides a transition space between the two spaces.

The building envelope is one of the most important elements for building functionality. For energy efficiency, the use of louvres as a possible exterior material option can be beneficial for the project as they can penetrate direct sunlight deeper into apartments yet at the same time prevent harsh high angle sun light coming in providing occupants with more control over internal light. Using double skin facades on aspects of north, east and west side of the building will provide natural ventilation during summer months as excess air can be removed by means of the stack effect. Using concrete flooring in habitable rooms will ease maintenance for the house and work as a thermal mass in winter months to aid with heating the rooms.
Figure 94: Ground Plan Concept 2
Figure 95: Apartment Level 1 -3 Concept 2
Figure 98: Proposed Terrace Houses Sketch
5.13 USES OF GREEN SPACE

- PLACE FOR PEOPLE OF ALL AGE GROUPS
- QUIET SEATING AREAS
- CHILDREN'S PLAYGROUND
- BICYCLE LANE
- BARBECUE AREA
- AREAS WHICH ENCOURAGE SOCIAL INTERACTION

Figure 99: Uses Of Park
Figure 100: Children Playing In Henderson
6.0 COMPARISON OF DATA
6.0 COMPARISON OF DATA

Following from the developed master plan, a particular area of the overall site will be selected to test the success of the techniques and theories discussed in this project. Based on that, the information below suggests the existing and proposed data calculations for the selected site area.

<table>
<thead>
<tr>
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<th>PROPOSED CALCULATIONS</th>
</tr>
</thead>
<tbody>
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<td><strong>Area of the Proposed Development Area</strong></td>
<td><strong>Proposed Density</strong> 46dph</td>
</tr>
<tr>
<td><strong>Existing Green Space</strong></td>
<td><strong>Proposed Green Space</strong> 15,525m² (1.55 ha.)</td>
</tr>
<tr>
<td><strong>Existing Density</strong></td>
<td><strong>Working Net Site Area</strong> 43,485m² (4.36ha.)</td>
</tr>
<tr>
<td><strong>Existing Number of Dwellings in the Proposed Development Area</strong></td>
<td><strong>Proposed Number of Dwellings in the Development Area</strong> 202</td>
</tr>
<tr>
<td><strong>Existing Habitable Rooms in the Proposed Development Area</strong> 377 (including bedrooms and living rooms)</td>
<td><strong>Proposed Habitable Rooms in the Development Area</strong> 745 (including bedrooms and living rooms)</td>
</tr>
<tr>
<td><strong>Existing Habitable Rooms per Hectare</strong> 73 HR/ha.</td>
<td><strong>Proposed Habitable Rooms per Hectare</strong> 172 HR/ha.</td>
</tr>
</tbody>
</table>
Figure 101: Overview Of Existing Henderson
This project began by addressing a socio-economic issue that influences the suburban communities of Auckland, and which architecture alone cannot solve by direct strategies. The research question - how can an increase in density assist with creating a safer community - addresses this issue and has been developed in a project that derived a possible solution. Several important questions arose when researching further into this topic: for instance, how can people utilise their private spaces to its maximum and feel safe at the same time? It has been necessary to consider the role density plays in this process, and more so, can mixed-use developments increase foot traffic enough to create safer neighbourhood and its surrounding streets.

Based on these questions and detailed analysis, the project responded to the three main architectural interventions, all of which, from relevant literature, are understood to contribute to a safer residential environment:

1. Increase in natural surveillance
2. Increase of foot traffic through the site
3. Improve the quality of life and a sense of community

The design was separated into two categories; firstly, the proposed master plan of the selected site followed by the designed building. Both design interventions took place keeping in mind the three main objectives. The master plan aimed to maintain the existing infrastructure and road network but proposing additional residential and pedestrian prioritised streets to provide alternative routes and better access to the mixed-use blocks and the green space. This addressed the first objective by increasing uses of the space hence increasing foot traffic. By having habitable rooms from the terrace houses and mixed-use block looking out on the green space and the pedestrian walkway which lead into the school the opportunity for natural surveillance into spaces which are used by the wider neighbourhood has been substantially increased.

The master plan explored levels of privacy and what impact that has on social behaviour. The shared spaces around terrace housing and mixed-use blocks make it difficult for an offender to pass through or get away without being noticed resulting in a more safe and secure environment, but also a sense of responsibility and ownership. The shared spaces are a mechanism used to bring people together, where they are otherwise divided by demographical factors.

The detail design of the building consisted of retail and commercial activities dominating the ground level with three levels of apartments above them. The main idea behind this was how can built form go beyond the tested parameters of home security systems and alarms and aid in improving quality of life and build a stronger sense of community in a wider urban context. By testing better apartment design
techniques which have been successfully adopted in other parts of the world for an extended period the design addresses the reality that Auckland’s housing providers have been slow to respond to these ideas, but can, with better knowledge attend to design initiatives that focus on the problem of lower-level crime.

To continue developing this project further, a selected area from the overall site will be taken to test the principles and guidelines discussed in this project. It will explore the introduction of new buildings and mixing typologies for the site, the uses of the spaces, and will discuss the impact of techniques for crime suppression on the conventions of suburban redevelopment as far as they are incorporated.

“Safety and security don’t just happen, they are the result of collective consensus and public investment. We owe our children, the most vulnerable citizens in our society, a life free of violence and crime.” - Nelson Mandela


http://www.mecanoo.nl/Projects/project/169/Leaf-Street-Housing?t=3.


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## 9.2 Statistical Data

### Recorded Crime Statistics NZ for 2015/16

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<th>Sep 2016</th>
<th>Sep 2015</th>
<th>Monthly % change</th>
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<th>Sep 2015</th>
<th>Annual % change</th>
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<td>Assault</td>
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<td>Sexual Assaults</td>
<td>426</td>
<td>441</td>
<td>3.4</td>
<td>5,508</td>
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<tr>
<td>Abduction and Kidnapping</td>
<td>39</td>
<td>18</td>
<td>116.7</td>
<td>360</td>
<td>348</td>
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<tr>
<td>Robbery, extortion, &amp; related offences</td>
<td>318</td>
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<td>11.6</td>
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<td>Burglary, break &amp; entry</td>
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<td>Theft &amp; related offences</td>
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<td>143,829</td>
<td>145,317</td>
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CRIME RATE IN HENDERSON

Figure 104: Recorded Assault Victimisation in Auckland 2015-2016

HENDERSON NORTH
TOTAL ASSAULT VICTIMISATIONS: 79
PER 10,000 PEOPLE: 126
POPULATION (2015): 6290
SAFETY WALKING IN NEIGHBOURHOOD DURING DAY/NIGHT

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EXISTING VS PROPOSED

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<th>Proposed</th>
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<tr>
<td>Working Net Site Area</td>
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<td>Proposed Over 100%</td>
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<td>Proposed Affordable</td>
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</tr>
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<td>Existing Affordable</td>
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<td>0.01 dph</td>
</tr>
<tr>
<td>Existing Affordable Rooms %</td>
<td>36%</td>
<td>36%</td>
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<tr>
<td>Existing Affordable Rooms %</td>
<td>36%</td>
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</tr>
</tbody>
</table>

PUTTING PEOPLE FIRST
Declaration

Name of candidate: Reya Patel

This Thesis/Dissertation/Research Project entitled: Putting People First: An architectural approach to improving quality of life is submitted in partial fulfillment for the requirements for the Unitec degree of Master of Architecture Professional

Principal Supervisor: Cesar Wagner

Associate Supervisor/s: David Turner

CANDIDATE'S DECLARATION

I confirm that:

- This Thesis/Dissertation/Research Project represents my own work;
- The contribution of supervisors and others to this work was consistent with the Unitec Regulations and Policies.
- Research for this work has been conducted in accordance with the Unitec Research Ethics Committee Policy and Procedures, and has fulfilled any requirements set for this project by the Unitec Research Ethics Committee.

Research Ethics Committee Approval Number: N/A

Candidate Signature: _______________________________ Date: 11/10/17

Student number: 1397254
Full name of author: Reya Patel

ORCID number (Optional): ............................................................

Full title of thesis/dissertation/research project ('the work '):
Putting People First: An architectural approach to improving quality of life to create a safer community in an Auckland suburb

Practice Pathway: Architecture

Degree: M. Arch (Professional)

Year of presentation: 2017

Principal Supervisor: Cesar Wagner

Associate Supervisor: David Turner

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