MWH

BUILDING A BETTER WORLD

REPORT

Rural Review Monitoring Project Study Report

Prepared for Whakatane District Council

July 2009

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REVISION SCHEDULE

Rev No	Date	Description	Prepared By	Reviewed By	Approved By
O1	23/09/09	Revised Draft Report	Carolyn Wratt / Tim Grace	Tim Grace	Tim Grace

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WHAKATANE DISTRICT COUNCIL

Rural Review Monitoring Project Study Report

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Subdivision is a legal mechanism for changing boundaries, sizes and ownership of the land. In some cases, this results in no changes to the physical environment but in most cases subdivision results in environmental effects. This can involve works such as earthworks, removal of vegetation, planting of vegetation, construction of buildings and structures, increase in areas of impermeable surfaces, creation of accesses, changes in land use and activities. Some of the changes may be temporary while others are more permanent. Some may result in positive effects, while others will be negative.

The Proposed Whakatane District Plan controls subdivision largely through zones and minimum site size requirements for each of the respective zones. This zoning focused approach for the rural areas of the District is largely based on the land use capability index (soil classification), with the Rural 1 (Plains) Zone comprising of the more fertile soils and Rural 2 (Foothills) Zone comprising of the lower class soils. The Rural 3 (Coastal) Zone has been created to manage natural hazards, the sensitivity of coastal wetlands, indigenous vegetation and foredunes to subdivision and development and the conservation of the existing natural character and landscape values. The Rural 4 (Settlement) Zone delineates densely settled residential localities within the rural area.

The Rural Review Monitoring Project meets the intent of Section 35 of the Act as it pertains to subdivision in the rural areas of the Whakatane District. More specifically, this involves looking at the effects (including cumulative) of rural subdivision in the Rural 1, 2 and 3 zones in recent years.

The objectives of this project are to:

- Identify and understand the effects (including cumulative) of rural subdivision in Whakatane District;
- Analyse those effects against the Anticipated Environmental Effects in the Proposed District Plan;
- Review the rural provisions in the Proposed Whakatane District Plan; and
- Recommend broad level options that could be used to deal with the effects of rural subdivision.

The outcome of this project is recommended options for addressing the effects of rural subdivision.

Three case study areas were identified by the Council for more in depth analysis of the effects of rural subdivision. These areas are in Kawerau Straights, Ohiwa Harbour and Thornton Road. Each differed considerably in topography, landscape and pattern of subdivision.

The case studies have been used as the basis for the study of the actual and potential effects of rural subdivision in the District. A number of technical assessments were completed for each of the case study areas. These included a landscape and character assessment; a broad level assessment to obtain an understanding traffic demand, where traffic is going and the distribution of traffic; an assessment of the economic impacts directly related to rural subdivision; and a broad level assessment of the effects of rural subdivision on the provision of water supply, wastewater and stormwater infrastructure, including the cumulative effects associated with the use of onsite systems. Workshops with interest groups and tangata whenua, targeted discussions with landowners and a survey of rural residents were also used to ascertain the extent of social effects associated with rural subdivision, such as reverse sensitivity, privacy, availability of services, lifestyle conflicts with productive uses and the disturbance of waahi tapu and archaeological sites.

Case Study 1
Case Study 1 (Kawerau) had high levels of openness, which has resulted in new dwellings being very obvious from the road and a growing perception of ribbon development. The location of the increasing number of new dwellings in this environment has led to visual effects and a negative effect on rural character.

The area of most concern is related to the capacity of the larger adjoining sections which border Kawerau Road to the north, which have the potential for up to 10 additional sites at an average of 2 hectares. Without careful consideration this type of subdivision could detract significantly from the rural qualities

associated with Kawerau Road and the visual envelope of Putauaki and the Rangitaiki Plains. This case study has shown that the development of the Rural 1 Zone under the poor soils criteria is leading to a piecemeal approach for subdivision within sensitive rural character areas. With future subdivision, care will need to be taken with reverse sensitivity matters, especially those sites in close proximity to the larger sites, which are used for rural production.

Survey results indicated distance to schools as being a negative experience in the Case Study 1 area, more so than the other two case study areas, while distance to work was identified as very positive. The properties in the Case Study 1 area were perceived as being the most affordable.

Case Study 2
Due to the steep undulating landforms in Case Study 2 (Ohiwa Harbour), house sites are limited and sensitive to development with high visibility. Natural elements, patterns and processes are still prevalent within the site. Unless these qualities are recognised now and managed accordingly against inappropriate future development, an increase in development in rural areas will result in a loss of rural qualities, which are identified as contributing to the areas outstanding natural landscapes. The cumulative effect of development within the Case Study 2 (Foothills) area could potentially be significant due to the steep topography, high view shed depth, limited house sites and context of visually sensitive landscapes. In terms of the wider area, the most significant potential effect is likely to be access tracks (scarring associated with cuts and batters) and increased infrastructure.

The quality of treated wastewater is a potential issue in Ohiwa Harbour, given the sensitive receiving environment. However, in the main, lifestyle sites do not directly adjoin the coast, meaning the potential for impacts may not be significant. Advanced treatment systems are a necessity for this area to reduce the potential for cumulative impacts from on-site treatment and disposal. Development pressure is likely to occur in pockets around the Ohiwa Harbour, which could have isolated impacts on the transport network.

An unusually high percentage of respondents to the survey of rural residents considered that there is a strong rural experience in this location, however fragmentation of land was identified as being a particularly negative experience. The importance of rural environment also ranked very high. Residents identified a negative effect of subdivision was urban people with urban expectations moving into the area.

Case Study 3
The Case Study 3 area (Thornton Road) has a high visual scale which reduces the visual absorption capacity. Buildings situated within Rural 3 Zone are generally located near the top of the secondary and tertiary dunes which produces a high level of disturbance both visually and physically through earthwork damage within the dunes.

The siting of buildings on natural features and edges (line between land and sky, bush and pasture, sand dunes, sloping and flat land, etc) is particularly important to reducing the negative effects of subdivision in this area. Managing the impact of development on the stand of kanuka is critical to minimising ecological effects.

The quality of treated wastewater is a potential issue in this area, given the sensitive receiving environment and proximity to the coast. However, the majority of dwellings are set back from the coast. Advanced treatment systems are a necessity for this area to reduce the potential for cumulative impacts from on-site treatment and disposal.

Survey results identified that there was a perception of high crime rates. Recreational opportunities were highest in the Case Study 3 area, and fragmentation of land was identified as being a particularly negative experience

The subdivision provisions in all three case study areas have led to dispersed subdivision patterns. Where clustering has occurred this is mainly due to the size and boundaries of the parent site rather than good lot layout and design. Although this pattern of subdivision has spread the effects in some cases, in others it has exacerbated them. Landscape is one such issue where the design of the subdivision can

have negative or positive effects. Dispersal has also undoubtedly led to greater conflicts between landuses – particularly where lifestyle lots are interspersed with productive rural uses. This pattern has spread traffic loading but has meant that public transport is not viable. Similarly, economic benefits of subdivision are spread thinly but do not assist Whakatane's struggling rural communities.

Each subdivided site is virtually self contained in terms of infrastructure, being self sufficient for wastewater and often water supply. This is a fairly inefficient approach given it is difficult to achieve integrated outcomes for the provision of service infrastructure, although this approach does mean that the Council does not have the financial responsibility for the management and maintenance of service infrastructure.

There are a number of positive effects associated rural subdivision including increased population in the rural areas; greater diversity in terms of choice of housing for the District; increased building activity in the rural areas; more diversity in terms of lot sizes and landuses; increased use of existing community facilities such as schools and halls; biodiversity enhancement through the protection of valued ecological areas such as stands of native bush; and the creation of opportunities for retired framers to continue to live on their land. However, on balance, the negative effects of rural subdivision in the District as provided for through the current provisions of the District Plan do tend to out-weigh the positive effects.

Analysis of the census data for Whakatane District indicates that population trends are stabilising if not declining slightly. However, whilst the rural area is not under pressure at the moment, and the growth data suggests that this is not likely to be the case over the long term, there is potential for overflow of growth from surrounding areas such as Tauranga, which is likely to be targeted at the lifestyle market. Given that the rural area is not presently under intense development pressure, the Council has the opportunity to revise their approach to rural subdivision and address many of the identified effects associated with such subdivision, especially the potential for significant effects to occur cumulatively over time.

The landscape of Whakatane District is widely varied, ranging from the coastline to the alluvial plains, to the densely forested slopes of the Uruweras. Through the case study analysis, it has become apparent that the "one size fits all" approach is not entirely appropriate for the rural areas of the District. The current provisions are based singularly on the protection of the life supporting capacity of the soil to the detriment of other factors such as landscape character, infrastructure and rural amenity.

The study has shown that bringing a balance to the management of the effects of subdivision in the rural areas of the District will enable the community to better achieve the Anticipated Environmental Effects set out in the Proposed District Plan. The recommended approach for addressing the effects of rural subdivision can be broken down into a number of steps as outlined below.

1. Constraints Map
As established by the current subdivision provisions contained in the Proposed District Plan and Proposed Change 2 to the Regional Policy Statement versatile soils are an important feature of the rural area of the Whakatane District. This data layer should be overlaid with the outcomes from a visual absorption analysis. The visual absorption analysis should identify those areas in the District with a greater ability to absorb development, and those highly sensitive to development. This could be completed using a simple three tier approach comprising high, medium and low. The combination of the soils and visual absorption should be used to guide rural development and thereby the location and extent of zoning. Development should be discouraged where the highly sensitive visual landscapes overlap with versatile soils and encouraged where the least sensitive landscapes overlap with lower quality soils.

2. Establishing the Limits of Rural Communities
Given the slow population growth anticipated for the Whakatane District it is accepted that not all rural communities will grow. Through constraints and economic analysis the Council could identify some "winners", that is rural settlements that are appropriate and viable to receive rural-residential growth. In these uncertain times of peak oil rural communities may become more attractive for those wishing to have a rural lifestyle. Clustering rural-residential development also makes the provision of infrastructure and

social facilities more viable and cost effective. It is important that the Council consolidates their rural-residential growth only into a small number of rural hubs rather than spreading the growth. Success of rural-residential communities depends on a critical mass of population and with a number of widely spread rural communities, there is the risk that any population growth will be spread too thinly to have any significant positive benefits.

3. Analysis of Appropriate Lot Sizes

At present four lot sizes are used in the Proposed District Plan for the rural area. These are an 8 hectare minimum for the Rural 1 Zone, a 5000m2 minimum with a 2 hectare average in the Rural 2 Zone and in the Rural 1 Zone on land that contains poor soils and a 2 hectare minimum in the Rural 3 Zone. An analysis of the potential use of lots of these sizes needs to be undertaken to determine whether indeed these are the most appropriate sizes. For any identified "no go" areas (e.g. areas of high visual sensitivity and high quality soils) it may be more appropriate to increase the minimum lot size. As an example, with the current increase in dairy production, a 8 hectare property is not large enough to sustain a viable dairy herd. If the entire rural area were to be subdivided into 8 hectare lots in accordance with Rural 1 Zone provisions the District would lose its potential to accommodate dairy farms into the future. Although it is impossible to predict whether dairy farming will continue to be a viable land use option for the District in the future, reducing the majority of sites to the minimum lot size would have the effect of foreclosing land use options for the future.

4. Development of Design Guidelines

There are many examples of successful design guidelines to assist the promotion of sustainable rural subdivision. Successful outcomes for both the developer and the Council include:

- Encourages better quality rural subdivision and development;
- Encourages thorough analysis of the site and its features;
- Provides a better community and environmental outcome;
- May streamline resource consent processes where it can be demonstrated that there are significant benefits to the wider community and the environment; non-notified applications processes can be used where there is a clear and logical community and environmental benefit;
- Encourages the protection and enhancement of productive landuse potential; and
- Avoids rural amenity conflicts such as reverse sensitivity.

The design guidelines do not need to be overly complex but should establish solid design principles to guide rural development. Because of their very nature, design guidelines can contain significantly more detail than the District Plan. They therefore can become invaluable tools for both applicants and the processing planners.

5. Strengthening Subdivision Assessment Criteria

Design criteria and guidelines do not have any statutory weight unless they are incorporated into the District Plan or referred to in the District Plan (which is generally achieved in the assessment criteria). In order to give the design guidelines direct status in the resource consent process the existing assessment criteria in the District Plan would need to be changed to include requirements to achieve "compliance with design guidelines". The assessment criteria could also be strengthened to provide for more guidance to both applicants and processing planners when considering appropriate approaches for the mitigation of cumulative effects.

2 Introduction

2.1 Overview

Subdivision is a legal mechanism for changing boundaries, sizes and ownership of land. In some cases, this results in no changes to the physical environment but in most cases subdivision results in environmental effects. This can involve works such as earthworks, removal of vegetation, planting of vegetation, construction of buildings, increase in impermeable surfaces, creation of accesses, changes in land use, changes in activities and fencing. Some effects may be temporary while others are more permanent. Some activities may result in positive effects, while others may be negative.

Over the years a variety of statutory planning instruments have managed the use and development of Whakatane's rural area, with the most recent being the Proposed Whakatane District Plan ("Proposed District Plan"). The rural environment is very dynamic in both its physical environment and economic climate. The rules in all of the various planning documents were appropriate for the pressures and practices of that time. However, as the rural environment has changed, new ways of managing use and development have been implemented. For example "viable productive enterprise" was previously used as the criteria for controlling rural subdivision in the District. This criteria was based on economic viability and what is deemed an appropriate sized unit for the intended use. In contrast, the Proposed District Plan now controls subdivision through zones and minimum size requirements for each zone, with the higher quality soils having larger minimum lot sizes than the poorer quality soils. Zoning is largely based on the land use capability index (soil classification) with the Rural 2 Zone comprising the lower class soils.

There statutory drivers for addressing the changing environment. As part of the Section 35 requirements of the Resource Management Act 1991 the Council is required to undertake reviews of the policies in the District Plan and determine the efficiency and effectiveness of them.

Section 35

…

(2) Every local authority shall monitor—

a) The state of the whole or any part of the environment of its region or district to the extent that is appropriate to enable the local authority to effectively carry out its functions under this Act; and

b) The efficiency and effectiveness of policies, rules, or other methods in its policy statement or its plan; and

c) The exercise of any functions, powers, or duties delegated or transferred by it; and

d) The exercise of the resource consents that have effect in its region or district, as the case may be;

…

and take appropriate action (having regard to the methods available to it under this Act) where this is shown to be necessary.

(2A) Every local authority must, at intervals of not more than 5 years, compile and make available to the public a review of the results of its monitoring under subsection (2)(b).

The Rural Review Monitoring Project is means of meeting the intent of Section 35 of the Act as it pertains to subdivision in the rural areas of the Whakatane District. More specifically, this involves looking at the effects (including cumulative) of rural subdivision in the Rural 1, 2 and 3 zones in recent years. The extent of Whakatane's rural area is shown in Appendix 1. In addition to the statutory requirements, the Council has made a commitment in the Proposed District Plan to monitor the effects of rural subdivision, stating *"the Council will monitor rural-residential developments (lots below 4 hectares) to determine whether cumulative adverse effects arise, and if so, will investigate ways of avoiding further cumulative effects arising, and will seek to remedy or mitigate those effects as far as it is practical to do so".*

The objectives of this project are to:

- Identify and understand the effects (including cumulative) of rural subdivision in Whakatane District;
- Analyse those effects against the Anticipated Environmental Effects in the Proposed District Plan;
- Review the rural provisions in the Proposed Whakatane District Plan; and
- Recommend broad level options that could be used to deal with the effects of rural subdivision.

Under Section 3 of the Resource Management Act 1991, the meaning of effects includes:

a) Any positive or adverse effect; and
b) Any temporary or permanent effect; and
c) Any past, present, or future effect; and
d) Any cumulative effect which arises over time or in combination with other effects—
e) regardless of the scale, intensity, duration, or frequency of the effect, and also includes—
f) Any potential effect of high probability; and
g) Any potential effect of low probability which has a high potential impact.

While the term "reverse sensitivity" does not appear in the RMA, it has been recognised as an "adverse effect" that must be considered (McQueen v Waikato District Council, EnvC, A45/94). In this regard, reverse sensitivity is also assessed as an effect.

The outcome of this project are recommendations as to the broad level options that could be used to address the current effects on the environment (including cumulative effects) that are occurring as a result of rural subdivision

2.2 Report Structure

This report is structured in four sections, with each section of the report representing a defined stage of the study.

Background Analyses
The first stage comprised of a background analysis of existing information. This assisted in understanding Whakatane's rural areas with an analysis to identify gaps in the information available. Workshops with both Council Officers and the community proved extremely valuable for highlighting issues in the rural area. The purpose of this section is to identify and describe the baseline environment and community of the study area. Consideration has not only been given to the existing physical environment but also the economic, social and cultural context.

Case Studies
The second stage involved case studies of three rural areas to determine the extent of effects (including cumulative) of rural subdivision in the district. These case studies were identified by the Council as being representative of the wider rural environment. A number of detailed analyses were carried out in these locations and included:

- Impact on landscape – including amenity, visual and rural character
- Ecological considerations
- Impact on the physical environment
- Heritage
- Social effects including reverse sensitivity, privacy issues and social cohesion
- Economic effects including loss of productive land through subdivision, changes in landuse, and impacts on land values
- Quality and quantity of groundwater
- Cultural impacts including sites and features of cultural importance
- Transport including traffic generation and roading infrastructure
- Hazard avoidance and / or mitigation

- Provision and quality of infrastructure including wastewater, stormwater, water supply and rubbish collection.

A survey was developed and distributed to the land owners within the case study areas. The purpose of this was to assist in identifying social and cultural effects of rural subdivision.

Assessment of Effects
The case studies undertaken in the second stage have been used to identify effects of rural subdivision. This section of the report considers the outcomes of the case studies, particularly in the context of the Anticipated Environmental Effects as outlined in the Proposed District Plan. Cumulative impacts are a significant issue and mean that each effect must not be considered in isolation of other actual and potential effects.

Options for Addressing Effects of Rural Subdivision in the Future
The issues identified during the study will be the basis for the refinement of existing mechanisms or the development of new mechanisms for managing rural subdivision in the future. A number of options are considered in this section, with one preferred approach suggested. Suggested consequential changes to the Proposed Whakatane District Plan are outlined. Other mechanisms that can be used which sit outside of the District Plan are also canvassed.

The outcome of this study is the qualitative identification of the effects of rural subdivision in the District, and the development of alternative mechanisms which allow effects to be managed in a manner that is compatible with the strategic and policy direction at both a local and regional level.

SECTION 1 – BACKGROUND ANALYSES

3 Legislative and Strategic Framework

The over-arching legislation that provides for the means to manage the effects of subdivision and development in the rural areas of the District comprise of the Resource Management Act 1991, the Land Transport Management Act 2003, and the Local Government Act 2002. The study area falls entirely within the jurisdiction of Environment Bay of Plenty Regional Council.

Increasing attention is being given through national, regional and local policy for the careful integration of land-use, transport, open space, urban design and infrastructure planning as well as ensuring infrastructure solutions are considered while accommodating population growth. There is increasing awareness also of the risk of reverse sensitivity when considering landuse. This needs to be given careful consideration, particularly around the rural areas where changes in neighbouring landuse can affect the ability to work the land in an economically viable way.

Key policy documents are:

- Regional policy statements – Operative Bay of Plenty Regional Policy Statement, Proposed Changes 1 and 2 to the Bay of Plenty Regional Policy Statement.
- Regional Plans - Proposed Regional Water and Land Plan, On-site Effluent Treatment Regional Plan, Regional Coastal Environment Plan.
- Local and regional strategies - Regional Land Transport Strategy, New Zealand Transport Strategy (NZTS), Smart Growth.
- Growth strategies and other strategic planning documents – Where to Now? Rural Subdivision and Dwellings 1985-1991, Whakatane District Landscape Evaluation 1995.
- Whakatane District Council Long Term Council Community Plan 2006-2016
- Proposed Whakatane District Plan
- Environment Bay of Plenty Demographic Forecast 2006.

The policy statements or strategy objectives of the above statutory and non statutory documents have not been re-iterated but made reference to within the context of this project.

3.1 National Legislation / Policy

3.1.1 Local Government Act 2002

Section 3 of the Local Government Act 2002 (LGA) establishes the purpose of the Act:

The purpose of this Act is to provide for democratic and effective local government that recognises the diversity of New Zealand communities; and, to that end, this Act—

a) States the purpose of local government; and

b) Provides a framework and powers for local authorities to decide which activities they undertake and the manner in which they will undertake them; and

c) Promotes the accountability of local authorities to their communities; and

d) Provides for local authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach.

Overarching documents such as the Ten Year Plan have been developed in accordance with the Local Government Act 2002. The LGA lets the community identify desired outcomes while the Council's role is to provide these outcomes and funding for their provision. Section 10(b) establishes the quadruple bottom line, effectively aligning the Local Government Act to the Resource Management Act 1991 and ensuring consistency.

3.1.2 Resource Management Act 1991

The Resource Management Act 1991 (RMA) provides the foundation legislation for all planning and establishes the concept of sustainable management. Section 5 establishes a quadruple bottom line which must be considered when managing the use, development and protection of natural and physical resources. The quadruple bottom line comprises social, economic, cultural and environmental well-being. The environment has pre-eminence in the RMA. It is based on the concept of the sustainable management of resources and it encourages communities and individuals to plan for the future of the environment.

More specifically, sustainable management requires managing the use of physical and natural resources in a way that allows communities to meet their current needs whilst safeguarding the ability of future generations to meet their needs. The concept of sustainability is core to the study.

Section 6, 7 and 8 of the RMA are all relevant as well. Section 6 establishes matters of national importance. Section 7 lists other matters which particular regard must be given to. These include kaitiakitanga, the efficient use of resources, amenity values, efficient use of energy, ecosystems, maintenance and quality of the environment, protection of trout and salmon habitat. Section 8 requires all persons to take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) when exercising functions under the Act.

3.1.3 Land Transport Management Act 2003

The New Zealand Transport Strategy (NZTS) and the Land Transport Management Act (LTMA) outline the vision of an integrated, safe, responsive, and sustainable land transport system. This is underpinned by four principles - sustainability, integration, safety and responsiveness. The LTMA also notes that improvement measures must exhibit a sense of social and environmental responsibility. This study therefore has regard to the government's five objectives for transport:

- Assist in economic development.
- Assist in safety and personal security.
- Improve access and personal mobility.
- Protect and promote public health.
- Ensure environmental sustainability.

Issues and responses should be considered in a regional, integrated and multi-modal context. Solutions for land use / road and traffic congestion problems need to be considered within a wider appraisal of alternatives. Community outcomes also need to be considered which support regional aims of reducing the need to travel, managing the demand for travel, and changing the means of travel to more sustainable and socially inclusive modes.

3.2 Regional Policy

3.2.1 Operative Bay of Plenty Regional Policy Statement

In accordance with the RMA, the Bay of Plenty Regional Policy Statement (RPS) promotes the sustainable management of the region's natural and physical resources. This integrated and co-ordinated approach to resource management gives the regional policy statement a central role in ensuring that integrated management takes place and that the purpose of the RMA is achieved.

The RPS is set out in several parts. Part I addresses sub-regional issues including the economic importance of the rural areas. In terms of land area, the region is predominantly rural at 96% with less than 4% urban. Approximately 22% of the land area in the region is farm land used for productive purposes; while 38% is reserve land (Department of Conservation, Maori or Council).

Whakatane has a high percentage of the region's native forest and bush, plantation forestry, pastoral agriculture, and horticulture. The region contains one of the biggest concentrations of plantation forests in New Zealand, with 13% of New Zealand's exotic plantation forest resources totalling 215,340 hectares of exotic plantation forest and accounting for 22% of the country's forestry sector workforce. In addition, Whakatane has high levels of both horticulture and agriculture including dairying, kiwi fruit, avocados, and citrus production. The rural areas are high contributors to the economic wealth of the region.

Part II addresses specific natural resources including land, air, fresh water, coastal environment, geothermal resources, natural hazards, hazardous substances and waste, physical resources / built environment, energy, natural character and indigenous ecosystems, and heritage.

Proposed Change 1 to the Bay of Plenty Regional Policy Statement makes changes throughout the RPS, mostly relating to heritage. The changes emphasise the importance of heritage and the need to protect it.

3.2.2 Proposed Change 2 to the Regional Policy Statement

Environment Bay of Plenty publicly notified Proposed Change 2 to the Bay of Plenty Regional Policy Statement on 22 September 2005. The proposed change implements aspects of SmartGrowth, a 50-year Strategy and Implementation Plan for the Western Bay of Plenty sub-region. Proposed Change 2 introduces urban limits and introduces policy regarding live, work and play.

Proposed Change 2 also establishes objectives and policies for the rural areas including:

- Subdivision, use and development shall not result in Versatile Soils outside urban limits being used for non-productive purposes, except for papakainga housing.
- Local authorities shall promote the sustainable management of Versatile Soils for rural production activities.
- The potential of Versatile Soils is not compromised by rural lifestyle activities
- Territorial authorities shall ensure that subdivision, use and development does not compromise or result in reverse sensitivity effects on rural production activities and the operation of infrastructure located beyond the urban limits.
- Development of multiple owned Maori land can be difficult due to the provisions of Te Ture Whenua Maori Land Act 1993.

These objectives and policies are particularly important as the District Plans is required to be consistent with the RPS.

3.2.3 Environment Bay of Plenty's Proposed Regional Water and Land Plan

The Proposed Regional Water and Land Plan (PRWLP) was notified on 19 February 2002, although not all appeals have been resolved to date. Many of the areas addressed in the PRWLP pertain to the rural environment, including the need for integrated management of land and water, discharges, water allocation, rivers, streams and wetlands.

Relevant issues include:

Issue 10 - Land use and management practices that are inappropriate to the specific characteristics of the site, (including soil type) may cause adverse effects on the environment.

Issue 11 - Water quality in some streams, rivers, lakes, estuaries, harbours and coastal margins in the Bay of Plenty can be adversely affected as a result of use and development activities.

Issue 12 - Groundwater quality can be adversely affected by some use and development activities.

In addition, many of the activities accompanying normal "rural" uses are identified as having potential adverse environmental effects.

Table 3-1 : Potential Adverse Environmental Effects from Activities In, On, Under or Over Beds of Streams, Rivers and Lakes [1]

Activity	Potential Adverse Effects							
	Erosion of Beds and Banks	Water quality	Water flow	Ecological values, fish passage, aquatic habitats	Natural character, landscape values and Maori cultural values	Wetlands	Existing users	Public Access
Structures	X	X	X	X	X	X	X	X
Disturbances of the Bed	X	X		X	X	X	X	
Introduction of plants [1]		X	X	X	X	X		X
Removal of plants	X	X		X	X	X		X
Deposition of materials		X	X	X	X	X	X	
Reclamation [2]			X	X	X	X	X	
Drainage		X	X	X	X	X	X	

'X' indicates a potential adverse environmental effect.

3.2.4 Environment Bay of Plenty's On-site Effluent Treatment Regional Plan

The purpose of the On-Site Effluent Treatment Regional Plan is to reduce the impact of domestic sewage discharged from on-site effluent treatment systems in the Bay of Plenty. Inappropriate system design contributes to elevated levels of nutrients and pathogens in surface water bodies.
Most rural properties are required to treat and dispose of their own wastewater. The ability of the soil to dispose of wastewater is therefore important. Most areas in Whakatane are suitable, however Opouriao (near Matata seepage from nearby hills can cause groundwater levels to rise within 1m of surface), Kopeopeo (iron pan that needs to be broken for good drainage) and Opotiki (poorly drained soils in the valley floors) have some limitations and may require special advanced systems.

A number of rural properties tap into subsurface water for their water supply. On site wastewater needs to be carefully managed to ensure contamination of water supply does not occur.

3.2.5 Environment Bay of Plenty's Regional Coastal Environment Plan

The Regional Coastal Environment Plan promotes the sustainable management of the natural and physical resources of the Bay of Plenty coastal environment. The plan covers the entire coastal environment including the coastal marine area (i.e. the area between mean high water spring tides and the '12 mile limit' of the territorial seas) and the land backdrop.

[1] *From EBoP's Proposed Regional Water and Land Plan*

The plan contains policies about important environmental issues on land adjacent to the sea. This includes issues relating to the natural character and landscape of the coast, public access and coastal hazards. These policies generally do not regulate people's activities directly through rules, but provide guidance for the preparation of district plans and for the consideration of resource consents for rural subdivision and development in the coastal environment.

The plan states that the control of subdivision and building in areas affected by coastal hazards is the responsibility of the District Council. However, the plan does identify areas sensitive to coastal hazards (ASCH). The purpose of the ASCH is to define those areas of the open coast where caution should be exercised when considering subdivision use and development. The intent is for the District Council to require resource consent applicants to undertake detailed research on coastal hazards for subdivision and development in the ASCH. Variation 6 to the Proposed District Plan has addressed this issue.

The plan also includes schedules that provide site specific information on coastal values such as landscape, vegetation, bird habitat, conservation areas and culturally significant areas. This information is required to be considered in the assessment of resource consents for subdivision and development in rural areas along the coast that could potentially impact on the identified coastal values.

3.2.6 Bay of Plenty Regional Land Transport Strategy 2006

The Regional Land Transport Strategy (RLTS) was adopted in June 2007. The RLTS identifies the region's future transport needs and outlines how they might be met. The RLTS vision is to provide*: "an integrated, safe, sustainable land transport system that meets the current and developing needs of the people of a vibrant and growing region".*

Underpinning the vision are the principles of integration, safety, sustainability and a focus which is looking forward. These principles represent the guiding concepts in which the Whakatane transport system should be developed. The RLTS identifies 8 strategic packages across the region. With respect to this study, the Eastern Bay of Plenty Package is most relevant to this study.

The Regional Land Transport Strategy promotes a transport network that supports and responds to the objectives of SmartGrowth. The Strategy sets out a specific strategy for the next two to three years and a general overview for the following years until 2014.

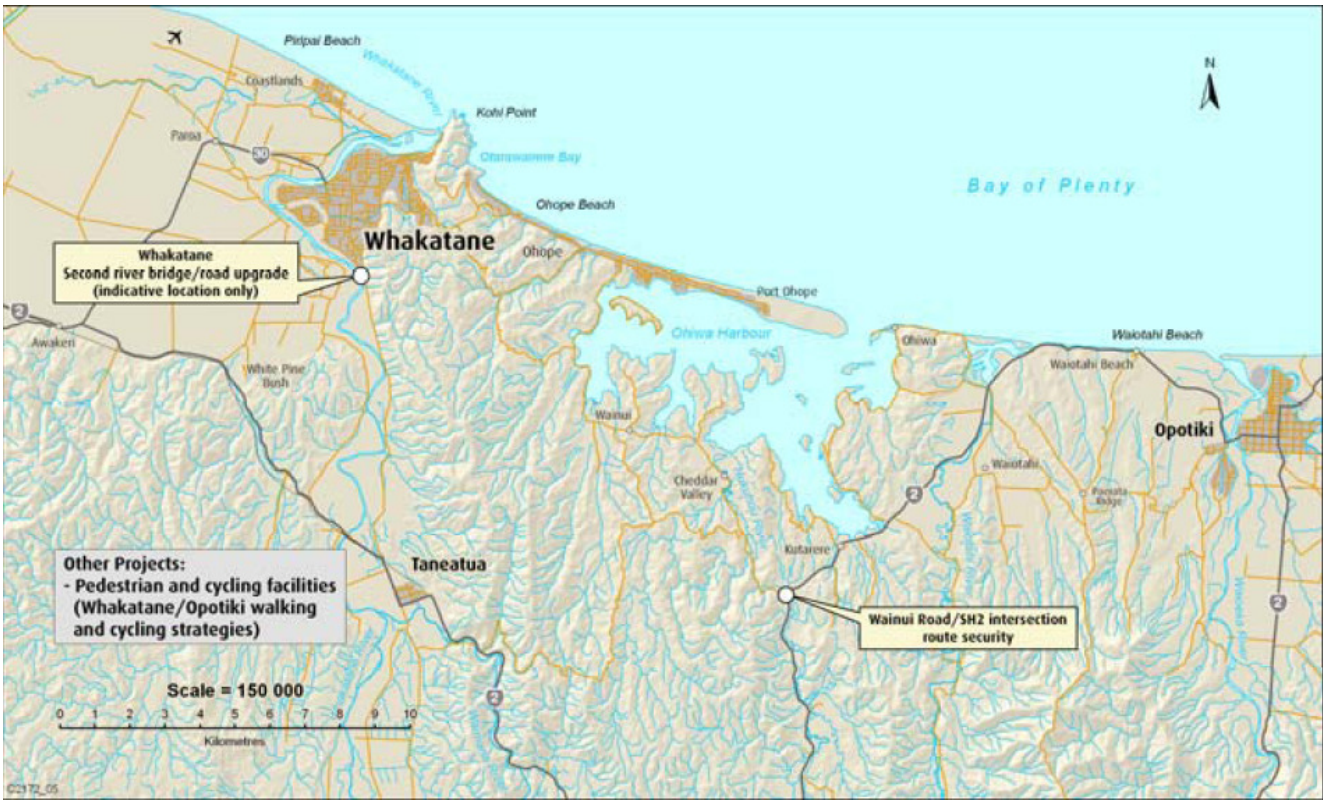
The components of the Eastern Bay of Plenty package are outlined in Table 3-2 below.

Table 3-2 : Eastern Bay of Plenty Package [2]

Component / Project	**Indicative Start Date**
Pedestrian and Cycling facilities (including implementation of Whakatane and Opotiki Walking and Cycling Strategies)	2006/07
Route security – Wainui Rd / SH 2 intersection	2008/09
Whakatane second river bridge and associated road upgrades	2014/15

[2] *Source: Bay of Plenty Regional Land Transport Strategy (page 104)*

Figure 3-1 : Projects identified in RLTS [3]



3.3 Local Policy

3.3.1 Proposed Whakatane District Plan

The District Plan provides for integrated management of land use activities and is the primary document for the Council to fulfil its role under the RMA which is to manage effects of land use change and subdivision. The District Plan has a dual role of detailing a specific range of zone types such as residential, business, rural, reserves, as well as establishing 'overarching' provisions that affect all land irrespective of its zoning.

Of particular relevance to this project is the ability of the District Plan to establish zones and establish development objectives, policies and rules. This project only addresses the effects of development and subdivision in Rural 1, 2, and 3 zones. Zones not only identify appropriate land-uses, but also subdivision and development standards such as density.

Rule 3.2.1 of the District Plan sets out the purpose for each zone as follows:

Rural 1 (Plains) Zone – includes areas that are comprised of soils with high ratings for versatility under the New Zealand Land Resources inventory system. The purpose of this approach is outlined in Objective LSR4:

To protect the inherent versatility of high quality solids from activities that would adversely affect those desirable physical, chemical, and biological characteristics which enable them to retain their life supporting capacity to sustain plant growth.

[3] *Source: Bay of Plenty Regional Land Transport Strategy (page 107)*

Rural 2 (Foothills) Zone – encompasses areas where the soils are subject to some limiting factors, such as gradient, erosion and drainage. The zone is intended to provide a diverse range of activities locating in the rural area.

Rural 3 (Coastal) Zone – created to manage three types of resource issues which occur concurrently in this areas including:

i) The natural hazard to the environment from coastal processes;
ii) The sensitivity of coastal wetlands, indigenous vegetation and foredunes to subdivision, use and development; and
iii) The conservation of the existing natural character, particularly its landscape value.

3.3.2 Ten Year Plan – LTCCP 2006-2016

Whakatane District Council's Long Term Council Community Plan (LTCCP) establishes not only the mission and principles, but also provides funding details of the projects and planned improvement for the period 2006-2016. The LTCCP also outlines community outcomes – these are a desired state or ideal that the community identifies and believes is important for its present and future wellbeing. Because Whakatane District is a mix of rural and urban environments, the Community outcomes can be applied to both. Of most relevance to this study are the community outcomes outlined in Table 3-3 below. The LTCCP also contains an assessment of water and wastewater services, including all the rural communities.

Table 3-3 : Relevant Community Outcomes from Whakatane's Long Term Council Community Plan

	Clean protected environment	• The environment is clean and natural resources are protected and conserved. • The community is educated and involved in environmental care. • Natural and cultural heritage places are recognised and protected. • Waste is well managed.
	Environmentally responsible development	• Development is planned, managed and controlled sustainably. • Economic growth is balanced with cultural, social and environmental responsibility.
	Prosperous economy	• The economy is prosperous in both urban and rural areas. • Business builds on the district's assets to support the economy. • Employment opportunities are available for all.
	High quality affordable infrastructure	• High quality affordable infrastructure supports growth (e.g. transport, water, energy, waste). • Roading is safe, convenient, and appropriate to all users. • Improvements in communication technology are available throughout the district (e.g. Mobile coverage and fast internet access).
	Safe caring community	• Communities help themselves and care about each other. • Youth development is supported and youth gain from and contribute to our community.
	Diverse, creative, and active community	• Facilities and venues are in place to accommodate a wide range activities for all. • Activities and events support and celebrate culture, creativity and recreation. • Māori culture is valued, celebrated, promoted and protected. • Diversity is valued and different cultures, genders and ages are respected.

4 A Snapshot of the Environment and Community

4.1 Historical Background

The first inhabitant, more than 1,000 years ago, was Tiwakawaka, a grandson of Maui, the legendary voyager and discoverer of Aotearoa.

Tiwakawaka's people had lived in Kakahoroa (later to be named Whakatane) for some generations before the arrival of the ancient tribes Te Tini o Toi, Te Hapuoneone and Nga Potiki. Many of Toi's people (Te Tini o Toi) married into the original settlers and from his stronghold - Kapu-te-rangi (one of the oldest known pa sites in New Zealand) - above Whakatane, his sons Rauru and Awanuiarangi, in turn went forth to found tribes of their own.

Some 200 years later, from this incident, Whakatane received its name from women paddling the waka Mataatua back to safety (in breach of tradition) when the outgoing tide threatened to carry it away.

Toroa's people intermarried with the tangata whenua and from them descend the Ngāti Awa, Tūhoe and Te Whakatōhea iwi which remain the guardians of the Eastern Bay of Plenty region to this day. There are a number of other Iwi from the Whakatane District, each with their own history.

European settlement began in the 1830s when whalers, sealers and later missionaries and traders made their homes here. The area became a major shipbuilding centre and the vessels were used to carry maize, potatoes, wheat and flax to other northern population centres for sale or barter.

The Whakatane area did not escape from the New Zealand land wars however, and in 1866, 181,000 hectares of land belonging to the 'rebel' tribes of the Bay of Plenty - Tūhoe, Te Whakatōhea and Ngāti Awa - were confiscated by the government.

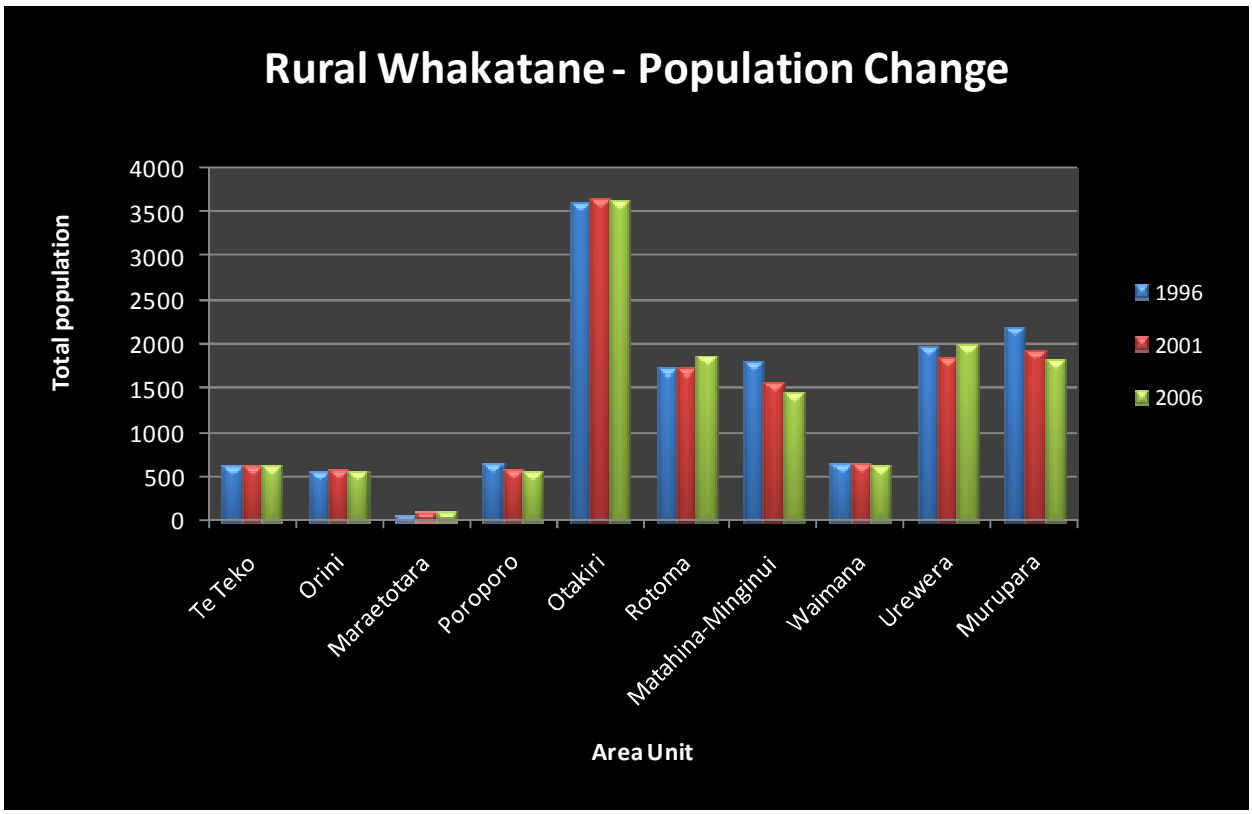
Following the turbulent times of Te Kooti's raid in 1869, Whakatane has developed with a strong economic, industrial and agricultural base. In the early 1900's, the swamplands of the Rangitaiki Plains were drained, with the diversion of the Rangitaiki River direct to the coast and the channelling and stopbanking of the Tarawera River. This enabled major development to occur on the Rangitaiki Plains. Reclamation in Whakatane also created new land for residential and commercial development.

4.2 Population Demographics

To analyse and predict future growth within the rural areas of Whakatane District, it is essential to understand the community, including the current demographic, social and economic context. The study area contains ten census area units, being Te Teko, Orini, Maraetotara, Poroporo, Otakiri, Rotoma, Matahina-Minginui, Waimana, Urewera and Murupara (refer to Appendix C). The boundaries of the census area units do not coincide perfectly with the areas zoned as rural under the District Plan. All data has been extracted from the 2006 census results unless otherwise stated.

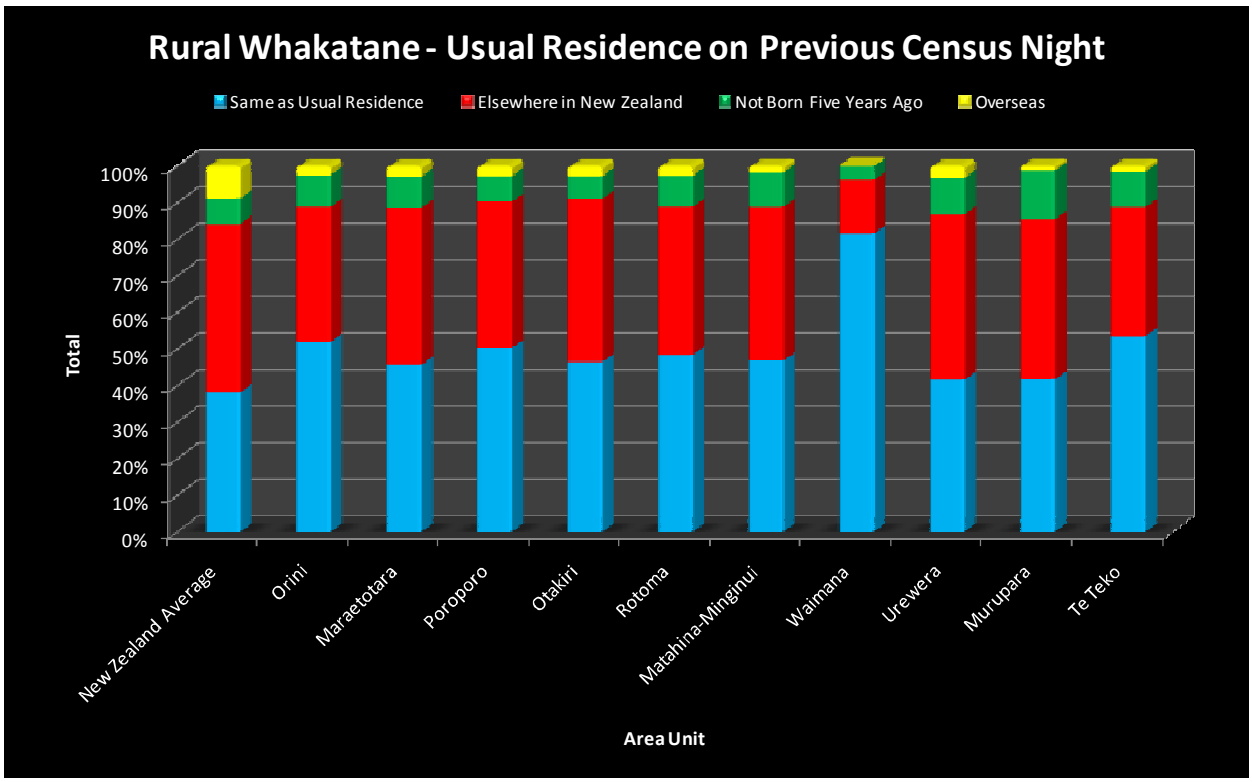
The total population of the study area (all ten census area units) in 2006 was 13,230, being a minor increase from 13,224 in 2001. However, the 2006 total population represents a decrease of around 5% over 10 years from 13,890 in 1996. As a whole, the total study area population has been relatively constant over the ten years between 1996 and 2006, although Matahina-Minginui and Murupara have experienced the greatest level of change (refer to Figure 4-1). Both areas have experienced a decrease of approximately 336 and 390 people over the decade respectively. Rotoma is the only area unit to have experienced positive population that is considered more than negligible, with a 7.2% increase since 1996. All census units have a largely even split of males and females, with 50.45% of the population in the study area being male.

Figure 4-1 : Population Change between 1996 and 2006



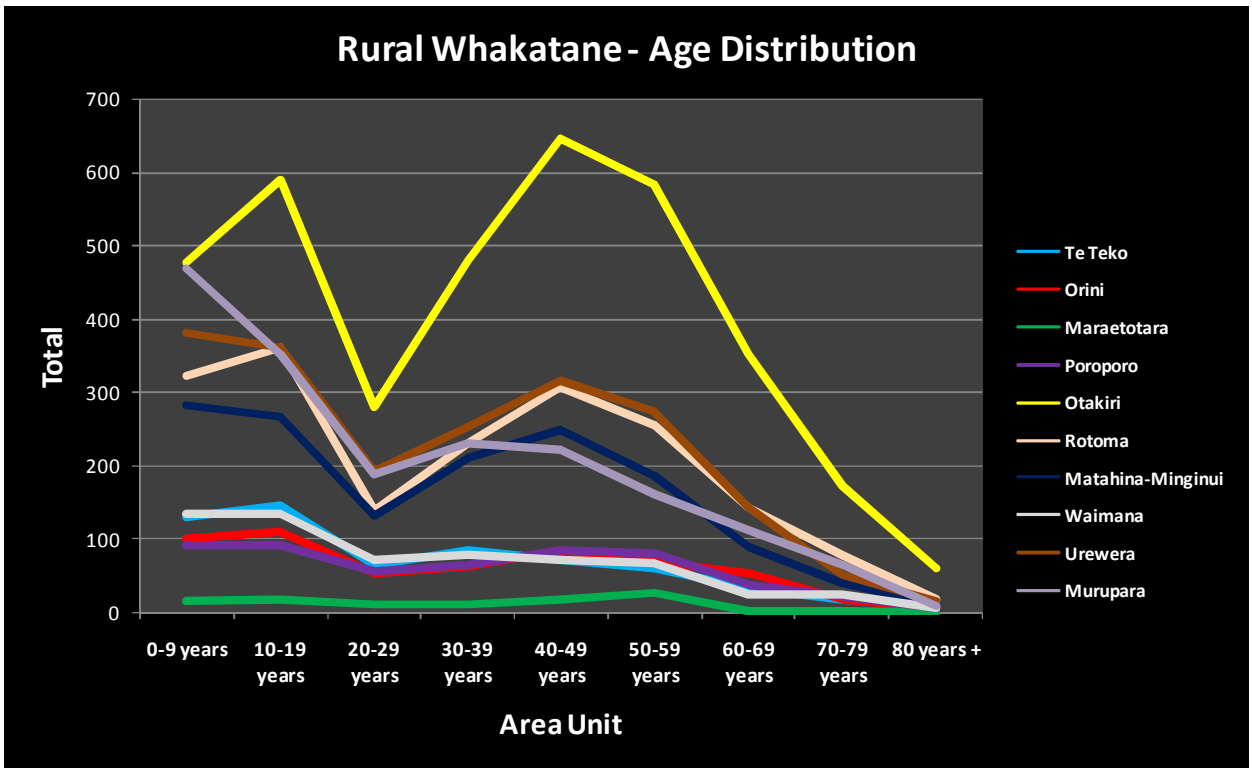
It is useful to assess why population change is occurring – whether it is due to natural increase (births) or immigration into and out of an area. Figure 4-2 compares the number of people who were in the same census area 5 years ago. From the data, there is a large proportion of the population in Urewera and Murupara who have moved there from elsewhere in New Zealand. However, the overall number of people who have moved into the study area from elsewhere in New Zealand is less than those who have remained in the same area. In summary, 5,814 have remained in the same area over the last 5 years while 5,616 have moved in the last five year period. Because the population figures between 1996 and 2006 years are relatively stable, albeit with a small decline, the number of people moving out of the area must be closely matched by those moving into the area. The result of this is a stable, self renewing population. Otakiri and Murupara also have the largest increase in population from births.

Figure 4-2 : 2006 Census Data Showing Usual Residence 5 Years Ago



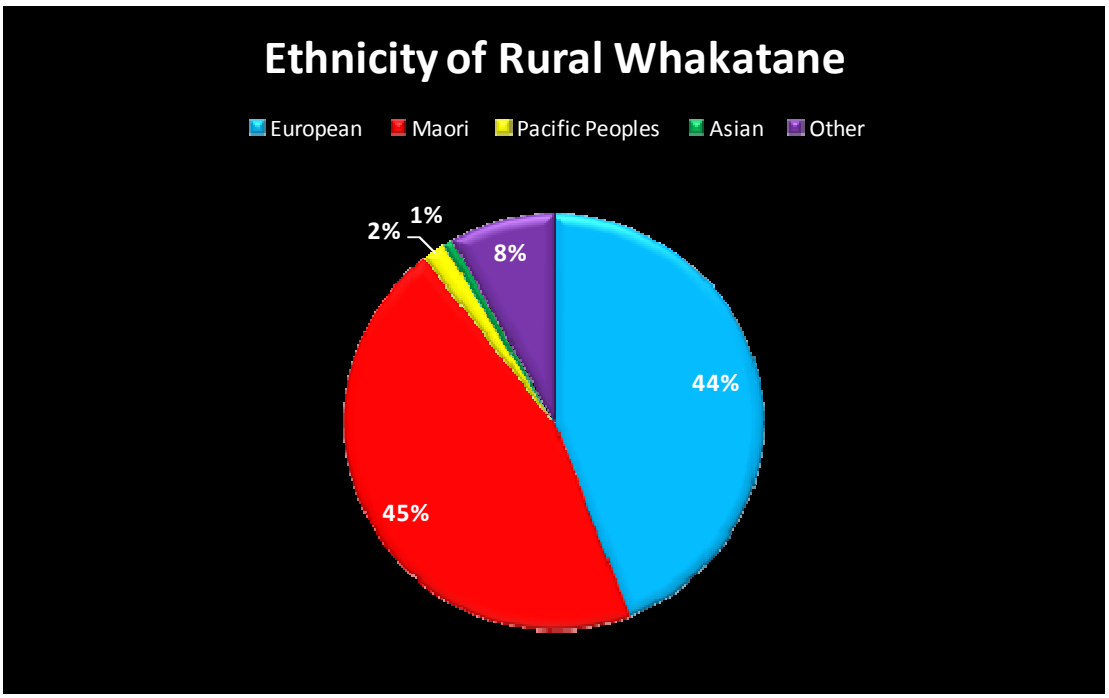
All ten census area units show relatively similar trends in the age distribution data (Figure 4-3). The "bulges" in the population occur in the 0-9 and 10-19 year age bracket, with another large total in the 40-49 year age bracket. Aside from a small number of elderly people, the smallest age group is the 20-29 year age bracket. The sharp downward trend begins to show for those 20 years and older, but then increases significantly with those in the 30-39 year age bracket. This may represent a lower birth rate during the late 1970's and throughout the 1980's, although is more likely to be a result of people in the 20-39 age group moving out of the area for employment reasons. In comparison, the overall statistics for Whakatane District show a similar trend in the representation of 20-29 years olds. It is possible that these age groups are moving away from the area initially for education reasons, then perhaps staying away due to employment opportunities elsewhere. If this is the case, from 30 years onwards, there is a move back to the study area.

Figure 4-3 : 2006 Census Data Showing Age Distribution of the Population



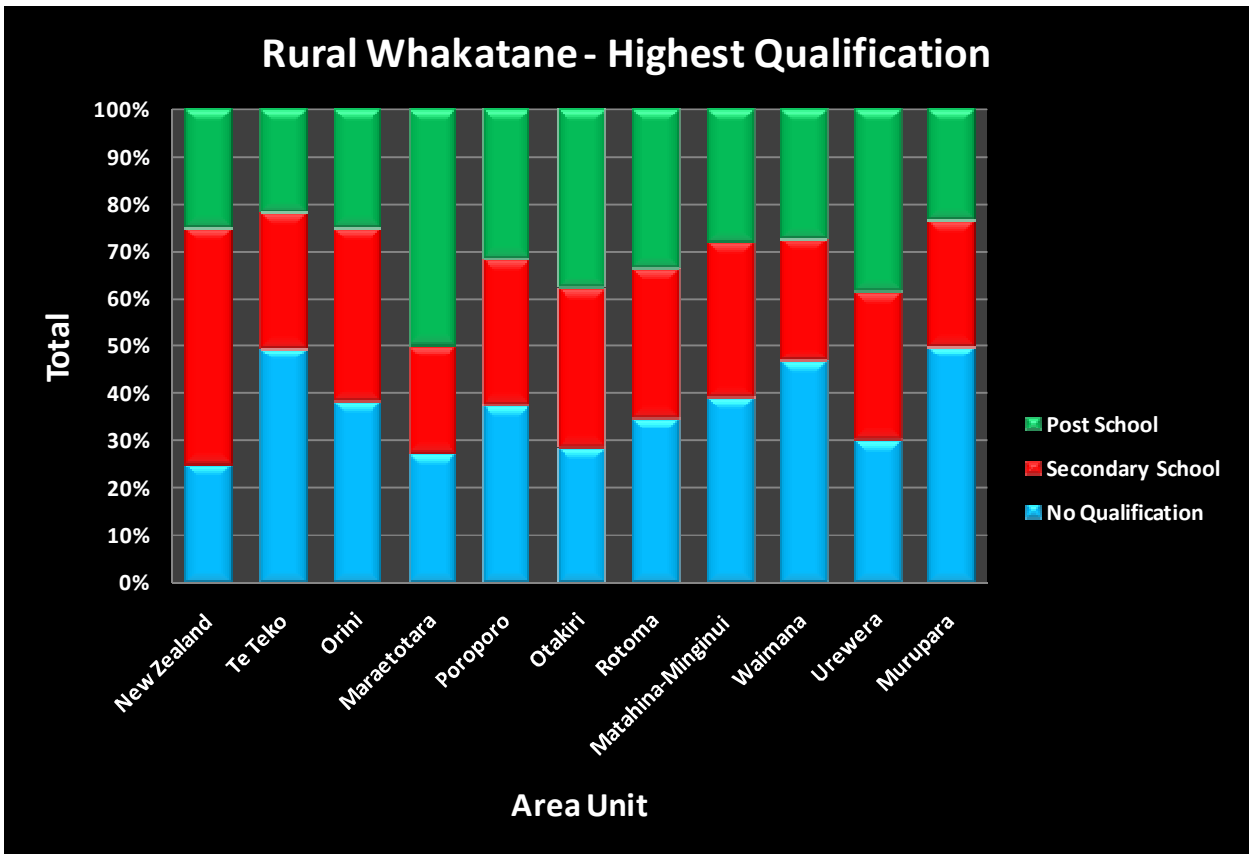
The ethnic background of the study area population is predominantly Maori and European as shown in Figure 4-4. The proportion of the two main ethnic groups is not evenly distributed however. Of all the census area units, Otakiri has the highest level of European being 75% and the lowest level of Maori (being 19%). Te Teko and Murupara have the highest Maori populations with 82% and 85% Maori respectively. The proportion of Pacific people ranges between 0% to 5%, with the highest proportion occurring in Orini. The percentage of people with an Asian background is even lower, with the highest being 2.7% and located in Maraetotara.

Figure 4-4 : 2006 Census Data Showing Proportions of Ethnic Background



Overall the ten area units within the study area have a similar level of qualification (Figure 4-5). The highest proportion of the population (36%) has no qualifications, except for Maraetotara, Otakiri and Urewera where a significant percentage of the population hold post secondary school qualifications.

Figure 4-5 :2006 Census Data Showing Highest Qualifications

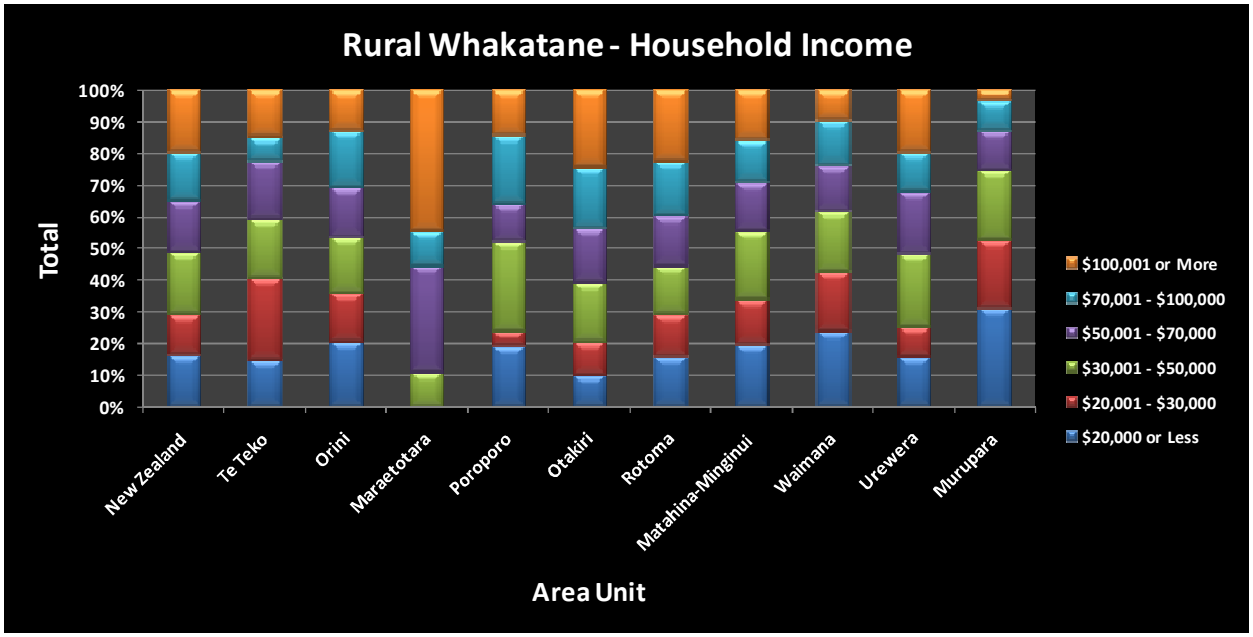


4.3 Employment and Income

The socio-economic profile of the study area shows a reasonably low to average annual household income (Figure 4-6). Around 29% of the population within these census area units have an annual household income of less than $30,000, with Waimana and Murupara having a higher proportion of low incomes compared to the other census units. Otakiri and Rotoma are relatively affluent census area units, comprising of significantly more households earning $70,000 or more.

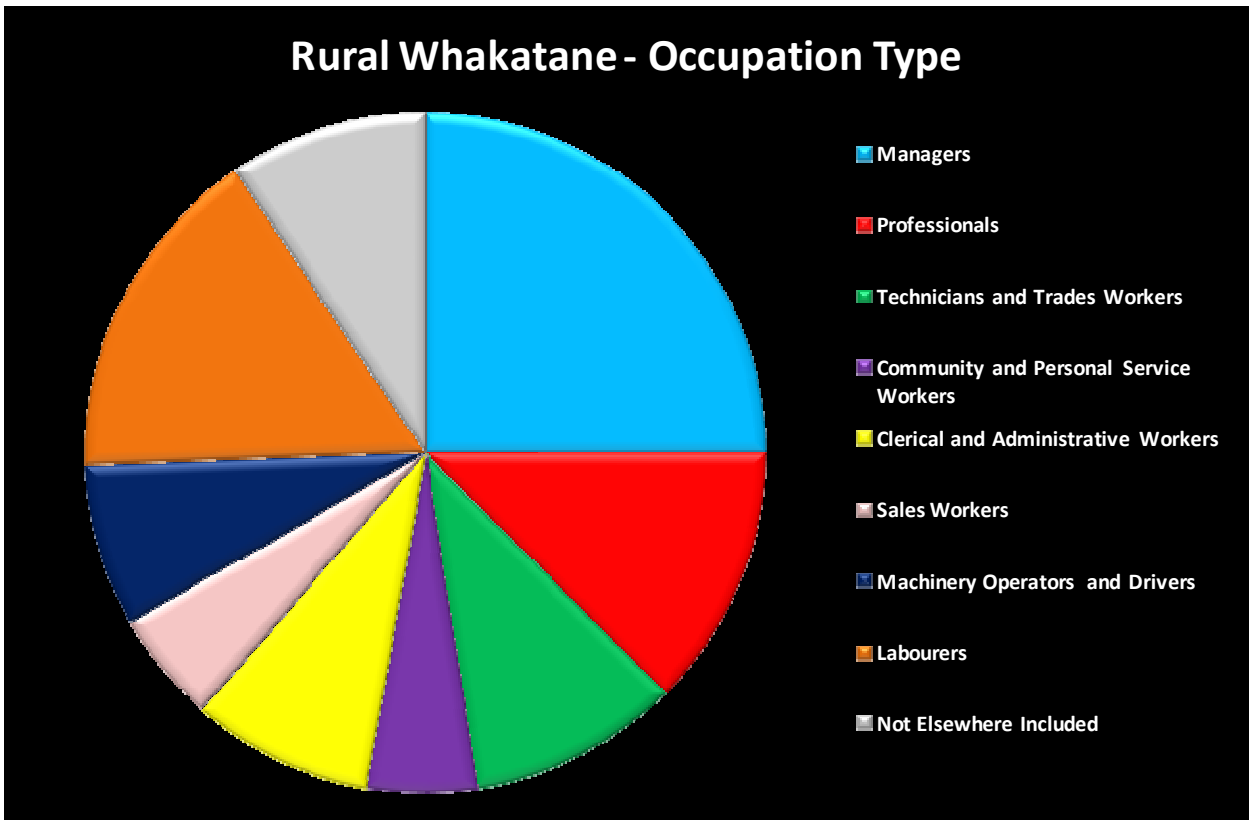
Maraetotara does not have any households earning less than $30,000, with the most common income bracket being $100,000 or more. However, it should be recognised that Maraetotara has a significantly lower population than the other area units and may in fact have the same number of higher income earners as the other areas but is represented as a higher percentage due to the lower overall population.

Figure 4-6 : 2006 Data for Annual Household Income



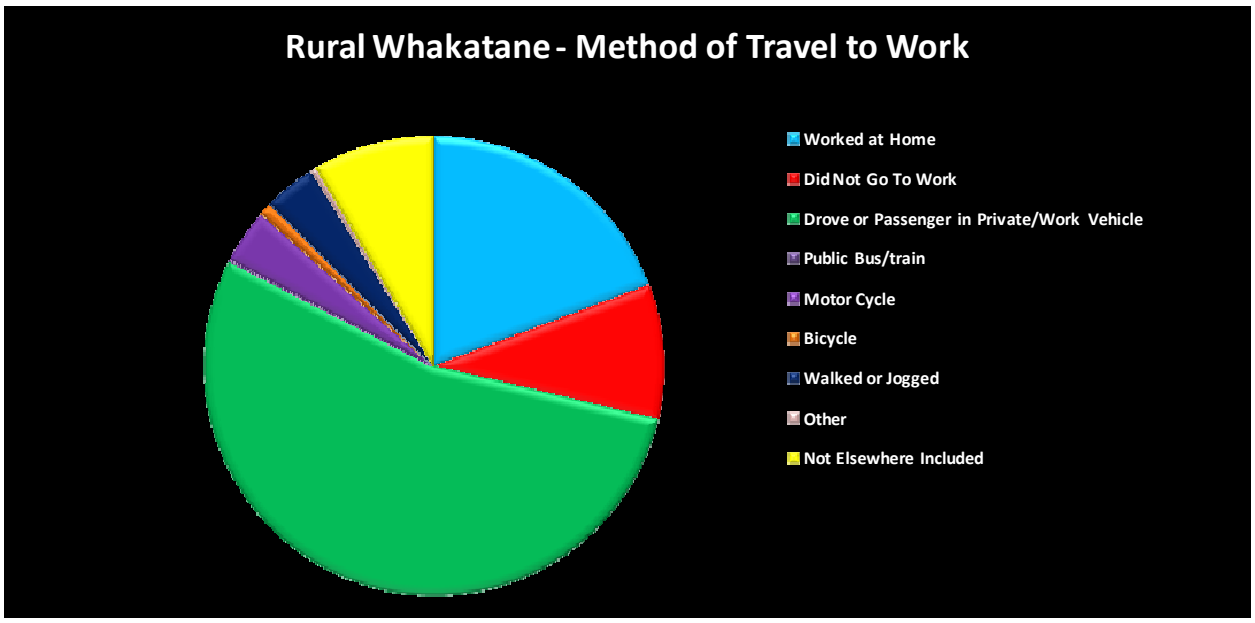
Whakatane ranks highly on the New Zealand Deprivation index with 25% of the population ranked as level 10 (the most extreme deprivation), and 18% as level 9.

Figure 4-7 : 2006 Census Data Showing Occupation



The most common occupations are managers, labourers and professionals, which is not as surprising as it seems, considering that farmers tend to class themselves in these categories (see Figure 4-7). Within Otakiri, 43% of the population are classed as either managers or professionals, which is higher than the average across the ten census area units. Murupara and Waimana are the lowest socio economic areas and have the largest proportion of labourers and machinery operators and drivers.

Figure 4-8 : 2006 Census Data Showing Method of Travel to Work



The car is the dominant mode of transport to travel to work, however this is not surprising given the distance from Whakatane and the relative isolation of the rural settlements. Furthermore, a large proportion worked at home, which is also a common characteristic of rural areas.

Given the dependence on the car, low to average economic status and distance from Whakatane, there are a corresponding high number of cars in each household. The number of cars owned in each area unit is largely proportional to the population in each area unit.

4.3.1 Summary

In summary, the socio-economic structure of the Whakatane rural study area comprises the following:

- The study area has a relatively steady population, but has experienced a small decline since the 1996 census.
- The study area has a high proportion of people in the 0-19 year age brackets and the 40-49 year age bracket, with a distinctly lower proportion of people aged 20-29 years.
- Mean household income levels are low to average, with 29% of all households having an annual income less than $30,000, compared to 19% earning $100,000 or more.
- The lowest socio economic areas are Waimana and Murupara.
- The population is largely Maori and European.
- Despite the low to average incomes, managers and professionals are the first and third most common occupations respectively.
- There are a high number of people who have moved into the study area from elsewhere in New Zealand, but a larger proportion of the population have lived at the same residence over the last 5 years.

4.3.2 Future Growth Expectations

Environment Bay of Plenty undertook a Demographic Forecast analysis in 2006, predicting demographic trends up to 2051. The analysis uses national and sub-national projections generated by Statistics New Zealand as a basis for projections, with an adjustment for net migration.

The past population trends for Whakatane District have been slowly increasing, with an increase in population of 2,286 between 1981 and 2001 (an increase of 7.5%). The population is predicted to remain relatively stable with a decrease of 300 people between 2001-2021 and a further loss of 900 people for the period 2021-2051.

The population structures are expected to change over time to match the generally aging population of New Zealand. Whakatane District has traditionally experienced a large export of population aged between 15-39 and this trend is expected to continue. In contrast, Whakatane District's older population is expected to be impacted by the expansion along the coast of Tauranga City's population - rising from 11.2% of the population older than 65 years in 2001 to 24.6% in 2051.

Patterns of household composition are also expected to change, with increasing numbers of households despite the decrease in population. Household numbers in Whakatane District are expected to increase from 11,400 in 2001 to 13,000 in 2051. The greatest increases will be in couple only households and single person households. This reflects the aging population and associated changes in living needs.

4.4 Transport

The Bay of Plenty regional population was 240,000 with 80% of the people living in urban areas, in 2001. Most of the population is concentrated in Tauranga, the Western Bay of Plenty and Rotorua. The region's population is projected to increase by 30% from 2001 to 2026 to 320,000 people. Most of the growth is predicted in the west of the region. The current estimated population for the Whakatane District is 33,900 people. Statistics New Zealand is predicting that the Whakatane District population is forecast to marginally decrease by 1 % over the next 25 years.

The car is the most popular way to travel. The use of public passenger transport in the region is low at present, and cycling and pedestrian trips are primarily urban travel modes for shorter trips. The main rail line runs through Hamilton and Tauranga to Kawerau. Rail plays a significant freightage role in the region, with the principal focus on the Port of Tauranga.

The Eastern Bay of Plenty generally has sufficient capacity and services to manage growth in the shorter term[4]. Significant growth in the Western Bay of Plenty has placed a strain on existing infrastructure. There are also social and environmental issues caused by large volumes of heavy vehicles traversing across the network.

The District is facing development pressure, particularly in Ohope, the Coastlands / Piripai area, the Ohiwa Harbour and environs, and in rural areas. High density developments are also occurring in the Whakatane urban area and at Ohope. There is demand for rural residential lots in the rural areas of the District which has the potential to create effects through access to the transport network and additional traffic volume.

Particular land use issues for Kawerau revolve around the forestry industry in the District. One of the objectives of the Forestry Strategy is to ensure that the infrastructure needs of the Forestry Industry are met.

The Eastern Bay of Plenty has developed an Economic Development Strategy which contains individual strategies for agriculture, aquaculture, forestry, horticulture and tourism. One of the high level goals of the Economic Development Strategy is that the Eastern Bay of Plenty will have an established and maintained infrastructure that provides a vehicle for economic development. Another goal is to encourage new business and support existing business by recognising agriculture, aquaculture, forestry, horticulture and tourism as its key industries.

The key transport issues relating to the Bay of Plenty are summarised below:

[4] *Bay of Plenty Regional Land Transport Strategy, June 2007 (p xiii)*

Eastern Bay of Plenty

- Route security (flooding and instability along the SH2 route).
- Vulnerable bridges (Pekatahi Bridge, Landing Road Bridge).
- Length of the SH2 route between Matata and the Wainui Road / SH2 intersection.
- Whakatane population growth.

Western Bay of Plenty

- Congestion and high growth.
- Heavy congestion on corridors e.g. SH29, SH2.
- Safety issues e.g. SH2 near Paengaroa
- Efficiency of road network.

Rotorua

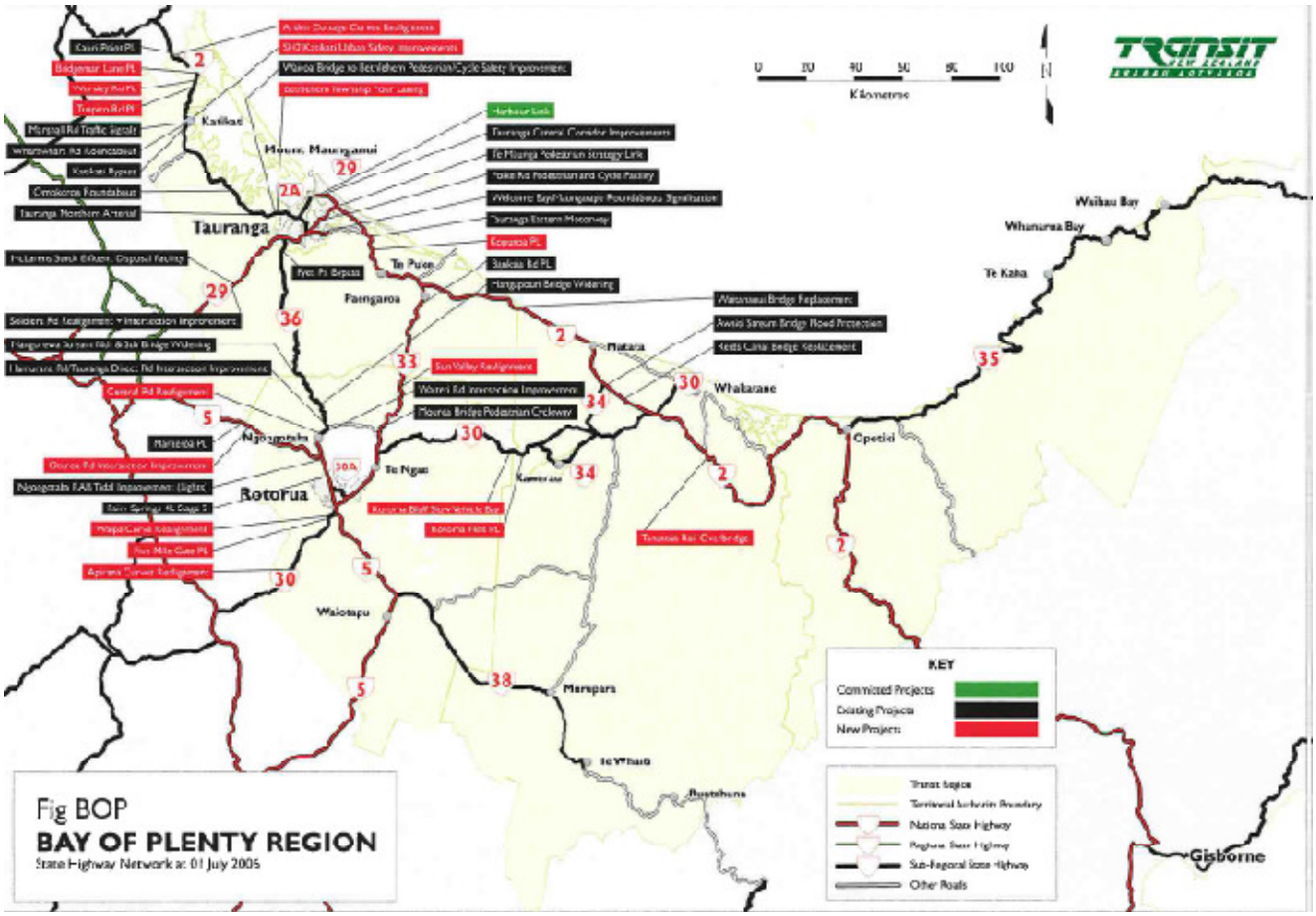
- Tourism traffic.
- Connectivity between east-west movements.

4.4.1 Land Transport Programme

A number of transport improvement projects are set out in New Zealand Transport Agency's Land Transport Programme (LTP) and 10-year Financial Forecast. The LTP sets out in detail Transit's programme of work for the year 2007/08 and the financial forecast for the State Highway network for the next 10-years. The LTP identifies the following relevant projects:

- Awati Stream Bridge Flood Protection;
- Reids Canal Bridge replacement;
- Taneatua Rail Overbridge.

Figure 4-9 : Projects Identified in LTP



4.5 Economic Analysis

4.5.1 Current Economic Situation

Whakatane District's economic activity is strongly influenced by the abundant natural resources in the region, particularly land for agriculture, horticulture and forestry. In 2006, Whakatane District had 3,530 business locations (geographic units or GUs[5]) and 11,310 employment counts (ECs)[6]. Whakatane District's total value added was $921m ($2004)[7]. This represented 11-12% of Bay of Plenty's total employment, business location activity, and total value added (GRP).

[5] *A geographic unit (GU) refers to the number of economically significant individual, private-sector and public-sector enterprises that are engaged in the production of goods and services in New Zealand. They must meet at least one of the following criteria: annual GST expenses or sales of more than $30,000, rolling mean employee count of greater than three, in a GST-exempt industry (except residential property leasing and rental), part of a group of enterprises, a new GST registration that is compulsory, special or forced, registered for GST and involved in agriculture or forestry.*

[6] *Employment can be measured in a variety of ways. Employment Count is a head count of all salary and wage earners for the reference month. This is mostly employees, but can include working proprietors who pay themselves a salary or wage. Employment Count data is mainly sourced from the IRD Employer Monthly Schedule (EMS). Since 2003 it has been updated monthly on Statistics New Zealand's Business Frame. The EC data presented in this report comes directly from Statistics NZ.*

[7] *Market Economics' Propriety Economic Futures Model (2007).*

In employment terms the key industries were:

- Retail Trade (1,690 ECs)
- Agriculture, Forestry and Fishing (1,570 ECs)
- Health and Community Services (1,530 ECs)
- Education (1,270 ECs)
- Manufacturing (1,130 ECs).

In value added terms the key industries were:

- Agriculture, Forestry and Fishing ($193m)
- Manufacturing ($126m)
- Property and Business Services ($80m).

The agriculture, forestry and fishing sector is the most dominant sector of the Whakatane economy, with strong contributions to value added from dairy cattle farming ($110m), forestry and logging ($27m), livestock and cropping farming ($21m), and horticulture and fruit growing ($19m). It should be noted that it is likely that the EC figures underestimate the importance of the agriculture, forestry and fishing sector within the District because a proportion of farmers may not pay themselves a wage or salary directly. This sector also accounted for 33% of GUs in the District. As well as the direct economic impact of agriculture, forestry and fishing activities, the sector has flow on effects sustaining employment in other supporting industries, for example, rural supplies, meat and produce processing, and farm equipment and machinery retail.

Approximately 85-90% of employment in the agriculture, forestry and fishing sector is currently located in meshblocks with some rural zoning. As rural land is converted to rural residential housing, it is inevitable that rural subdivision will have an impact on agricultural employment and output.

Table 4-1: 2006 Current Economic Situation by Industry Sector

Industry Sector (ANZSIC 96 1 Digit)		Whakatane District			Bay of Plenty Region			Whakatane's Share of BOP		
		ECs	GUs	Value Added ($m) ($2004)	ECs	GUs	Value Added ($m) ($2004)	ECs	GUs	Value Added ($m) ($2004)
A	Agriculture Forestry and Fishing	1,570	1,173	$ 192.9	9,040	6,725	$1,113.2	17%	17%	17%
B	Mining	20	3	$ 2.2	160	21	$ 28.4	13%	14%	8%
C	Manufacturing	1,130	136	$ 125.6	13,890	1,571	$1,131.2	8%	9%	11%
D	Electricity Gas and Water Supply	50	7	$ 35.1	440	30	$ 164.0	11%	23%	21%
E	Construction	740	272	$ 34.0	7,640	3,369	$ 410.2	10%	8%	8%
F	Wholesale Trade	310	80	$ 23.2	5,080	1,176	$ 423.0	6%	7%	5%
G	Retail Trade	1,690	324	$ 60.6	14,760	2,894	$ 484.2	11%	11%	13%
H	Accommodation Cafes and Restaurants	580	89	$ 12.7	7,100	851	$ 168.9	8%	10%	8%
I	Transport and Storage	280	88	$ 21.4	4,120	869	$ 301.6	7%	10%	7%
J	Communication Services	60	18	$ 5.3	1,430	169	$ 144.2	4%	11%	4%
K	Finance and Insurance	170	52	$ 20.4	1,680	646	$ 238.3	10%	8%	9%
L	Property and Business Services	780	823	$ 79.9	9,480	7,837	$ 917.7	8%	11%	9%
M	Government Administration and Defence	440	22	$ 40.0	2,590	110	$ 242.6	17%	20%	16%
N	Education	1,270	110	$ 46.1	7,030	567	$ 299.1	18%	19%	15%
O	Health and Community Services	1,530	136	$ 58.3	11,990	1,181	$ 411.4	13%	12%	14%
P	Cultural and Recreational Services	240	70	$ 9.1	2,730	619	$ 101.8	9%	11%	9%
Q	Personal and Other Services	450	125	$ 16.9	3,310	967	$ 120.0	14%	13%	14%
	Other Value Added	-	-	$ 137.7	-	-	$1,186.9	0%	0%	12%
Total		**11,310**	**3,528**	**$ 921.4**	**102,470**	**29,602**	**$7,886.5**	**11%**	**12%**	**12%**

4.5.2 Past Trends

For the purpose of this report, economic growth has been measured as the creation of employment and business locations between 2001 and 2006. This data has been derived from Statistics New Zealand's Business Frame. Prior to 2004, ECs and GUs were not collected for the agriculture, forestry and fishing sector. This means that growth can only be reported for the period 2004-2006 for this industry sector.

Overall, the Whakatane economy (excluding agriculture, forestry and fishing) has grown by 1,050 ECs (12%) over the five year period (Table 4-2), equivalent to approximately 2% per annum employment growth. Three sectors (construction, manufacturing and property business services) grew by more than 300 ECs over the period. The agriculture, forestry and fishing sector has average growth at 3% per annum since 2004.

In employment terms, the Whakatane economy has grown at a slower rate annually (2%) than the Bay of Plenty Region overall (4%). While the agriculture, forestry and fishing sector has decreased at a rate of 3% per annum in the Bay of Plenty Region since 2004, this sector has continued to grow in Whakatane District (3% p.a.).

Table 4-2: 2001-2006 Whakatane District Employment (EC) Growth by Industry Sector

Industry Sector (ANZSIC 96 1 Digit)		ECs						Growth (n)	Growth (%)
		2001	2002	2003	2004	2005	2006	01-06	01-06
A	Agriculture Forestry and Fishing**	440	590	610	1,490	1,480	1,570		
B	Mining	20	10	20	20	20	20	-	0%
C	Manufacturing	800	1,100	790	750	880	1,130	330	41%
D	Electricity Gas and Water Supply	40	70	80	80	110	50	10	25%
E	Construction	370	450	480	540	660	740	370	100%
F	Wholesale Trade	240	260	250	250	290	310	70	29%
G	Retail Trade	1,610	1,660	1,670	1,740	1,780	1,690	80	5%
H	Accommodation Cafes and Restaurants	390	490	540	450	540	580	190	49%
I	Transport and Storage	270	260	270	270	290	280	10	4%
J	Communication Services	50	40	30	40	60	60	10	20%
K	Finance and Insurance	120	150	160	150	160	170	50	42%
L	Property and Business Services	440	580	630	710	880	780	340	77%
M	Government Administration and Defence	350	360	380	400	550	440	90	26%
N	Education	1,240	1,080	1,200	1,280	1,280	1,270	30	2%
O	Health and Community Services	2,200	1,550	1,550	1,590	1,470	1,530	- 670	-30%
P	Cultural and Recreational Services	210	190	190	190	230	240	30	14%
Q	Personal and Other Services	340	390	460	440	420	450	110	32%
Total (excl Agriculture, Forestry and Fishing)		**8,690**	**8,640**	**8,700**	**8,900**	**9,620**	**9,740**	**1,050**	**12%**

Over the five year period between 2001 and 2006, the number of business locations (excluding agriculture, forestry and fishing) in Whakatane District has increased from 1,890 GUs to 2,355 GUs, at an average annual growth of 4% (Table 4-3). The most significant increases in business locations have been in the property and business services (280 GUs) and the construction (70 GUs) sectors. The number of business locations for the agriculture, forestry and fishing sector has decreased by 1% per annum since 2004. The Bay of Plenty region has also shown a decline in the number of business location in the agriculture, forestry and fishing sector (-2% p.a.). In business location terms, the Whakatane economy's average annual growth has been slightly slower than the Bay of Plenty region (5%).

Table 4-3: 2001-2006 Whakatane District Business Location (GU) Growth by Industry Sector

Industry Sector (ANZSIC 96 1 Digit)		GUs						Growth (n)	Growth (%)
		2001	2002	2003	2004	2005	2006	01-06	01-06
A	Agriculture Forestry and Fishing**	152	162	184	1,204	1,180	1,173		
B	Mining	5	5	5	5	4	3	- 2	-40%
C	Manufacturing	122	126	124	128	126	136	14	11%
D	Electricity Gas and Water Supply	6	8	8	9	8	7	1	17%
E	Construction	205	208	214	228	241	272	67	33%
F	Wholesale Trade	83	87	91	86	81	80	- 3	-4%
G	Retail Trade	314	307	307	326	335	324	10	3%
H	Accommodation Cafes and Restaurants	71	81	86	84	92	89	18	25%
I	Transport and Storage	72	72	76	83	87	88	16	22%
J	Communication Services	15	13	15	16	16	18	3	20%
K	Finance and Insurance	45	50	52	47	49	52	7	16%
L	Property and Business Services	540	609	635	770	801	823	283	52%
M	Government Administration and Defence	20	21	23	24	25	22	2	10%
N	Education	103	100	103	107	111	110	7	7%
O	Health and Community Services	122	128	128	130	139	136	14	11%
P	Cultural and Recreational Services	77	76	79	79	77	70	- 7	-9%
Q	Personal and Other Services	98	105	107	115	114	125	27	28%
Total (excl Agriculture, Forestry and Fishing)		**1,898**	**1,996**	**2,053**	**2,237**	**2,306**	**2,355**	**457**	**24%**

4.5.3 Likely Future Economic Trends

To estimate likely growth under 'business-as-usual' conditions, the Market Economics' proprietary Economic Futures Model (EFM) has been run using Environment Bay of Plenty population projections to 2026. The EFM is an Excel-based model that combines detailed Input-Output (IO) data on current economies with population and export growth projections, to estimate future economic growth. Whakatane's value added is expected to grow by $123m, reaching $1.045 billion by 2026 while employment is expected to grow by 1,100 ECs, reaching 12,400 ECs (Table 4-4). Growth in the agriculture, forestry and fishing sectors will account for approximately 60% of total employment growth and 75% of value added growth in the District.

Table 4-4: 2006-2026 Whakatane District Value Added and Employment Growth by Industry

Industry Sector (ANZSIC 96 1 Digit)		Value Added ($m) ($2004)					ECs				
		2006	2016	2026	Growth ($)	Share of Total Growth	2006	2016	2026	Growth (n)	Share of Total Growth
A	Agriculture Forestry and Fishing	$ 192.9	$ 233.2	$ 284.7	$ 91.8	75%	1,568	1,861	2,237	669	60%
B	Mining	$ 2.2	$ 2.4	$ 2.7	$ 0.5	0%	18	20	22	4	0%
C	Manufacturing	$ 125.6	$ 132.6	$ 142.4	$ 16.7	14%	1,128	1,216	1,331	203	18%
D	Electricity Gas and Water Supply	$ 35.1	$ 36.5	$ 37.9	$ 2.8	2%	46	48	50	4	0%
E	Construction	$ 34.0	$ 34.5	$ 34.4	$ 0.5	0%	740	752	750	10	1%
F	Wholesale Trade	$ 23.2	$ 24.1	$ 24.9	$ 1.7	1%	310	322	332	22	2%
G	Retail Trade	$ 60.6	$ 61.8	$ 62.2	$ 1.6	1%	1,694	1,728	1,737	43	4%
H	Accommodation Cafes and Restaurants	$ 12.7	$ 13.2	$ 13.6	$ 0.9	1%	584	608	624	40	4%
I	Transport and Storage	$ 21.4	$ 21.5	$ 21.7	$ 0.2	0%	282	285	289	7	1%
J	Communication Services	$ 5.3	$ 5.4	$ 5.5	$ 0.1	0%	58	59	59	1	0%
K	Finance and Insurance	$ 20.4	$ 21.6	$ 22.8	$ 2.5	2%	171	181	191	20	2%
L	Property and Business Services	$ 79.9	$ 82.8	$ 85.2	$ 5.3	4%	783	822	860	77	7%
M	Government Administration and Defence	$ 40.0	$ 41.7	$ 42.7	$ 2.7	2%	435	450	458	23	2%
N	Education	$ 46.1	$ 46.3	$ 45.5	-$ 0.7	-1%	1,270	1,275	1,251	- 19	-2%
O	Health and Community Services	$ 58.3	$ 58.4	$ 57.1	-$ 1.2	-1%	1,534	1,537	1,502	- 32	-3%
P	Cultural and Recreational Services	$ 9.1	$ 9.4	$ 9.6	$ 0.5	0%	240	248	253	13	1%
Q	Personal and Other Services	$ 16.9	$ 17.4	$ 17.7	$ 0.8	1%	446	459	466	20	2%
	Other Value Added	$ 137.7	$ 137.5	$ 133.9	-$ 3.7	-3%	-	-	-	-	0%
Total		**$ 921.4**	**$ 980.4**	**$1,044.5**	**$ 123.1**	**100%**	**11,307**	**11,871**	**12,415**	**1,108**	**100%**

4.6 Property Development Trends

The stability in population predicted by EBoP's Demographic Forecast 2051 is not necessarily reflected in the number of resource consents or building consents in Whakatane's rural areas. Over the period 2001-2006, 160 subdivisions were approved, resulting in 350 new titles and 367 possible new dwellings. On average, 70 new titles were created every year, with 73 possible new dwellings. 2004 and 2006 had the largest number of rural subdivision consents granted, with 82 and 78 titles created respectively (Table 4-5).

Table 4-5: Rural Subdivisions 2002-2006

Year	Number of new titles created	Number of possible new dwellings	Original number of titles
2002	73	72	40
2003	61	57	44
2004	82	89	40
2005	56	59	32
2006	78	90	31
TOTAL	**350**	**367**	**187**

The location of subdivisions was not evenly distributed, with Otakiri having the greatest number.

Table 4-6: Location of Rural Subdivisions

Area	2002	2003	2004	2005	2006	TOTAL
Maraetotara	1	0	0	0	0	**1**
Matahina-Minginui	2	4	1	3	0	**10**
Ohiwa	3	2	1	1	0	**7**
Orini	0	0	1	0	0	**1**
Otakiri	14	19	15	10	20	**78**
Poroporo	1	0	1	3	0	**5**
Rotoma	8	5	6	5	2	**26**
Urewera	5	7	8	4	7	**31**
Waimana	0	0	1	0	0	**1**
TOTAL	**34**	**37**	**34**	**26**	**29**	**160**

Rural subdivisions were not evenly dispersed in terms of zoning over the last 5 years – 75 were in Rural 1, 79 in Rural 2, and only 6 in Rural 3. Boundary adjustments, amalgamations, right of ways and other subdivisions that did not result in the creation of new titles were not included in this analysis.

4.7 Building Consents

Subdivisions can often be undertaken without any physical changes to the sites. Newly created sites may remain vacant for some years and it is not until physical changes are made (such as a dwelling being constructed, access ways formed, fences erected, etc) that the effects of subdivision are experienced. An analysis of building consents over the last five years has been undertaken to look at the extent of change from development. This involved retrieval of building consent issued data from the Council's database and insertion of this data into excel spreadsheets by calendar year from 2003 until 2007. The data was then sorted, and only building consents relating to new dwellings were used for this analysis. MapInfo was used to allocate a Census Area Unit and Zone for each address. Tables 4-7, 4-8 and 4-9 summarise this analysis and show the number of building consents for new dwellings by year, Census Area Unit and Zone.

Table 4-7: Total Number of Building Consents Issued (between 2003-2007) by Census Area Unit

Census Area unit	Year					
	2003	2004	2005	2006	2007	TOTAL
Maraetotara	1	6	2	2	0	11
Matahina-Minginui	7	4	5	3	4	23
Murupara	0	0	1	0	1	2
Orini	1	0	1	1	1	4
Otakiri	17	32	25	10	25	109
Poroporo	0	0	1	5	0	6
Rotoma	9	13	3	6	5	36
Taneatua Community	1	0	2	0	0	3
Urewera	8	6	4	4	8	30
Waimana	0	0	0	0	1	1
Total	**44**	**61**	**44**	**31**	**45**	**225**

The total number of building consents issued for new dwellings in the rural parts of the District over the last five years is 225. Out of the five years (from 2003-2007) the year 2004 had the most building consents for new dwellings issued with 61. Aside from 2004, each of the years from 2003 to 2007 has seen a relatively consistent amount of building consents issued per annum.

Otakiri experienced the largest number of buildings consents with 109 over the period, which was by far the most popular area. Other Census Area Units experienced considerably lower growth in terms of new dwellings such as Murupara, Taneatua and Waimana.

It should be noted that for the same five-year period, 454 building consents were issued for dwellings in Whakatane's urban residential area.

Table 4-8: Total Number of Building Consents Issued (between 2003-2007) by Zone

Zone	Rural 1	Rural 2	Rural 3	Rural 4	Total
2003	17	26	0	3	46
2004	28	35	0	4	67
2005	23	18	0	6	47
2006	15	16	0	2	33
2007	28	16	0	5	49
Total	**111**	**111**	**0**	**20**	**242**[8]

Based on the District Plan zones, Rural 1 and 2 have experienced the largest changes in terms of new dwellings, with 2004 seeing the largest total of new building consents issued.

Table 4-9: Total Number of Building Consents Issued (between 2003-2007) by Census Area Unit and Zone

Census Area unit	Zone				
	Rural 1	Rural 2	Rural 3	Rural 4	TOTAL
Maraetotara	1	10	0	0	**11**
Matahina-Minginui	7	16	0	0	**23**
Murupara	0	0	0	1	**1**
Orini	4	0	0	0	**4**

[8] *It should be noted that Table 4-6 encompasses Census Area Units that are predominantly urban but do contain some rural areas, hence the difference in the total number of building consents issued.*

Census Area unit	Zone				
	Rural 1	Rural 2	Rural 3	Rural 4	TOTAL
Otakiri	64	45	0	0	**109**
Poroporo	6	0	0	0	**6**
Rotoma	23	13	0	0	**36**
Taneatua Community	0	0	0	3	**3**
Urewera	6	24	0	0	**30**
Waimana	0	1	0	0	**1**
Total	**111**	**109**	**0**	**4**	**224**[9]

The number of building consents issued, based on Zone and Census Area Unit, is summarised in Table 4-9. Again Otakiri experienced the highest level of new dwellings, with most occurring in the Rural 1 Zone. It is unknown how many of these dwellings have resulted from subdivisions of land with greater than 60% poor soils (thus utilising the Rural 2 subdivision rules). Further detailed analysis would be needed to determine this.

As shown on Table 4-9, of all the rural zones, the vast majority of new dwellings have been constructed within the Rural 1 and 2 Zones, with none developed at all in the Rural 3 Zone. Rotoma, Urewera and Matahina-Minginui are the only other Census Area Units that have had any significant number of new building consents issued over the five year period.

4.8 Complaints Database

4.8.1 Whakatane District Council

Whakatane District Council's complaints database indicates some discrete areas of conflict in the rural area. Between 2001 and 2007, 50 complaints were received by Council from the rural area. The broad topics are shown in Table 4-10.

Table 4-10 : Number and type of complaints made to WDC

Complaint type	Number of complaints
Earthworks	19
Noise related	14
Vegetation related	3
Commercial nature	10
Odour	3
Buildings issues	1
TOTAL	**50**

Complaints regarding earthworks included issues of sediment in stormwater runoff, excavation, retaining walls, unconsented earthworks, dust nuisances from construction sites, and sediment control. Many of these issues are not unique to the rural area. However, some of the noise complaints are specific to the rural area and include rural activities such as bird scaring devices, operation of chainsaws, frost fans and noisy farm vehicles including bulldozers.

There were also several complaints relating to non-complying businesses (particularly industrial-type operations) operating from home within the rural areas.

[9] *It should be noted that the total shown on Table 4-9 will slightly differ from that of Table 4-7 as a building consent was issued within a the Murupara Census Area Unit that has Residential zoning.*

4.8.2 Environment Bay of Plenty

The Environment Bay of Plenty's (EBoP) complaint database has registered 1,682 separate complaints from within the Whakatane District since 2002.

In terms of classifying the rural incidents; 72 of these complaints were categorised as 'Agricultural / Horticultural', while 13 related to 'Agricultural Spray'. These 85 complaints, which are specific to rural areas, represent only 5% of the total number of complaints reported to the EBoP.

However, it should be noted that over 200 further complaints correspond to keywords specific to rural areas, such as 'dairy', 'manure', 'cows', 'orchard' and 'effluent'. Whilst a detailed analysis of this database has not been undertaken, most of the complaints relating to the rural areas concern odour, smoke and spray drift from adjacent properties, and effluent discharges. A reasonable assumption can therefore be made that reverse sensitivity is indeed an issue in the rural areas of the District.

5 Potential Development

The rural zones of Whakatane District include a broad range of uses – ranging from rural residential to economically productive horticulture and agriculture. The physical environment is variable too, encompassing 89 kilometres of coastline, river flats, coastal sand dunes, foothills, inland lakes, estuarine harbours and densely vegetated mountains. A significant proportion of the District (41%) is protected native forest within the Te Urewera National Park. There are a large number of cultural heritage sites (including archaeological sites) and protected natural heritage features.

There are four rural zones within the study area as defined in the Proposed District Plan. These are the Rural 1 (Plains), Rural 2 (Foothills), Rural 3 (Coastal), and Rural 4 (Settlement) Zones. This study only addresses the Rural 1, 2 and 3 zones as Rural 4 comprises the densely settled residential areas such as Matata and Taneatua, which are more urban in nature. To ensure the 'big picture' is taken into account the assessment of the effects of rural subdivision must consider the level of development available under existing District Plan provisions (refer to Appendix B).

5.1 Rural 1 (Plains) Zone

This zone includes areas that are comprised of soils of high versatility under the New Zealand Land Resource Inventory system (NZLRI), which is largely limited to the plains west of Whakatane and also south of Lake Aniwhenua, around Murupara. The Proposed District Plan states that the purpose of the zone is to retain the characteristics of this finite resource.

Under Rule 4.1.7.1 of the Proposed District Plan, the Rural 1 (Plains) Zone generally has an 8.0 hectare minimum lot size (allowing 1 dwelling per title), although the subdivision provisions of the Rural 2 (Foothills) Zone can be used if greater than 60% of the subject land contains lower class soil according to the NZLRI (refer to Appendix E).

5.2 Rural 2 (Foothills) Zone

This zone refers to the areas of the Whakatane District where soils are subject to some limiting factors, such as gradient, erosion and drainage. The Rural 2 (Foothills) Zone covers the majority of the Whakatane District, and includes the forest areas on the western side of Rangitaiki River and the Te Urewera National Park, which in itself makes up 41% of the entire District.

The zone is intended to provide for a diverse range of activities within rural areas. Under Rule 4.1.7.2 of the Proposed District Plan, the Rural 2 (Foothills) Zone has a 5000m2 minimum lot size (1 dwelling per title) provided a 2.0 hectare lot size average is maintained.

5.3 Rural 3 (Coastal) Zone

The Rural 3 (Coastal) Zone, which contains several small areas of land north-west of Coastlands and Whakatane, has been created to manage three significant resource management issues which occur concurrently in the area. These issues are:

i) The natural hazard to the environment from coastal processes;
ii) The sensitivity of coastal wetlands, indigenous vegetation and foredunes to subdivision, use and development; and
iii) The conservation of the existing natural character, particularly its landscape value.

Under Rule 4.1.7.3 of the Proposed District Plan, the zone has a 2.0 hectare minimum lot size (1 dwelling per title). It is also stated that where any parent title under subdivision is split between the Rural 3 (Coastal) Zone and any other zone, the subdivision must generate titles with at least the minimum or average lot sizes for each respective zone.

5.4 Theoretical Subdivision Potential for the Entire Rural Area

Based on the density and minimum lots size requirements contained in the Proposed District Plan, 128,526 theoretical additional lots could be created within the Rural 1, 2 and 3 Zones (refer to Table 5-1 below). The potential for further development was calculated by analysing the size of sites within each zone and determining whether each site has the potential to be subdivided.

It should be recognised that these are theoretical totals and do not take into account physical features or market influences that may prevent these additional lots being created. For example, the total of 108,053 potential lots within the Rural 2 (Foothills) Zone reduces to 43,487 potential lots when latent development potential is calculated after discounting land considered unsuitable for subdivision. Land with a slope greater than 20 degrees was removed from the calculations (refer to Appendix D). The calculations also do not take into account land that would need to be put aside for the provision of reserves and infrastructure such as roading.

The Rural 1 subdivision rules allow the subdivision provisions of the Rural 2 (Foothills) Zone to be used if 60% of the subject land contains lower class soil according to the NZLRI (Appendix D). As 809 separate parent lots (zoned Rural 1) fall into the category of having greater than 60% poor soils, this potentially allows for 17,195 additional lots.

Table 5-1 : Potential Additional Lots within Rural Zones

Rural Zone	Theoretical number of potential lots
Rural 1 (Plains) Zone	3,013
Rural 1 with more than 60% lower class soil	17,195
Rural 2 (Foothills) Zone	108,053
Rural 2 yield not including forestry areas and slope >20^{o}	43,487
Rural 3 (Coastal) Zone	265
THEORETICAL TOTAL **REALISTIC TOTAL**	**128,526** **63,960**

It should be noted that a total of 1,918 Rural 1 zoned lots had greater than 60% poor soils, however 1,109 of these lots were not considered in this analysis because they were less than 4 hectares in total size, and therefore had no potential to be subdivided under the Rural 2 Zone provisions. Those 809 parent lots within the Rural 1 Zone, which potentially allow for 17,195 additional lots, range from 4.01 ha in size up to 6,213 ha in size.

The theoretical potential lots have been mapped and these maps are contained in Appendix D. These maps show the geographical distribution of potential lots throughout the rural areas of the District.

Obviously the mapping that has generated the theoretical number of potential lots should only be used to provide some context to the potential for effects from rural subdivision. The theoretical maximum level of subdivision indicated by the mapping would never occur in the rural areas of the District. In fact, it is highly unlikely that anywhere near this level of subdivision would ever occur in the rural areas of the District. However, in some locations, landowners will take advantage of the relatively significant increased density that is provided for by the subdivision provisions of the District Plan.

5.5 Ownership

Most of the properties within the study area are individually owned although there are some large tracts of land in multiple-Maori ownership. Due to the complex ownership of such land and the legislated requirements for multiple owned land under the Te Ture Whenua Maori Act 1993, traditional subdivision and development is difficult, often because of the difficulties involved in reaching agreement with a large number of owners and more importantly the cultural desire to retain land in hapu ownership. As such, major changes in land-use and development of these properties for traditional rural residential purposes is unlikely.

6 Outcomes from Consultation

6.1 Rural Workshops

As part of canvassing background information about Whakatane's rural area, two workshops were held on 28th November 2007 – one for iwi and the second comprising the wider community. Attendees at the community workshop included a range of people associated or involved with the rural area. These invitees were selected as being a representative sample and included people from Federated Farmers, Forest and Bird, farmers, EBoP, consultants and Grass Roots in New Zealand (GRINZ). A full record of the meeting with iwi is contained in Appendix F, while outcomes of the community workshop are contained in Appendix G.

Both groups were first asked:

What differentiates:

- Rural?
- Urban?
- Rural residential?

And at what point does one become the other?

The second questions were designed to evaluate how Whakatane's rural area is developing and whether this is considered to be the right direction:

- What is good / attractive about the rural area?
- What isn't attractive?
- What is working well? What isn't?
- Where / what are the future issues likely to be?
- What would happen if the rural areas were developed to its maximum?

A number of examples were given to encourage discussion e.g. roading, traffic, travel distance, proximity to neighbours, conflict of uses, wastewater treatment and disposal, water supply / acquisition, amenity, character, sense of community, size of houses, style of housing, number / uses of accessory buildings, plantings, size of properties and what makes the rural area "rural".

The summary below outlines the most common responses from both workshops:

What makes the rural area "rural"?

Open space
Animals
Fewer houses
Big trees e.g. forestry and bush
Food producing capacity
Farms
Wilderness
Self sufficiency
Remoteness
Smells
Traditional activities and practices e.g. dairy, sheep, beef, forestry
Privacy
Style e.g. barns, fencing styles, races, open culverts
No services
Noises e.g. calves and tractors
Mosaic of uses

What characterises urban?

Infrastructure
Dominance of the built form
High density of dwellings
Treatment and shape of roads (e.g. kerb and channel, sealed)
Sprawl
Big centres
Better services e.g. water, power, broadband
Denser population
Diverse community

What characterises rural residential?

Higher density than rural
Not reliant on farming / rural production for income
Size of houses (often very large)
Size of sections
Entry statements e.g. pillars and gateways
Want town services
Style of fencing
Uneconomic (from farming perspective)
Different expectations e.g. rubbish collection
Income is obtained away from the land
Don't mix well in the rural community

What is good about the rural area?

Where people can earn an income off the land
Cleaner, quieter, easier pace of life
Self determining, can decide what they do with their own land and the management of it
Hard working people
Less traffic
Cooperative and collaborative communities
Rural people have a greater understanding of the land
Closer relationship and attachment between people and the land
Wider open spaces
Greater level of indigenous vegetation / pasture / exotic plantations
Open space
Privacy – distance from neighbour
Buildings are not a dominant feature
Visual outlook
Wildlife including birds

What isn't good about the rural area?

Conflict of uses and reverse sensitivity e.g. piggeries
Attitude of people attracted to lifestyle blocks
Council focuses on CBD, neglects the rural sector
Water supply dubious, rural water supplies need work
Wastewater systems insufficient
People can't manage 10 acres
Conditions of roads due to forestry trucks
Isolation
Fragmentation of land
Increase in people in the rural area leading to more conflict e.g. electric fences affecting broadband, rural smells
Property inflation from lifestyle blocks

Future Issues

Cultural issues with intensification
Fragmentation of land - can be both good and bad
Subdivision increases capital value (can be both good and bad)
Need regime to ensure property size is appropriate for rural use
Demand for more services
Conflict between varying uses
Farms have to continue to be viable
Climate change – travel / distance and viability

Loss of wild places including kanuka, bush, marshes
Scarcity of high quality water
Demographics – loss of young working people
Too much traffic commuting
Good land being subdivided and never again available for rural production

General Comments

Performance standards need to be right
Need to retain and protect native bush
With an aging population, there will be more retirement subdivisions
Maori owned land – need to get to know peculiarities of Maori owned land
Administrative difficulties with developing Maori land
Occupy and manage Maori land as a taonga into the future

The most common future issues identified were the expectations of people moving into the rural areas, particularly rural lifestylers. Many of the attendees at the community workshop had experienced conflict of uses or reverse sensitivity issues (e.g. complaints about frost fans associated with kiwifruit crops). Many of these were complaints from people who were new to the rural environment. One suggestion for addressing this was that the Council producing pamphlets for rural subdivision so that people understand the rules, outlining people's expectation when moving into the rural environment. It was suggested that this be distributed to rural real estate agents.

There was also an awareness of the effect of climate change on the rural areas, particularly with increasing oil and petrol prices. Many considered that the rural areas would not be as desirable for lifestyle and that this demand could be better served with strengthening rural community villages. Growing rural villages was considered one way to create efficient transport options and increase the economic wealth of these small villages whilst still resulting in a rural lifestyle. Many of the workshop groups questioned the future of farming (dairying is financially attractive at the moment but this may not continue).

Fragmentation of land was highlighted as a significant current and future issue. Many realised that subdivision of land was increasing the cost of land for economic rural production and in many cases, was being priced out of the horticulture and agriculture market because of the return that can be obtained from rural residential sites. Many felt this was a double edged sword as it resulted in more valuable rural land but this land was then no longer economically viable for rural production. There was also a realisation that once land has been subdivided, there is no chance of it being brought back into rural production.

6.2 Rural Survey

6.2.1 Background

As part of the information gathering phase of the project a survey was sent out to a range of rural landowners within the three case study areas who were asked to provide their input on Whakatane's rural area and what it was like to live there.

The survey used the three separate case study areas as representative samples of the rural environment. These areas were:

- Kawerau Road;
- Stanley Road / Wainui; and
- Moore/Thornton Road.

75 rural landowners responded to the survey, which provided a wide range of opinions from landowners on different types of rural properties. 39 of the respondents were from the Moore/Thornton Road area, making up over 50% of the total survey results. The Kawerau and Stanley Road / Wainui areas made up 32% and 16% of the respondents respectively.

The survey inquired into the following areas relating to rural subdivision and living:

- Property details (i.e. size, when purchased)
- The various factors that were considered when buying the rural property
- How important the respective factors were in the decision to live in the rural area
- Whether the various factors that influence rural life were in fact negative or positive
- What were the favourite things about living in the rural areas
- What were the least favourite things about living in the rural areas
- Whether the respondent was planning to move on within the next 5 years, and if so why
- Whether the rural area had changed in the respondent's time there, and whether it was better or worse
- What are the most desirable attributes of the rural area, and what could detract from them.

A full copy of the survey is included as Appendix I.

6.2.2 Outcomes from the Landowners Survey

A large amount of valuable information was collated from the landowner's survey. The detailed information gathered from the survey is contained with the relevant case study sections of this report, for example within the transportation, infrastructure, social and economic sections. However, the following general findings give an overview of the information obtained from the survey and the landowners who responded to the survey.

- The size of the respondent's properties ranged from as small as 1,100m2 up to 200 hectares, with 13.8 hectares being the average property size.
- 64% considered the group they most identified themselves with was the "Lifestyler" category, with only 13.3% "Cattle or Dairy Farmers".
- 56% of respondents had purchased their rural property since 2000, with the longest tenure dating back to 1919.
- 58% of respondents considered privacy was a "very" or "extremely" important factor in deciding to live in a rural area.
- 72% of respondents considered safety/being free from crime was a "very" or "extremely" important factor in deciding to live in a rural area.
- Affordability/property prices were also considered to be "very" or "extremely" important, with 68% of respondents stating this was a factor in deciding to live rurally.
- Being part of a rural community was not identified as a particularly important factor in deciding to live in a rural area, yet 64% of respondents stated that this had in fact been a "positive" or "very positive" part of their rural living experience.
- When asked if the ability to subdivide rural property was an important factor, 77% of respondents stated it was either "not" or "somewhat" important.
- 81% of respondents considered experiencing the 'rural environment' (i.e. its character, open spaces) was a "very" positive factor in rural living.
- Having privacy, peacefulness, open space and being close to the beach/coastal area were the most popular aspects stated by the respondents when asked what three things they liked most about living in their rural area.
- *Having to pay rates yet all amenities (i.e. water, wastewater) are provided by landowner, dry soil and the attitudes of neighbours* were conversely identified as the three aspects respondents least liked about living in their rural area.
- 75% of respondents stated they did not plan on moving within the next five years.
- 61% of respondents considered living in their rural area was different to how it was five years earlier. Of those that considered it had changed, only a small group believed it had got better, with respondents specifically stating that subdivision had made the rural area worse by bringing neighbours closer.

- *Recreational opportunities, the climate,* and *natural beauty* were the most popular aspects stated by the respondents when asked what they thought the most desirable aspects of the general Whakatane rural area were.
- *Subdivisions (property sizes getting too small and close together), human pollution* and *restrictions by Council* were the things identified by the respondents as most likely to detract from those attributes in the future,

Based on the information gathered by the landowner's survey, it was apparent that the majority of respondents enjoyed living in the rural area and did not plan on moving away in the near future. Most respondents lived in the rural area for lifestyle purposes, and had owned their current property for less than a decade.

Privacy, affordability and the perceived lack of crime were considered to be some of the main aspects that make the rural area an appealing place to live. On the other hand, for most people, the ability to subdivide or generate income from these rural properties was not considered to be important. However, for some people, this will obviously be very important.

SECTION 2 – EFFECTS OF RURAL SUBDIVISION

7 Effects of Rural Subdivision

Under Section 3 of the Resource Management Act 1991, the meaning of effect includes:

a) *Any positive or adverse effect; and*
b) *Any temporary or permanent effect; and*
c) *Any past, present, or future effect; and*
d) *Any cumulative effect which arises over time or in combination with other effects—regardless of the scale, intensity, duration, or frequency of the effect, and also includes—*
e) *Any potential effect of high probability; and*
f) *Any potential effect of low probability which has a high potential impact.*

Both positive and negative effects of rural subdivision have been extensively researched and are well understood. In terms of effects, the issue is not rural subdivision per se. The effects associated with rural subdivision stem from the consequential development of land. Common effects include those associated with water (ground and surface water quality and quantity, waterway condition, stormwater runoff, sediment generation); soils (versatile soils, soil erosion, soil health); weeds and pests (weed diversity, weed spread, mammal pests, insect pests, bird pests, pathogens); indigenous biodiversity (plants, birds, habitat diversity), reverse sensitivity effects (noise, spray drift, smell); transport and use of fossil fuels, landscapes, rural character, rural amenity (including sense of community) and cultural.

There are a number of variables which influence the effect of any given rural subdivision. This includes environmental setting, size of lots, spatial and temporal pattern of subdivision, land uses, management of the individual properties, and attitudes and values of land holders. The effects very much depend on the physical setting and effects that are quite acceptable in some areas may not be acceptable in other more sensitive environments (such as coastal areas or areas with prominent landscapes). The density of subdivision is also an important variable. For example, there is a distinct contrast when considering a subdivision of a property into 2 hectare lots as opposed to 20 hectare lots. The expectations associated with each of these sizes are quite different too. The 20 hectare lot may be expected to return an income for the owner based on the productive capabilities of the land, while the 2 hectare lot will be targeted for rural lifestyle purposes.

Many rural districts in New Zealand are concerned that more and more of the best soils are being subdivided and used for lifestyle housing rather than for productive purpose. This is of particular importance in places like Franklin, Hastings and the Waikato where production of goods depend on good quality soils held in large lots. Once these soils have been used for lifestyle and urban development they are effectively 'lost' from productive use. Lot size or fragmentation is an associated effect where land is subdivided into ever decreasing lot sizes. Smaller lot sizes often precludes productive uses although in some cases, this may enable changes in land uses whilst still being productive.

The following table highlights some of the issues associated with subdivision in the rural area and explores the potential effects attributed to these issues (both positive and negative). Cumulative effects are more difficult to assess and may only become apparent over the longer term.

Issue	Potential Effects
Water quality	• Changes to ground water quality caused by rural subdivision can be both positive and negative. Subdivision can be a mechanism for creating changes in land use (e.g. pastoral to dairy) but ineffective wastewater systems can contaminate water quality. • Increased use of fertilisers and pesticides can result in leaching. • Increased wastewater loading causing poor water quality. • Potential effects on underground aquifers including both volume and quality. • Protection of riparian margins leading to improvements in water quality.
Biodiversity	• Subdivision can affect biodiversity by increasing the fragmentation of natural areas. • Increased threat to native birds and reptiles from pets such as cats and dogs. • Subdivision can be a mechanism to encourage planting and protection of native bush and riparian margins, therefore having a positive effect. • On smaller sites, it can be more economically viable to create corridors, planting small patches which then connect.
Sediment in streams	• Increased sediment in streams due to clearing of native bush for pasture. • Decreased sediment in streams due to fencing riparian margins and removing stock (subdivision can be a mechanism for encouraging this). • Increased sedimentation from exposed building sites and construction. • Increased sediment from unsealed races and driveways. • Increased road construction required. • Increased usage of unsealed roads leading to dust nuisance and increased sediment loading in the runoff.
Waterways / coastal margins	• Increased public access through creation of esplanade reserves. • Changes to the natural character of the coastal environment including wetlands and streams and their margins.
Water supply	*Reticulated Water Supply* • Subdivision can result in additional loading on public water supplies (if reticulated water supply is available). • Inefficient use of public water supply network (there is often a significant length of pipe required to service only a small number of properties). • Managing the expectations of some people moving into rural areas (particularly trickle feed systems). *Private Water Supply* • Removes the financial burden from the Council to provide adequate water supply, • Responsibility lies with individual property owners. • Encourages water awareness and conservation. • Where bores are used, there is the potential for over-allocation of water – particularly where there are unauthorized bores. This can lead to impacts on the aquifer.

Issue	Potential Effects
	• Difficulties in allocating water for different uses (e.g. dairy versus domestic use). • Intensified agricultural/horticultural development and urbanisation may increase water needs. • Requirement for private supplies to comply with drinking water standards which is not always achieved or monitored.
Stormwater	• Increased runoff from increased impermeable surface area (e.g. driveways, houses, sheds etc). • Increased runoff where there is a change in land use accompanying the subdivision such as clearing native bush, or changing from forestry to pasture. • The reverse situation can also occur when there is a change in the use from pasture to vegetation that reduces runoff.
Wastewater	*Reticulated Wastewater* • Can result in additional loading on public wastewater systems (if wastewater reticulation is available). • Inefficient use of public wastewater network (there is often a significant length of pipe required to service only a small number of properties). *Individual Wastewater Treatment Systems* • Old and unserviced septic tanks may not be treating wastewater to an appropriate standard. • Contamination of ground water with pathogens is possible. • Some soils may not be appropriate for disposal and treatment of domestic wastewater. • Biocycle treatment systems are an efficient system for treating wastewater without needing the expense of a public system. • Individual owners are responsible for upkeep of their systems. This can be both a positive and negative effect – it takes the financial burden off the Council to provide for wastewater but it is difficult to ensure that individual property owners maintain systems.
Rural character and amenity	• Change in the balance between built elements and natural elements. • Loss of “natural” aspect. • Loss of openness. • Loss of privacy. • Potential for reverse sensitivity (i.e. possible future complaints from “lifestylers” about rural odours and noise resulting from traditional farming activities). • Screening of special features with structures or plantings. • Loss of, or degradation of, important natural features. • Obtrusive earthwork scar prominent slopes or natural features. • Can lead to a loss of wide open spaces which people normally attribute to the “rural area”. • Increased traffic volumes. • Increased noise levels (particularly with decreasing section size).
Landscape	• Obvious changes to the landscape (e.g. increased number of houses and other built elements). • Obstructed views.

Issue	Potential Effects
	• Less "rural" amenity (factors such as ribbon development can contribute to this). • Removal of historic rural buildings. • Changing style of buildings in the rural area. • Changing patterns of the rural area (e.g. shelterbelts, geometric shapes of paddocks).
Productivity	• Subdivision can reduce or increase productivity depending on the land use. Some activities require very large land holdings such as dairy whilst others require less land area whilst still being productive. • High levels of land fragmentation into small land parcels forecloses land use options for present and future generations. • A number of lots of different sizes enables reasonable use by a range of activities while maintaining a relatively constant pool of land parcels.
Soil erosion	• Increased construction activities associated with subdivision can result in soil erosion. • Increased soil erosion associated with a change in activities (e.g. changing from forest to crops results in increased soil erosion). • Subdivision can also lead to a decrease in soil erosion where there is a change in activities which leads to revegetation.
Conflict over rural activities	• Incompatible activities being located adjacent each other (e.g. residential near productive). • Unrealistic expectations of rural living by lifestylers. • Pressure on legitimate rural operations to either cease or modify because of impacts on residential users from spray drift, noise, odour and the like.
Roading and access	• Decrease in the roading features which are essentially "rural" (e.g. replacement of swales with kerb and channel, sealing of formerly gravel roads, introduction of pavements). • Increased traffic on rural roads. • Inappropriately located vehicle entranceways. • Increased use of rural roads that are not designed for relatively medium to high levels of traffic (e.g. narrow, sharp corners, steep grades, etc). • Increased number of access points to rural roads. • Changes in priority for programming of upgrades.
Cultural	• Destruction of relics and archaeological remains. • Inappropriate development in places of waahi tapu. • In some cases, subdivision can be a mechanism for protection of sites of cultural significance. • Reduced accessibility to places of cultural significance.
Social	• Financial and development contributions can lead to better facilities and infrastructure being provided in the rural area. • Rural subdivision increases traffic volume on rural roads with corresponding increases in pollution, energy use and greenhouse gas generation. • There may be conflicts between new lifestyle property owners and long-time rural residents through different perceptions of how land

Issue	Potential Effects
	is best used and managed. • Allows people the choice of where they live and the lifestyle they want. • Rural subdivision may bolster dwindling rural school roles. • Rural communities rely on locals to support their community. Increasing the rural population strengthens communities. The contribution of rural subdivision to the strength of the community does however depend on whether subdivision is clustered or widely dispersed. • Increased population in hazard areas such as river floodplain can result in significant damage to property and loss of life. • Creating a sense of place. • May result in additional public and community facilities being provided in rural areas.
Economic	• Highly productive land may be removed from production. • Rural subdivision increases land prices above agricultural production values. • Rural subdivision is a way to increase the value of the land and bring more money into the local economy. • Subdivision is a realistic option for older people to still live in their homes whilst reducing the area of land they care for. • Subdivision is a way to generate legitimate income. • Increased spending in the construction industry.

Many of the potential effects associated with rural subdivision are generally perceived as negative. There are, however, a number of effects that can be considered positive depending on the criteria for allowing subdivision and the resource consent conditions used. For example, subdivisions that retire and protect native bush, riparian edges, wetlands or erosion-prone areas are often encouraged by District Plan provisions to ensure that subdivisions in the rural area result in a net positive environmental outcome.

8 Case Study Background

8.1 Overview

Three case studies were identified by the Council as being representative of the wider rural environment (see Figure 8-1 below). Each case study was based in a different zone: Rural 1 (with poor soils), Rural 2 (Foothills) and Rural 3 (Coastal) in order to assess the effects of subdivision in each zone. Three representative subdivisions with diverse issues (amenity, covenants, etc) were selected, including a number of smaller subdivisions for Rural 1 poor soils as they are representative of the number of smaller one or two lot subdivisions that are occurring in this zone.

The subdivision files associated with each case study provided an overview of effects from an infrastructure, environmental, landscape and social perspective. The landscape assessment took a wider look around these subdivisions to place them in context, particularly to assess the cumulative effect of rural subdivisions adjoining the case study areas.

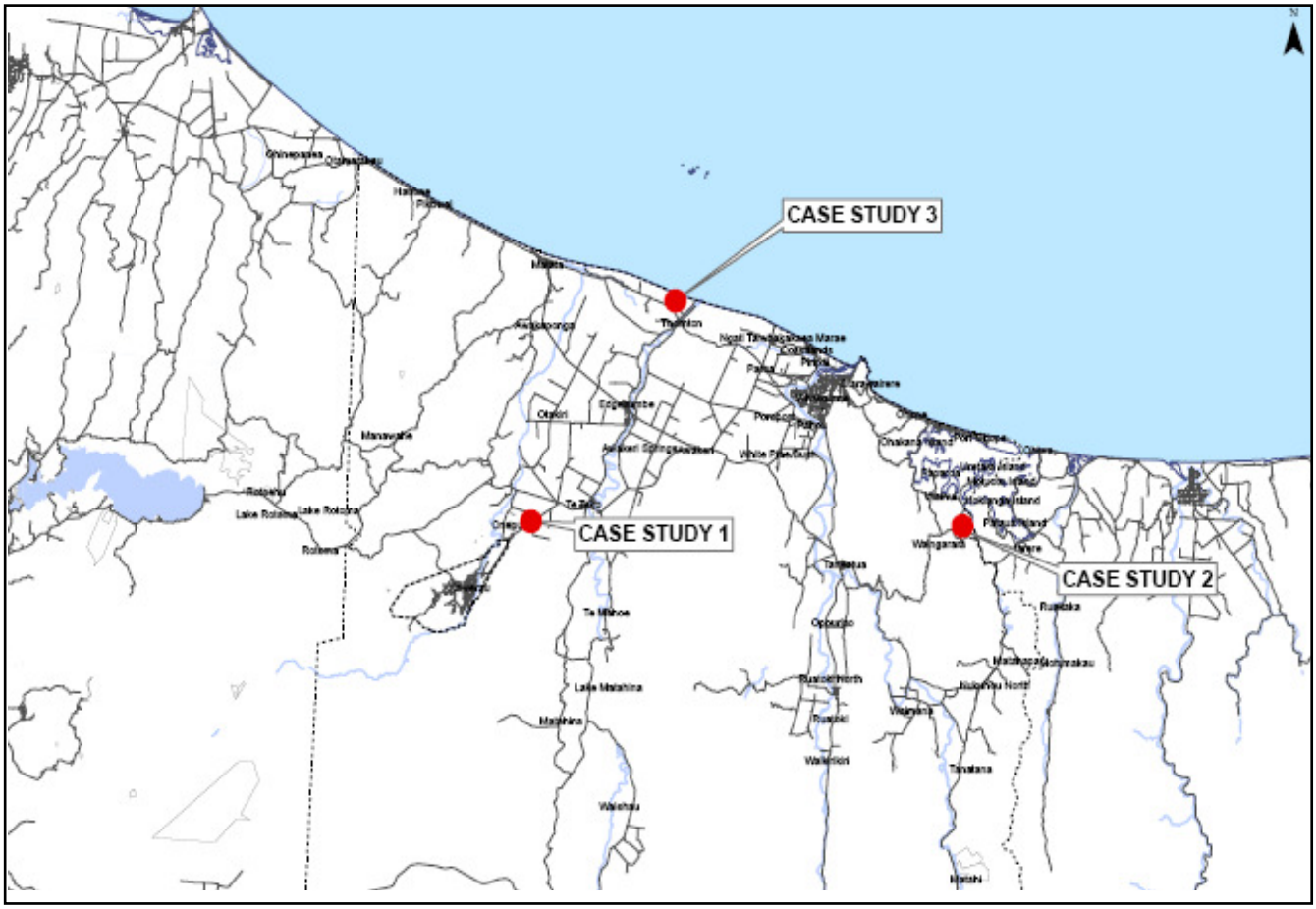
More specifically, the case study areas were as follows:

Kawerau Road area - Rural 1
There are a number of small scale (one to two lots) subdivisions taking place along Kawerau Road. This area was chosen to consider the cumulative effects of small scale subdivisions in the rural area. There is also a pig farm and Kanuka forest which allows for reverse sensitivity issues to be considered.

Stanley Road / Wainui area - Rural 2
There are a number of subdivisions happening in this area, involving the creation of new lots down to the 5000m2 minimum lot size (with 2 hectare or greater average lot size) in accordance with the Rural 2 Zone rules. Eastwood Subdivision is one such example, which is a focus in terms of landscape and amenity issues.

Moore Road - Rural 3
Properties along the Coastal 3 Zone can subdivided down to 2 hectares in area and a number of land owners are taking up this development opportunity. Moore Road is one such example of coastal subdivision for lifestyle purposes. It is near an endemic Kanuka strand and has covenants on the titles.

Figure 8-1 : Map Showing Location of Case Studies



A number of detailed analyses were carried out in these locations and included:

- Impact on landscape – including amenity, visual and rural character;
- Ecological considerations;
- Environmental impacts;
- Heritage;
- Social effects including reverse sensitivity, privacy issues and social cohesion;
- Economic effects including loss of productive land through subdivision, changes in landuse, impacts on land values;
- Quality and quantity of groundwater;
- Cultural impacts including sites and features of cultural importance;
- Transport including traffic generation and roading infrastructure; and
- Hazard avoidance and / or mitigation.

The analysis of the findings of the case studies is presented below and is based around each of the specific technical assessments undertaken in relation to the extent of effects on the environment.

8.2 Subdivision Consents Issued for the Case Study Area

Case Study 1 – Kawerau Road

Address	Consent conditions and advice notes	Parent lot size	Child lots	Issues raised
302 Kawerau Road	Right of way access.	7ha	3.9ha and 3.1ha	>60% poor soils. Access to a Transit Limited Access Road.
56 Lambert Road	Right of way access. Sealed vehicle access. Right of way access is within 12m maintenance easement for Seacombes drain. Buildings must be constructed in identified 'building platforms'. Specific design of effluent disposal system required due to high ground water table.	8.04ha	2.31ha, 1.55ha, 1.37ha and 2.81ha	>60% poor soils.
302A and B Kawerau Road		7ha	Boundary adjustment to create 3.1ha and 3.9ha	Access to State Highway (Transit)
25 Park Road, Te Teko	Consent notice requiring owners to be aware that the sites are in a rural location with activities, noise and dust typical of rural areas. If any archaeological sites are uncovered, they must be reported to Historic Places. Fence and protect native vegetation, excluding stock from grazing. Ensure an accessible reticulated water supply of sufficient flow and water pressure for fire fighting purposes.	6.15ha	3 new (2 additional) lots comprising 1.91, 1.97 and 2.27ha	

Case Study 2 – Stanley Road / Wainui

Address	Consent conditions and advice notes	Parent lot size	Child lots	Issues raised
Stanley Road	80m boundary between right of way and Wainui Road be close planted with screening trees, to obtain min 3m high. All entranceways to be formed and sealed. Existing seal on Stanley Road be extended 140m. All areas of native bush to be fenced with stock proof fencing. Suitable native trees and shrubs to be established on steep ground. No further subdivision permitted. All houses are to be placed against a backdrop of hillside or vegetation when viewed from the road. All buildings to be finished in earth colours. Vehicle access earthworks should be modelled in harmony with existing landform.	74.43ha	18 new lots (14 additional) ranging between 1.41ha and 9.48ha	Requirement to protect native bush. Dairy farm into 18 rural residential lots. Native bush worthy of protection. Historical significance of harbour. Protection of any archaeological sites. Awareness of nearby forestry operations. Covenants limiting building height and roof / building colour. Need for soil conservation consents. Vehicular design and access.

Case Study 3 – Moore Road

Address	Consent conditions and advice notes	Parent lot size	Child lots	Issues raised
40A Moore Road	Right of way access.	8.2ha	4ha and 4.2ha (initially proposed 4 lot subdivision ranging from 2.0ha to 2.165ha)	Proximity of a large archaeological site. Additional houses would have an adverse effect on the natural character of the coastal environment. Dune system is outstanding natural feature. Protection of the pond and its margins. Conflict of uses allowing rural residential in amongst farming, loss of productive capable land. Local water supply concerns. Potential conflict of use with the existing trucking yards.
40A Moore Road	Consent notice requiring owners to be aware that the property is located adjacent to the loading, storage, parking and servicing of heavy vehicles (no complaints clause). Minimum floor level above 1%AEP flood level. Consent notice requiring owners to be aware of the potential location of archaeological sites. Consent notice requiring owners to be aware that it is a rural property, prone to flooding.	4.2ha	2.2ha and 2ha	

Address	Consent conditions and advice notes	Parent lot size	Child lots	Issues raised
	Upgraded access to 5m, all weather metal standard. An alternative fire fighting water source to be investigated and if necessary provided. Discourages residents from keeping domestic animals such as cats, no ferrets permitted. Potential for some garden varieties to invade and degrade.			
1166 and 1186 Thornton Road	No more than one dwelling per lot. Height restriction 6.5m. Buildings must not have large flat surfaces causing disturbance to the surrounding landform. Construction materials must include timber, stone, materials painted in visually muted colours. Lots must not be further subdivided. Preserve the identified native bush, including fencing and removing stock. Control any pest animals and plants.		6 lots, ranging between 3.39ha and 22.99ha	

9 Landscape and Visual Amenity

9.1 Introduction

There has been growing concern in recent years about the potential for adverse effects associated with rural subdivision on the existing rural landscape of the Whakatane District. A broad level landscape assessment has been completed of the three case study areas to examine the extent of adverse effects.

The landscape and character assessment references local baseline landscapes within each broad rural zone. The assessment refers to a previous landscape evaluation of the entire District completed in September 1995[10] and aims to provide direction on the following points:

- *Provide a brief baseline landscape description of each site within a context of change/effects.*
- *Describe the rural character and visual qualities of each case study area to compliment previous assessment work and subdivision consents.*
- *Evaluate the landscape character of each site with reference to the nine visual landscape character concepts proposed by Tveit, Ode & Fry (2006)[11].*
- *Discuss the impact of development on the three case study areas.*
- *Identify the factors contributing towards adverse effects on landscape character and discuss the extent of effects.*
- *Discuss the point where increased density or rural character may have a significant adverse effect on landscape character and rural amenity.*
- *Conclude with general observations and recommendations.*

Whakatane is a large district in the Bay of Plenty Region that encompasses a wide variety of landscapes. Areas of higher rural and natural quality are now under pressure for rural subdivision change. The District covers an extensive area of over 400,000 hectares and borders six other local authority areas. Landscapes are under increasing pressure from different types of landscape change. The Proposed District Plan outlines five broad landscape types to which different management principles can be applied. These five landscape types are as follows:

- Plateau
- Plains
- Foothills
- Harbour
- Mountain Ranges

Each of these landscape types has an identifiable character based predominantly on geomorphological characteristics. Within each type, however, there are many variations in land use and land cover resulting in a number of smaller landscape units.

The assessments completed help clarify the planning mechanisms that can be used to manage the effects on landscape character. The aim is not to discourage subdivision and development occurring but to ensure that there is an understanding about which landscapes are most sensitive to change in terms of overall character and that where development is proposed that it will not be detrimental to landscape character while giving the Council the ability to decline inappropriate subdivision that will have adverse effects.

It is also important to understand that standard control techniques for sensitive rural landscapes are often unsuitable because of the diversity of both landscapes and subdivision and development proposals. It is the intention of this assessment to provide direction in relation to evaluative tools that can be used to help consider the effects of rural subdivision on the specific values of a particular landscape.

[10] Boffa Miskell.1995. Whakatane District Landscape Evaluation

[11] Tveit, Ode & Fry. 2006. Key Concepts in a Framework for Analysing Visual Landscape Character.

9.2 Case Studies

The three case study areas were identified to form the basis for a broad level assessment of the actual and potential effects of rural subdivision within the wider district. Within case study areas 1 and 3, multiple smaller subdivision 'sites' have been defined. For each of the two areas a particular property has been defined to represent the specific visual characteristics and where relevant issues of the wider context.

Of the three case study areas, two sites fall within the 'Plains' landscape classification under Rural 1 (with poor soils) and Rural 3 (coastal) zoning respectively. The plains are characterised by three major rivers the Tarawera, Whakatane and Rangitaiki that traverse this generally flat landscape to the sea. Most of the plains areas have extensively modified drainage systems, with some remnant wetlands and lowland vegetation. Land use is generally pastoral farming (often dairying) on the flat land with some horticulture and cropping. Typical rural vegetation patterns such as shelterbelts and hedgerows are characteristic of this landscape type.

The second case study area falls within the foothills landscape type and is zoned Rural 2. The foothills are generally characterised by steeply sloping and rolling hill country. Most areas have traditionally been used extensively for pastoral farming and few large areas of intact native bush and many smaller remnants are scattered throughout the rolling pastoral hill country.

9.3 Methodology

The assessment gives particular regard to the effects of rural subdivision and development on landscape character and visual character. The effects of subdivision and development are considered in the context of best practice as evidenced in the current literature, including material sourced from the Quality Planning website.

The methodology followed is summarised below:

- Literature review.
- Complete a baseline landscape assessment of the three sites. This process involved a ground-based visual survey of the case study areas and surrounding context. Reference given to the District Landscape Evaluation and visual concepts of by Tveit, Ode & Fry.
- Identify effects and issues relating to rural character and landscape visual character.
- Quantify at a broad level the actual and potential effects in rural areas as a result of subdivision.

In order to analyse the effect of landscape changes it is important to be able to characterise the visual landscape as an object. In analysing the changes in landscape character, the assessment generally followed the conceptual framework for landscape character assessment established by Tveit, Ode & Fry (2006), *'Key Concepts in a Framework for Analysing Visual Landscape Character'*. A synopsis is provided below:

"Based on a literature review, nine key visual concepts are identified: stewardship, coherence, disturbance, historicity, visual scale, imageability, complexity, naturalness and ephemera. Each of these concepts focuses on different aspects of the landscape important for visual quality, where visual quality is a holistic experience of them all. The visual concepts presented are used to describe different characteristics of visual landscapes, rather than presenting a normative value for visual quality. It is believed that this framework can be important for landscape assessment and the compilation of landscape character" (Tveit et at (2006)).

It was considered that only eight of the nine key concepts identified by Tveit et al (2006) represent the relevant aspects of the visual landscape and will serve as visual guideline criteria for the landscape character assessment. Historicity, the ninth visual concept, relating to a landscape's historical richness

was deemed irrelevant for the selected case studies. Each concept is measured in terms of whether its expression in the landscape is low, moderate or high (see Table 9-1 below).

Table 9-1 : Criteria for rating landscape character factors

Rating	Criteria
Low	The factor/aspect is barely apparent in the landscape and contributes minimally to overall landscape character
Low - Moderate	-
Moderate	The factor is apparent in the landscape and contributes towards landscape character
Moderate - High	-
High	The factor is dominant in the landscape and contributes significantly towards landscape character

9.4 Visual Concept Definitions:

The following concepts collectively result in expressions of visual character. In order to analyse the effect of landscape changes it is important to be able to characterise the visual landscape as an object. Each of these concepts focuses on different aspects or elements of the landscape important for visual quality, where visual quality is a holistic experience of them all. Most of the concepts listed below, are interrelated and work together to form the totality of the visual landscape. The concepts will vary between landscape types, where some concepts enforce each other and other cancel each other out.

Stewardship
Definition: Stewardship, the presence of a sense of order and human care through active and careful management.
Potential Indicators: percentage of undeveloped land, status of maintenance of buildings; management type and frequency; length condition of linear features, presence of waste; areas in crop fields; presence of weeds

Coherence
Definition: The structure, inherent order or patterning of visual information; the unity of a scene, enhanced through repeating patterns.
Potential Indicators: percentage land use in natural conditions, repeating colours and land use patterns.

Disturbance
Definition: Disturbance as a lack of contextual fit and coherence, where elements deviate/conflict from the context.
Potential Indicators: number of disturbing elements; percentage area impacted by disturbance, visibility of disturbing elements.

Visual Scale
Definition: Visual scale is defined by the perceptual units that reflect the experience of landscape rooms, visibility and openness.
Potential Indicators: view shed size; depth of view; degree of openness; number of obstructing views.

Imageability / Memorability
Definition: Imageability is the quality of a physical object, which gives an observer a strong, vivid image and would be instantly recognizable. For example landmarks and special features, both natural and cultural, making the landscapes distinguishable and memorable.
Potential Indicators: viewpoints; presence of spectacular unique or iconic elements and landmarks; presence of water bodies.

Complexity
Definition: Complexity is the diversity and richness of landscape elements and features, their interspersion as well as the grain size of the landscape
Potential Indicators: number of objects and types; shape diversity; size variation indices; edge density

Naturalness
Definition: Naturalness is defined as closeness to a preconceived natural state.
Potential Indicators: the presence of natural elements, patterns and processes, vegetation intactness; presence of natural features; lack of management intensity, degree of wilderness.

Ephemera
Definition: Ephemera is defined as elements and land cover types changing with season and weather.
Potential Indicators: percentage of land cover with seasonal change; presence of animals; presence of cyclical farming activities; percentage area water; projected and reflected images; presence of weather characteristics.

When applying visual concepts according to the physical attributes such as landform, landcover and the like it is apparent that some concepts are more closely linked than others, or are overlapping, while some may be interpreted as opposites. Simplified examples of opposite concepts would be coherence – disturbance or stewardship – naturalness.

9.5 Literature Review

As part of this assessment a literature review has been undertaken to develop a methodology to determine Landscape and Natural Character of the case study areas based on current best practice, with particular reference to the work of Tveit, Ode and Fry (2006) as well as various literature from the Quality Planning Website. Other sources consulted include:

- Ministry for the Environment (2000). The Impact of Development on Rural Landscape Values.
- MfE. (2000). Managing Rural Amenity Conflicts.
- Cole, D.N.; Stankey, G.H. (1998). Historical development of Limits of Acceptable Change: conceptual clarifications and possible extensions.
- Boffa Miskell. 1998. Hurunui District Rural Subdivision Guide, Hurunui District Council,

The Ministry for the Environment report published in July 2000 titled 'The Impact of Development on Rural Landscape Values' defines 'Landscape Character' as:

> *… the combination of traits that distinguishes any particular area of land. In New Zealand the landscape is described as a spectrum from the pristine natural to the artificial built. Within this spectrum the rural landscape can range from modified farming country outside urban areas to extensive pastoral country where natural character dominates. Landscape character is determined by the inter relationship of three components:*

- Landform- which reflects the geology topography and attendant natural processes such as erosion, hydrology and weathering
- Land cover – which includes vegetation and water bodies and reflects the biological processes such as plant succession and soil formation
- Land use – which reflects cultural and social processes such as farming tourism and transport needs and can also include spiritual and historical associations that give added meaning to places

The same report defines 'Rural Character' in the following way:

Rural landscapes are, by their nature, strongly influenced by the type of rural activity and the intensity of associated settlement. Natural elements generally remain strongly evident but are overlaid by patterns and processes of human activity. Natural systems, such as hydrological patterns, still operate but, in places, are manipulated to enhance productivity. Human-induced patterns and processes are related

predominantly to productive land uses such as agriculture, horticulture and forestry, typically including paddocks, shelterbelts, wood lot and forest blocks, cropping regimes and settlement. The patterns of human activity are generally large scale (by comparison with urban areas), reflected in generally low-density settlement, few structures and often a sense of spaciousness. Rural landscapes are inhabited landscapes - not to be confused with 'wilderness' or 'natural' landscapes where human presence is minimally present or absent.

'The Hurunui District Council Rural Subdivision Guide'[12] also provides a useful definition of rural character. It describes 'Rural Character' as having natural elements but a predominance of human induced patterns and processes. Patterns, and their underlying processes, would be mostly the result of human activities. Some natural processes would continue to operate, e.g. river processes, but in general natural processes would be overlaid, dominated or modified by cultural processes and patterns such as cropping regimes, paddocks, shelterbelts and forestry blocks. Agricultural, horticultural, or forestry processes underpin the rural landscape of the District. The process of subdivision and associated residential development has the potential to interrupt these rural processes introducing conflicts between rural activities and rural lifestyle aspirations.

9.6 Adverse Effects of Subdivision on Rural Character

The potential impacts on rural character caused largely by subdivision and intensification within a rural setting are outlined below. There are also positive effects to rural character that can be associated with rural subdivision, such as ecological enhancement through the protection of highly valued natural areas, a higher degree of stewardship and the use of single accessways from roads to serve multiple dwellings.

The relevant visual concepts have been allocated to each impacts to understand the relationship. In some landscapes particular concepts may be insignificant or absent altogether, while other concepts may be more dominant.

- Poorly integrated buildings and structures (coherence, disturbance)
- Diminished landscape visual scale and patterns (visual scale, stewardship)
- Degradation of natural processes and natural features, i.e. streams drainage, coastal dunes (naturalness, disturbance, coherence)
- Undesirable earthwork scars in visually prominent areas (disturbance)
- Increased fencing, property boundaries (complexity, visual scale, stewardship)
- Increase in rural population densities (disturbance, visual scale)
- Increase in rural infrastructure and utilities - power lines, lighting columns, sealed driveways, water tanks, satellite dishes, etc (disturbance, complexity)
- Obtrusive or unsympathetic colouring of structures and bold architecture. (disturbance, complexity)
- Use of urban vernacular: material selection, lighting of roads, kerb and channel, sealed driveways, highly detailed fencing and masonry (disturbance, complexity, stewardship)
- Planting that does not reflect the typical vegetation character of the area. Additional planting, boundary planting, intensive gardens, higher stewardship (ephemera, stewardship, complexity)
- Siting of buildings on natural features and edges, line between land and sky, bush and pasture,
- Sloping and flat land, etc (naturalness, disturbance, coherence).

9.7 Case Study 1 – Rural 1 (Poor Soils)

9.7.1 Baseline Landscape Assessment - District Landscape Evaluation (1995)

In the District Landscape Evaluation undertaken by Boffa Miskell in 1995, Case Study 1 was classified as **Plains Landscape Type**. The Plains Landscape Type is described as follows:

The plains (landscape type) extend from the Eastern Plateau in the south to the coast and include the coastal duneland fringe. They are enclosed by the Northern Plateau to the west and the Foothills to the

[12] *Hurunui District Rural Subdivision Guide, Hurunui District Council, January 1998*

east. The plains are characterised by 3 major rivers (Tarawera, Whakatane, Rangitaiki) which traverse this generally flat landscape to the sea.

Most of the fluvially derived areas within the plains type have extensively modified drainage systems, with some remnant wetlands and lowland vegetation. In some areas the landform in rolling, this is either in areas that provide a transition from the plateau landscape type or in and around the coastal dunelands. Land use is generally pastoral farming (often dairying on the flat land with some horticulture and cropping. Shelterbelts are also characteristic of this landscape.'

Rangitaiki Plains (C.P.1)
This is a large unit that occupies much of the plains type extending from the surrounding foothills in the West South and East to the second coastal unit of the plains type. The flat open character of this unit provides for extensive views across the landscape to distant visual features such as Putauaki and the enclosing foothills. Similarly proximate enclosing elements such as shelterbelts woodlots or forestry can screen out any perception of the vast open expanses of rural flatland that characterise the plains.

9.7.2 Case Study 1 – Landscape Character Assessment

The Council has identified four subdivision sites within Case Study 1. They are:

- 58 Lambert Road – 8.05ha
- 25 Park Road – 6.15ha
- 21 Kawerau Road (SH34) - 3.46ha
- 302A and 302B Kawerau Road (SH34) – 6.99ha

58 Lambert Road (see Figure 9-1) was selected to represent the four sites because it has no further latent capacity for subdivision thus providing a good baseline representation of the rules for subdivision. It was also believed that the Lambert Road site had slightly higher visual character qualities, particularly visual scale, which is enhanced by association with the surrounding landscape elements of regional significance. The Lambert Road site is also the largest of the four identified sites and located centrally within the four case study sites of Rural 1.

Figure 9-1 : Case Study 1 Area – Lambert Road

Site Description
The site is located off Kawerau Road, approximately 7.5km northeast from Kawerau in the Rangitaiki Plains. The landscape in this area is typical of the agricultural plains landscape, being a flat coherent agricultural landscape. Visibility is moderate to high with a comparatively moderate degree of rural stewardship and a low to moderate level of naturalness due to existing farming practices of crops and pasture grazing evident. The intrusion of utilities such as roads and power lines represent limited

disturbance and a significant degree of coherence remains due to the well organised structure of the landscapes linear lines and ordered rural landscape. The imageability of the landscape of the scene is enhanced by the openness and uninterrupted views of Putauaki (Mt Edgecumbe) a prominent outstanding natural feature of the area.

Natural Character Qualities
The site is highly modified and lacking in explicit natural processes which underpin natural patterns and elements. Although most natural processes have long since been overlaid and or modified by cultural processes, some natural processes still continue to operate. Putauaki (Mt Edgecumbe) is the only notable natural element within the scene, although the foothills of Mt Tarawera are visible in the background.

Rural Character Qualities
The following rural qualities have been identified within the context of the Lambert Road site and are considered typical of the wider case study area.

- Visual Scale, 'Openness'.
- Linear patterns; vegetation, drainage, driveways.
- Rural vernacular; fencing, gravel driveway.
- Rural stewardship, working landscape, presence of weeds.
- Agricultural, horticultural processes.
- Low densities, varying property shapes.
- Grazing animals.

As outlined in the methodology, the visual character of the study area, (comprised of natural and rural character qualities) has been assessed following the conceptual framework for landscape character assessment established by Tveit, Ode and Fry (2006). Each concept is measured in terms of whether its expression in the landscape is low, moderate or high.

Stewardship moderate to high
The site was assessed as having a moderate to high degree of stewardship. Stewardship was assessed as a 'considerable' influence on the character of the landscape within and surrounding the case study area. These qualities were characterised by the land uses (i.e. maize crops, small forestry plantations, weed free pasture, irrigated fields, maintained hedgerows and wire fencing) with a general sense of care and upkeep evident.

Coherence/ Unity moderate to high
Coherence was assessed as a 'considerable' influence on the character of the landscape within and surrounding the case study area. The landscape is a coherent scene of elements; the large visual scale and rural openness complement the dominant landscape feature of Putauaki. Attributes of coherence are harmony with context, land use suitability.

Disturbance moderate
The site was assessed as having a moderate degree of disturbance. Disturbance was assessed as an 'apparent 'influence on the character of the landscape within and the surrounding case study area. The landscape was assessed as having a significant level of coherence, which often indicates a lack of disturbance. Although the rural context of the site has undergone substantial alterations from a natural state, the context now surrounding the site reinforces the patterns and characteristics within the site.

Visual Scale moderate to high
Visual scale was assessed as a 'significant' influence on the character of the landscape within and surrounding the case study area. The openness or visibility of the site with its surroundings and lack of obstructing elements results in a significant visual scale.

Imageability moderate
Imageability was assessed as an 'apparent' influence on the character of the landscape within and surrounding the case study area. As discussed the high level of coherence relates to the interaction of individual landscape elements, while imageability relates to the grandness or vividness of the landscape.

The imageability of the site is by default influenced by the high imageability of Putauaki and the relationship of the two concepts results in a moderate degree of imageability

Complexity moderate to low
The site was assessed as having a low to moderate degree of complexity and was assessed as an 'apparent' influence on the character of the landscape within and surrounding the case study area. Within this landscape diversity and variety (attributes of complexity) of patterns are comparatively low due to the monocultural land cover.

Naturalness low to moderate
Naturalness was assessed as a 'barely apparent' characteristic of the landscape within and surrounding the case study area. It is generally accepted that natural character consists of natural elements, patterns and processes and although the case study area has underlying natural elements they are heavily influenced by human activities, land modification and use (difficult to assess seasonal change at one point in time)

Ephemera low to moderate
The site was assessed as having a low to moderate degree of ephemera and assessed as a barely 'apparent' influence on the character of the landscape within and surrounding the case study area. Seasonal or weather effected changes to the landscape are most evident in land cover and land use (i.e. change in vegetation patterns; crop rotations, deciduous trees, etc).

Impacts on Rural Character
Listed below are the potential visual detractors (effects) mostly likely to impact on the visual character and rural character of the Lambert Road site. The potential detractors have been listed in order from most adverse to least adverse potential effect.

- Diminished visual scale and rural patterns;
- Smaller scale properties, increased intensification;
- Increase in rural population densities;
- Increase in rural infrastructure and utilities (power lines, lighting columns, driveways, water tanks, satellite dishes, etc);
- Use of urban vernacular: material selection, lighting of roads, kerb and channel, sealed driveways, highly detailed fencing and masonry;
- Planting that does not reflect the typical vegetation character of the area (additional planting, boundary planting, intensive gardens, higher stewardship);
- Poorly integrated buildings and structures; and
- Obtrusive or unsympathetic colouring of structures and design of dwellings.

A loss of openness and increased intensification are considered the most significant threat to the rural character of the Lambert Road case study site. However, the visual scale which extends past the significant natural feature of Putauaki (Mt Edgecumbe) is not visually impeded in the fore or middle ground views by poorly integrated development and therefore retains a high sense of openness. The foreground views of the adjoining property are typically rural, including hedgerows, moderate scale paddocks, linear drainage patterns, rural irrigators, corrugated iron farm structures and mature shelterbelts all reading with a considerable degree of landscape coherence. The layout of the plots, whether deliberate or not, has resulted in a visually unobtrusive subdivision from the road with minimal visual impact on the rural qualities of the foreground views of Putauaki.

The four lots range from 1 hectare to 2.9 hectares in size with an average of 2 hectares; however the two smaller scale properties are buffered at each end and more importantly from the road by a larger section that extends in a linear shape away the road. The subdivision has benefited from the higher rural qualities of an adjoining section to the south of 9.8 hectares and a further 22.5 hectare property further south. Although subdivision layout retains the sense of rural openness, the dwellings are highly visible and exposed from the road due to a lack of vegetative integration, which detracts from the rural qualities of the scene.

Of perhaps more concern is the capacity of larger adjoining sections which border Kawerau Road (S.H 34) to the north, that have the potential for up to 10 sites at an average of 2 hectares (see Figure 9-2). Without careful consideration this type of subdivision could detract significantly from rural qualities of Kawerau Road and the visual envelope of Putauaki and the Rangitaiki Plains. Minimum setbacks from the State Highway (particular to the south) would be required to maintain rural qualities and create visual buffers to screen and integrate potential dwellings.

Figure 9-2 : Subdivision Capacity – Case Study 1 Area

Issues

Continuous ribbon development along main roads should be discouraged and mitigated with adequate setbacks and screening or encouraged to cluster around existing settlement patterns. Linear development reduces the visual character of such settlements and the surrounding rural landscape. Prominent buildings and large scaled development sites should be chosen that have a landform context that assists with integration (i.e. rising topography or mature vegetation)

The development of the Rural 1 Zone under the poor soils criteria is leading to piecemeal approach for subdivision within sensitive rural character areas. Important visual qualities should be given more consideration. While this assessment has attempted to highlight the visual qualities and issues within the three case study areas, a more detailed assessment should be undertaken to formulate a more strategic approach to not only poor soils development but rural development in general.

With its central location and abundance of linear roads, scenic values of the Rangitaiki Plains in relation to the views from the road is also a significant issue. Extensive views of outstanding natural landscapes and features, particularly Putauaki (Mt Edgecumbe), is a key feature of this area.

Figure 9-3 : Typical Road Frontage - State Highway 30

Conclusions
The cumulative[13] effect of surrounding development (assuming it reached its potential) would have a significant adverse visual effect, particularly on the viewshed of Putauaki and areas south of Kawerau Road. As indicated the main issues would again be the number of obstructing views, diminishing landscape scale (smaller fields, paddocks, etc) and degree of openness. Mitigation and good design could reduce the impact of further subdivision developments along Kawerau Road, although a reduction in visual scale, patterns and openness would still be expected to compromise rural values considerably.

The Rural 1 with poor soils rule is a questionable management tool from a landscape perspective particularly if used as a criteria for development in large areas of sensitive rural landscape that may often have high visual and or rural character qualities. Poor soil assessments, while a useful tool for alleviating development pressures from areas of productive rural soils, provides opportunities for higher density subdivision development in a potentially piecemeal approach throughout the District and often amongst higher visual scale, rural character areas.

A strategic / holistic district wide approach to the development of the Rural 1 with poor soils areas would be preferable to a “case by case” assessment approach. This would safeguard against unstructured subdivision development while providing a more efficient tool to utilise when considering future development. Potential future subdivisions falling under for example designated ‘rural growth areas’ could then utilise a range of development techniques in conjunction with visual and rural character parameters to achieve a successful integration of subdivision, as opposed to the status quo.

9.8 Case Study 2 – Rural 2

9.8.1 Baseline Landscape Assessment - District Landscape Evaluation (1995)

In the District Landscape Evaluation undertaken by Boffa Miskell in 1995, Case Study 2 was classified as **Foothills Landscape Type**. The Foothills Landscape Type is described as follows:

‘Much of the land is farmed for intensive pastoral uses including dairying, sheep and cattle. There are some small areas of horticulture. There are also significant stands of remnant bush, particularly in the gullies and fingering down from the foothills. Case study 2 falls under the Ohiwa Harbour Foothills landscape unit.

[13] *It is generally accepted that cumulative effects on landscapes occur when development in conjunction with each other begin to influence the overall character and perception of that landscape. Cumulative Landscape and Visual Impact Assessment. 2006. Grieken. M, Dower. B, Wigley. K*

Ohiwa Harbour Foothills (O.H.1)
These hills form the backdrop and visual catchments to the harbour. They are dissected with steep gullies and small valleys. The area is forested and grazed with pockets (some large) of native bush. There is a distinct estuarine and harbour edge.

Outstanding Natural Features and Landscapes
Harbour and Estuarine Edge (regionally outstanding)

9.8.2 Case Study 2 - Landscape Character Assessment

Site Description
This case study area is situated in the foothills of Ohiwa Harbour and forms the western slopes of part of the Cheddar Valley. The site is bordered to the east by Wainui Road and Stanley Road to the south, while approximately 1500m from the Ohiwa Harbour estuary edge. The site has a total area of 74.43 hectares, is zoned Rural 2 and has been subdivided into 18 lots for rural residential purposes. The lots vary in size from 1.41 hectares to 9.48 hectares, with the average lot size being just over 4 hectares. The potential for further subdivision of the lots is shown on Figure 9-5 below.

The surrounding context is characterised by rolling hill country that extends beyond the site into the harbour as headlands and peninsulas.

Figure 9-4 : Case Study 2 Area – Stanley Road

This site and in particular its surrounding context demonstrates a higher degree of natural character than the case study 1 areas. Topography and protected vegetation in the gullies results in the site being reasonably enclosed with a low visual scale from within the gullies. External views from ridgelines however, look out extensively over the lower foothills north towards Ohiwa Harbour containing a much larger visual scale. Views are dominated by rolling topography, fencing, access way and other excavations, vegetated gullies and isolated patches of native bush with a general absence of intensification.

The site has a moderate to high level of complexity due to the high number of visual elements, varying types of vegetation, rural patterns and complex landforms described as “rolling hill country and complex hill and valley stream and river systems that provide a backdrop to the harbour.”[14] There is a certain degree of rural stewardship related to fencing and grazing along the slopes however this is balanced with natural patterns of native vegetation and stream corridors.

Activity associated with further subdivision and settlement of currently degraded or marginal farmland has the potential to improve the visual character of these areas if the correct balance of well integrated

[14] *Boffa Miskell.1995. Whakatane District Landscape Evaluation*

dwellings is achieved. The scale of the subdivision has allowed the creation of a pattern subdivision that responds well to the natural landform while protecting vegetated gully areas and natural drainage patterns.

Overall the subdivision has been well integrated into the site, retaining the site's natural character qualities through appropriate conditions which have managed the natural and rural qualities of the site. These conditions coupled with the site's steep topography and larger average lot sizes provides for a successful level of integrated intensification of subdivision.

Natural Character Qualities
The site has a moderate degree of naturalness retaining a good mix of natural processes and elements overlaid with visually dominant rural patterns. Case Study 2 has been assessed as having a higher degree of naturalness through the protection of remnant bush, avoidance of visual disturbance on slopes and generally well integrated house sites. Natural elements, patterns and processes still prevalent within the site are listed below:

- Landform and topography have retained natural form.
- Lack of development intensity.
- Indigenous vegetation patterns, remnant gully vegetation.
- Natural drainage patterns, streams, gullies.
- Strong natural character elements in surrounding context; Ohiwa estuary, peninsula's, wetlands, headlands.

Rural Character Qualities
The character attributed to the case study 2 area can be described as follows:
- Agricultural, horticultural and forestry processes.
- Rural aesthetic generally retained; appropriate materials agricultural fencing, gravel driveways.
- Low density intensification, generally large lots sizes due to slope constraints.

As outlined in the methodology, the visual character of the study area, (comprised of natural and rural character qualities) has been assessed following the conceptual framework for landscape character assessment established by Tveit, Ode and Fry (2006). Each concept is measured in terms of whether its expression in the landscape is low, moderate or high.

Stewardship moderate to low
Stewardship was assessed as an 'apparent' influence on the character of the landscape within and surrounding the case study area. The site has a good mix of rural and natural character qualities, and could be described as a working landscape of rural land use patterns (i.e. forestry blocks, steep hill pasture with managed natural elements and processes such as remnant native vegetation, fenced gullies, etc).

Coherence/ Unity low to moderate
Coherence was assessed as having a less than 'apparent' influence on the character of the landscape within and surrounding the case study area. As indicated case study 2 contains a mix of rural and natural patterns overlaid upon complex topography, this in turn affects the degree of coherence. Attributes of coherence are harmony; land use suitability, uniformity, etc. While the site manages land suitability well with a general degree of harmony, the underlying complexity affects the overall unity of landscape elements.

Disturbance low to moderate
Disturbance was assessed as having an 'apparent' influence on the character of the landscape within and the surrounding case study area. The case study site has limited adverse visual impacts, with most buildings having been well integrated as a result of appropriate lot densities and mature vegetation which has soften the development over time and mitigated existing house sites. The most prominent visual disturbances on the site are earthworks (cut and batter slopes) for access tracks, contrasting house colours and fence lines.

Visual scale moderate to low (varies internally)
Visual scale was assessed as an 'apparent' influence on the character of the landscape within the site. The openness or visibility of the site varies substantially through the site from 'high' on ridgelines to low within 'gullies'. The complex topography obstructs internal views.

Imageability moderate to low
Imageability was assessed as not having a high 'apparent' influence on the character of the landscape within and surrounding the case study area. Even though the wider area has outstanding natural landscapes with high imageability qualities, these are not visible from the site and only form a small part of the wider Ohiwa harbour panoramas.

Complexity moderate to high
The site was assessed as having a moderate to high degree of complexity which was as an 'apparent' influence on the character of the surrounding case study area. Within this landscape diversity and variety (attributes of complexity) of patterns are comparatively high due to the diverse vegetation patterns, land cover and topography.

Naturalness moderate to low
Naturalness was assessed as an 'apparent' characteristic of the case study area and surrounding context. It is generally accepted that natural character consists of natural elements, patterns and processes. It is considered that although the case study area has preserved areas high in naturalness, the case study area itself is still influenced significantly by human activities, land use and modification, particularly high visual sites (ridgelines or flat land). Natural processes are more dominant within the difficult terrain of sheltered gullies and valleys.

Ephemera low
The site was assessed as having a low degree of ephemera and assessed as a barely 'apparent' influence on the character of the landscape within and surrounding the case study area. Seasonal or weather effected changes to the landscape are most evident in land cover and land use (i.e. change in vegetation patterns; crop rotations, deciduous trees, etc). The vegetation cover within the case study area has a strong component of native vegetation which will retain an evergreen structure throughout the seasons (note: this is difficult to assess at one point in time).

Impacts on Rural Character
Listed below are the potential visual detractors (effects) mostly likely to impact on the visual character and rural character of the Case Study 2 Area. The potential detractors have been listed in order from most adverse to least adverse potential effect.

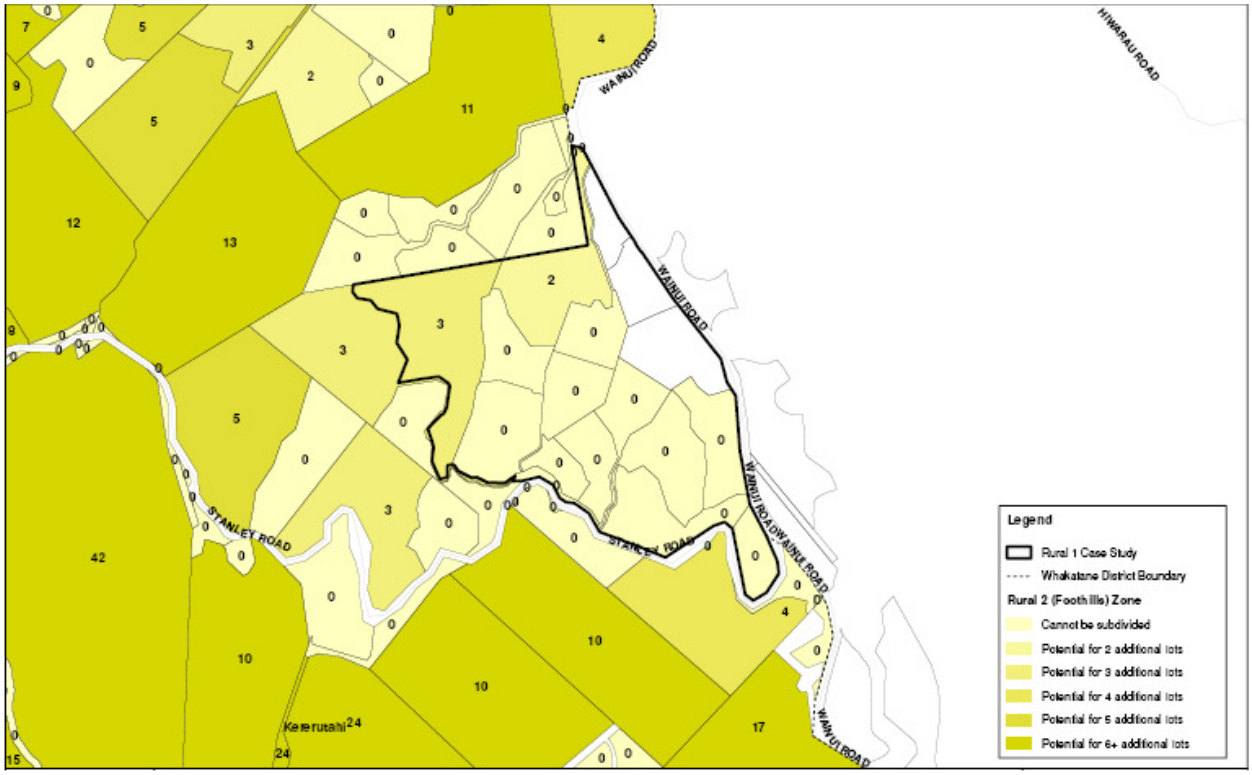
- Poorly integrated buildings and structures;
- Obtrusive or unsympathetic colouring of structures and design of dwellings;
- Smaller scale properties, increased intensification;
- Degradation of natural processes and natural features (i.e. streams drainage, coastal dunes);
- Undesirable earthwork scars in visually prominent areas;
- Increase in rural infrastructure and utilities (power lines, lighting columns, sealed driveways, water tanks, satellite dishes, etc);
- Use of urban vernacular (material selection, lighting of roads, kerb and channel, sealed driveways, highly detailed fencing and masonry);
- Planting that does not reflect the typical vegetation character of the area (additional planting, boundary planting, intensive gardens, higher stewardship);
- Siting of buildings on natural features and edges (line between land and sky, bush and pasture, sloping and flat land, etc):
- Increased fencing, property boundaries; and
- Increase in rural population densities.

Although the complex topography and remnant vegetation typical of the area provides a network of enclosed gullies with reduced visual scales, which increases the visual absorption capacity of the site, contrasting roof colours of two dwellings within the case study area were noted as visually prominent from

the Harbour 2.5km to 3km north of the site. A lack of vegetation behind some of the dwellings was also noted when compared with dwellings within the site that have a back drop of vegetation.

Overall it is assessed that the case study area has achieved a sound level of intensification and harmony with the context over time, however issues of effective integration still remain, particularly in relation to colour schemes of dwellings and lack of vegetative screening. With the correct level of consideration given to future development (the potential for further subdivision is shown on Figure 9-5), adverse visual impacts on rural character could be mitigated or avoided within the surrounding sites.

Figure 9-5 : Subdivision Capacity – Case Study 2 Area



Issues

Appropriate rural residential subdivision and associated development are significant issues for the Rural 2 foothills as a majority of the area provides a backdrop to Ohiwa Harbour, which is widely recognised for its outstanding natural landscapes.

Due to the high visibility into the site and the steep undulating landforms, house sites are limited and the coastal landform can be affected by such development. Intermediate ridgelines and spurs are often identified for development. Poorly sited dwellings and/or associated structures will cause a high visual disturbance. This high visual disturbance within an elevated rural landscape will give prominence to development and detract from the natural and rural qualities inherent in the site. This will in turn lead to an increase in cumulative effects from Ohiwa Harbour, a sensitive regional resource.

Access tracks (cuts and batters) and increased infrastructure are a significant threat to in terms of scaring the character of this visually prominent site through increased disturbance. Careful consideration should be given to future development; mitigation and its merits may need to be assessed as a case by case scenario.

Equally, the design (i.e. materials, height, form, colours) can be a significant visual issue within prominent locations within the surrounding area of the Rural 2 Zone. Effective balance of the working rural

landscape of forestry and farming with the protection and enhancement of natural character elements such as remnant native bush and water courses would assist with mitigation of the potential for effects.

It is noted that areas of more recent development north of the case study area; in particular the headlands of Ohiwa Harbour are experiencing a more significant change in landscape character. In comparison developments appeared to be well sited with large dwellings of low density rural residential sites, rather than large subdivisions with multiple sites. However, the aesthetic of such development was often in contrast with the rural character of the surrounding area. This was most evident in the high level of stewardship derived from increasingly urban aesthetic / vernacular of large houses, gated entrances, sealed drive ways, curb and channel, materials and high amenity landscaping inconsistent with rural character.

As the value and availability of land increases in the area, particularly in proximity to urban centres such as Whakatane, it is assumed that a change in landscape character will be inevitable. Unless these qualities are recognised now and managed accordingly against inappropriate future development, an increase in development in rural areas will result in a loss of rural qualities which are identified as contributing to the areas outstanding natural landscapes.

Conclusions
The cumulative effect of development within the Case Study 2 (Foothills) area could potentially be significant due to the steep topography, high view shed depth, limited house sites and context of visually sensitive landscapes. House sites are generally prominent to viewers travelling south along Wainui Road and in particular from the headlands and peninsulas close to the site. Cumulative effects of intensification within the site should however not be a significant resource management issue as the site is close to development capacity with subdivision of only three additional sites possible under the current zoning provisions. In terms of the wider area, the most significant potential effect is likely to be access tracks (scaring associated with cuts and batters) and increased infrastructure.

9.9 Case Study 3 – Rural 3

9.9.1 Baseline Landscape Assessment - District Landscape Evaluation (1995)

Under the District Landscape Evaluation undertaken by Boffa Miskell in 1995, Case Study 3 was classified as **Plains Landscape Type**. The Plains Landscape Type is described as follows:

'The plains extend from the Eastern Plateau in the south to the coast and include the coastal duneland fringe. In some areas the landform is rolling, this is either in areas that provide a transition from the plateau landscape type or in and around the coastal dunelands. Land use is generally pastoral farming (often dairying on the flat land with some horticulture and cropping). Shelterbelts are also characteristic of this landscape.'

The dunelands along the coastal edge exhibit strong linear and parabolic dune formations due to the dual actions of the sea and wind respectively. These landforms tend to be relatively subtle and sensitive to change.

Matata – Whakatane Coast (C.P.2)
This unit includes the dunelands between mean high water springs and the Plains. It coincides with the zone of coastal dominance identified in the Bay of Plenty Coastal Environment Landscape Assessment prepared for the Regional Council. This zone is delineated primarily on the basis of geomorphology and includes the landforms derived from coastal processes. The land along this stretch of coast is gently undulating and contains numerous wetlands particularly around the main river mouths.

Relevant Outstanding Natural Features and Landscapes
Matata Lagoons and Wetlands
Rangitaiki River Mouth and Lagoons

Site Description

This case study area is Rural 3 (Coastal) zoned land located between Moore Road and the coast. The area is bordered by Moore Road in the south and the coast to the north. Immediately to the north and east of the site is a recreation reserve of undulating dune land, which is grazed intermittently. Directly to the west are lifestyle blocks and beyond that the Kanuka Forest Winery. To the south is relatively flat grazing land.

Figure 9-6 : Case Study 3 Area – Moore Road, Thornton Beach

There are two distinct landscape character types within the case study area. The northern half consists of undulating dunes covered in grassy sward and occasional boxthorn scrub. The land within this character type has a thin grass cover with areas of exposed sand prone to surface erosion. The southern half of the site consists of flat pasture and is lacking of trees and shrubs. To the east and west of the site the same mix of landscape character types continues.

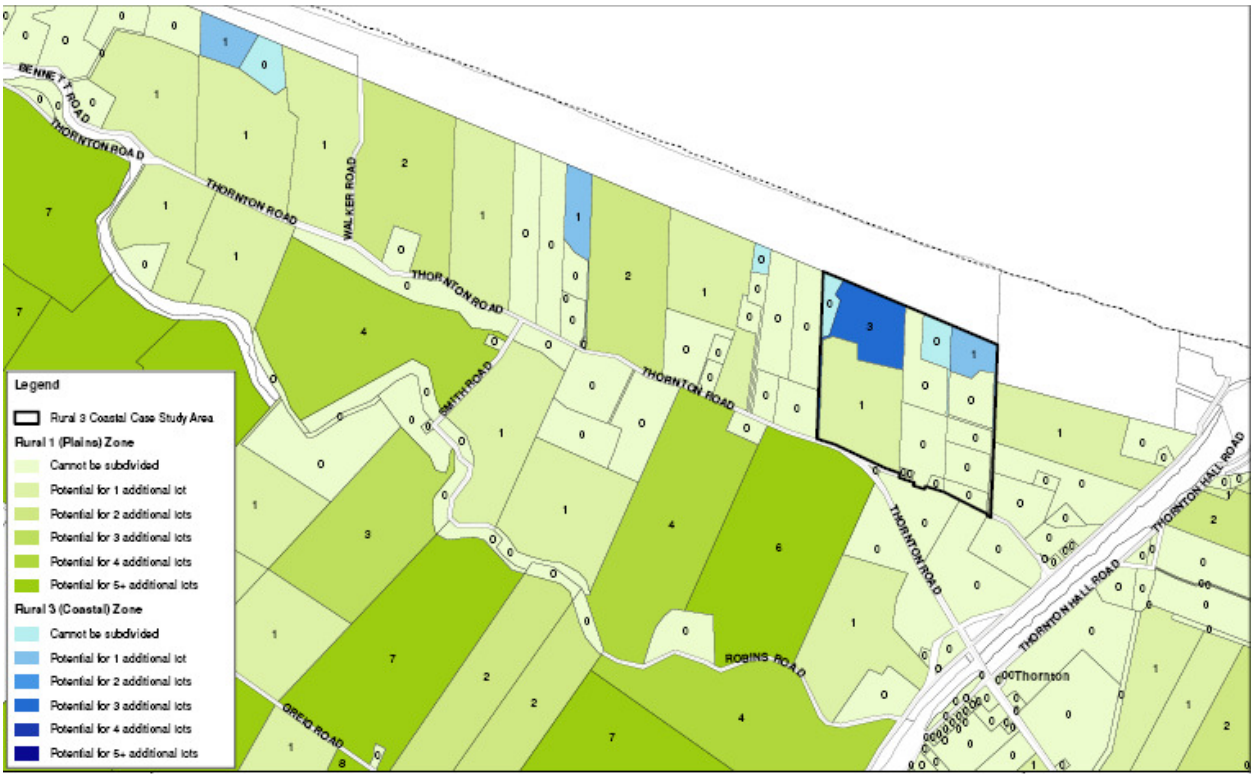
The landscape context to the south of Moore Road is a typical rural lifestyle landscape with scattered buildings, mixed land use, enclosed by occasional shelterbelts and post and wire fencing. An urban aesthetic is creeping in areas of recent subdivision particularly closer to the coast, influencing amongst other things the style of architecture, building materials and entranceways.

The site has a total area of 58.5 hectares, currently subdivided into 11 lots. The case study area is divided between two zones of which 40.7 hectares is zoned Rural 1 (Plains) and 17.9 hectares is zoned Rural 3 (coastal). The lots vary in size from 1.47 hectares to 16.3 hectares, with the average lot size being just over 5 hectares with the possibility of a further 5 lots, (refer to Figure 9-7 below).

The coastal dune system is visible from time to time from Thornton Road between Matata and Whakatane. Much of it is grassland used for winter grazing and its topography, although not dramatic, is a characteristic feature of this landscape. Thornton Road is part of the Pacific Coast Highway scenic route and, as such, aims to attract tourists to the area on the ground of scenic quality deriving from the high natural and rural characteristics.

Overall the landscape character of this case study area is open with a high degree of visual scale along the topography of sand dunes.

Figure 9-7 : Case Study 3 Subdivision Capacity



Natural Character Qualities:
Natural elements, patterns and processes active within the case study 3 areas:

- Sand dune system, subtle forms and undulating topography.
- Wind and sea erosion.
- Windswept pockets of coastal vegetation.
- Isolated patch of broad leaved indigenous hardwoods (Kanuka stands in wider context).
- Significant natural features in the wider area include the Rangitaiki River mouth and lagoons to the east.

Rural Character Qualities:
- Varying degrees of stewardship (generally low to moderate).
- Unsealed roads.
- Built elements (sheds, fencing, multiple accessways), lack of rural vernacular architecture (instead significant (often 2 storey) dwellings).
- Linear vegetation patterns (shelterbelts, boundary planting).
- Exotic vegetation predominant, weeds, exotic shelterbelt species.
- Linear patterns, boundary configuration.
- Visual scale (moderate to high).

As outlined in the methodology, the visual quality of the study area (compromised of natural and rural character qualities) has been assessed following the conceptual framework for landscape character assessment established by Tviet, Ode and Fry (2006). Each concept is measured in terms of whether its expression in the landscape is low, moderate or high.

Stewardship low - moderate (varies internally)
Stewardship was assessed as having a less than 'apparent' influence on coastal landscape character of the case study area. The case study area and surrounding context has a mix of rural and natural character qualities, and could be described as a lifestyle landscape of smaller rural operations and land use patterns (i.e. vineyards, orchards, breeding studs, etc) of moderate degree of stewardship contrasting with coastal dunes of low stewardship and high naturalness.

Coherence/ Unity low
Coherence was assessed as having a 'barely apparent' influence on coastal landscape character of the case study area. As highlighted case study 3 contains a mix of rural and natural patterns overlaid on undulating coastal topography. The case study area is a transitional landscape containing two differing landscape types, plains and coastal demonstrating a lack of landscape coherence. Attributes of coherence are harmony, unity, intactness, uniformity and the like.

Disturbance moderate to high
Disturbance was assessed as having a more than 'apparent' influence on landscape character within the case study area. The case study site has a high visual scale which reduces the visual absorption capacity[15] Buildings situated within Rural 3 Zone are generally located near the top of the secondary and tertiary dunes which produces a high level of disturbance both visually and physically through earthwork damage within the dunes. Because the dune slopes are shallow, minor excavations are likely to cause significant disturbance to the shape of the dunes.

Visual scale moderate
Visual scale was assessed as an 'apparent' influence on the character of the landscape within the site. The openness or visibility of the site varies substantially through the site from a moderate to high degree of visibility along the crest of the secondary dunes to moderate to low within the dune hollows. The gently undulating topography of the sand dunes coupled with shelterbelt vegetation obstructs views across the dunes. However, views laterally along the dunes are more extensive. Because of the dune topography views from the beach are limited

Imageability low to moderate
Imageability was assessed as having a less than 'apparent' characteristic of the landscape within the Moore Road case study area. Even though the wider area has outstanding natural landscapes with high imageability qualities, these are not visible from the site.

Complexity moderate to low (varies)
The site was assessed as having two different levels of complexity relating to the two landscape types found within the case study area. Within the area, diversity and variety (attributes of complexity) are comparatively high due to the two differing landscape types; including vegetation patterns, land cover and topography. A moderate degree of complexity was 'apparent' for the Rural 1 Zone whereas a low degree of complexity was evident in the Rural 3 zone.

Naturalness moderate to high (varies considerably)
Naturalness within the Rural 3 Zone was assessed as a 'dominant' characteristic of the case study area and surrounding context. Although the case study area consists of two landscape types the assessment is primarily concerned with the coastal landscape type of Rural 3. While the dominating effects of coastal processes will be inherent in the landscape a high degree of naturalness has been degraded through poor land management particularly endemic Kanuka stands.

Ephemera low to moderate
Ephemera is defined as seasonal change which was assessed as a barely 'apparent' influence on the landscape character of the case study area. Seasonal or weather effected changes to the landscape are most evident in land cover and land use (i.e. change in vegetation patterns; crop rotations, deciduous trees, etc). Although the vegetation cover will colour dramatically during the winter, minimal seasonal

[15] *Visual Absorption Capacity (VAC) describes a landscape's ability to absorb change. Three criteria are used to assess VAC, modification, relief and vegetation cover.*

change is expected through the coastal environment. The Rural 1 Zone areas of the case study area are more likely to experience ephemeral changes throughout the year.

Impacts on Natural and Rural Character:
Listed below are the potential visual detractors (effects) mostly likely to impact on the natural character and rural character of the Case Study 3 Area. The potential detractors have been listed in order from most adverse to least adverse potential effect.

- Siting of buildings on natural features and edges (line between land and sky, bush and pasture, sand dunes, sloping and flat land, etc);
- Degradation of natural processes and natural features (i.e. coastal wetlands, coastal dunes);
- Obtrusive or unsympathetic colouring of structures and bold architecture;
- Planting that does not reflect the typical vegetation character of the area (additional planting, boundary planting, intensive gardens, higher stewardship);
- Poorly integrated buildings and structures;
- Smaller scale properties, increased intensification; loss of openness;
- Increase in rural infrastructure and utilities (power lines, lighting columns, driveways, water tanks, satellite dishes, etc);
- Use of urban vernacular (material selection, lighting of roads, kerb and channel, sealed driveways, highly detailed fencing and masonry).

This site and in particular its surrounding context demonstrates a higher degree of active natural processes than the other two case study areas although natural elements (native vegetation, landform) have been poorly managed to the point where previous landcover and endemic vegetation has been eradicated. In contrast the land management practices of the case study 2 area have been more proactive in addressing land use suitability and retaining natural character elements.

While subdivision and settlement of currently degraded or marginal areas of the Rural 3 Zone has the potential to improve the visual character of these areas, the current linear pattern of subdivision does not respond well to the natural landform and coastal processes. The linear pattern of development (often double storied dwellings) is a result of buildings positioned along the top of the secondary dunes. Many of these residences are visible from Thornton Road, some of which are well integrated while many others result in an adverse visual impact.

Generally the topography of the dunes is gentle but distinctive and any cut and fill carried out in association with building platforms or access construction can have adverse visual impacts.

Issues
With its central location and abundance of linear roads, scenic values across the plains towards the coast in relation to the view from the road is a significant issue. Extensive views of outstanding natural features and landscapes such as Motuhora (whale Island) are currently afforded over the low lying rural land. The protection of significant views featuring natural landscape elements, while generally framing the view from the road, should be a priority along designated scenic routes such as State Highway 2 and Thornton Road. In particular views from Thornton Road offer a range of subdivision examples of well integrated buildings and rural patterns.

Integrating development through sensitive design and retention of existing natural elements such as endemic Kanuka stands could afford significant mitigation and screening opportunities for future development. Figure 9-8 below shows an example of different levels of rural residential integration as well as the difference sympathetic building forms, materials, colouring and sitting can make.

Figure 9-8 : View north from Thornton Road

Buildings positioned in prominent and exposed locations may be intrusive and out of proportion to their size. If there are several buildings situated along ridgelines or a hilltop, this may have a dominating effect upon the neighbouring landscape depending on the proximity of the buildings to each other. Buildings situated in hollows, or on levels below the ridgelines or hilltops are much less visually dominant, and appear to be more integrated to their surroundings.

Conclusion

With increasing pressure in the coastal environment for lifestyle subdivision the protection of this sensitive coastal landscape (with active natural processes and low VAC[16]) is a priority. Issues which relate to the natural character of the coastal environment are of essential resource management importance to this case study area. In particular the protection of the natural landform character, intact vegetation ensuring an appropriate scale of development and the retention of the dominance of natural character will be critical to the acceptability of any proposed development.

Individual subdivisions have attempted to manage land suitability with varying degrees of success by attempting to subdivide Rural 1 plains land from Rural 3 coastal land. However, the minimum lot size constraints in the Rural 1 Zone do appear to have discouraged this for some subdivisions. The sporadic subdivision of lifestyle lots down to the 2 hectare lot size in the Rural 3 Zone has limited the effectiveness of mitigation due to the difficulty that such a piecemeal approach creates in achieving overall integration of development, emphasising an increasing lack of landscape coherence.

The recognition of sensitive landscape and visual 'edges' requires a more detailed approach to define appropriate landscape thresholds and manage future development capacities along the coastal environment. Examples of landscape and visual edges include the line between landscape character types; dunes and plains, land and sky, bush and pasture, and sloping and flat landform. Edges are often visually sensitive and prominent landscapes which transition landform and land cover particularly within this landscapes unit.

It is difficult to define a comprehensive control technique that would work successfully for parcels of coastal land as small as the Rural 3 sites located within this case study area. The main issue for these small areas of sensitive Rural 3 land is managing the transitional nature of landscape character from rural land to coastal dunes. As already discussed balancing the natural character issues of landform preservation, while achieving the desired outcome of the developer, will remain a significant challenge within these sensitive natural landscapes. Mitigation proposals will need to be considered individually until a wider coastal strategy is put in place.

[16] *Visual Absorption Capacity (VAC) describes a landscape's ability to absorb change. Three criteria are used to assess VAC, modification, relief and vegetation cover.*

10 Economics

10.1 Current Economic Situation

Whakatane District's economic activity is strongly influenced by the abundant natural resources in the region, particularly land for agriculture, horticulture and forestry. In 2006, Whakatane District had 3,530 business locations (geographic units, GUs)[17] and 11,310 employment counts[18] (ECs). Whakatane District's total value added[19] was $921m ($2004)[20] (Table 10-1). This represented 11-12% of Bay of Plenty's total employment, business location activity, and total value added (GRP).

In employment terms the key industries were:

- Retail Trade (1,690 ECs)
- Agriculture, Forestry and Fishing (1,570 ECs)
- Health and Community Services (1,530 ECs)
- Education (1,270 ECs)
- Manufacturing (1,130 ECs).

In value added terms the key industries were:

- Agriculture, Forestry and Fishing ($193m)
- Manufacturing ($126m)
- Property and Business Services ($80m).

The agriculture, forestry and fishing sector is the most dominant sector of the Whakatane economy, with strong contributions to value added from dairy cattle farming ($110m), forestry and logging ($27m), livestock and cropping farming ($21m), and horticulture and fruit growing ($19m). It should be noted that it is likely that the EC figures underestimate the importance of the agriculture, forestry and fishing sector within the district because a proportion of farmers may not pay themselves a wage or salary directly. This sector also accounted for 33% of GUs in the District. As well as the direct economic impact of agriculture, forestry and fishing activities, the sector has flow on effects sustaining employment in other supporting industries, for example, rural supplies, meat and produce processing, and farm equipment and machinery retail.

Approximately 85-90% of employment in the agriculture, forestry and fishing sector is currently located in meshblocks with some rural zoning. As rural land is converted to rural residential housing, it is inevitable that rural subdivision will have an impact on agricultural employment and output.

[17] *A geographical unit (GU) refers to the number of economically significant individual, private-sector and public-sector enterprises that are engaged in the production of goods and services in New Zealand. They must meet at least one of the following criteria: annual GST expenses or sales of more than $30,000, rolling mean employee count of greater than three, in a GST-exempt industry (except residential property leasing and rental), part of a group of enterprises, a new GST registration that is compulsory, special or forced, registered for GST and involved in agriculture or forestry.*

[18] *Employment can be measured in a variety of ways. Employment Count is a head count of all salary and wage earners for the reference month. This is mostly employees, but can include working proprietors who pay themselves a salary or wage. Employment Count data is mainly sourced from the IRD Employer Monthly Schedule (EMS). Since 2003 it has been updated monthly on Statistics New Zealand's Business Frame. The EC data presented in this report comes directly from Statistics NZ.*

[19] *Value Added is payments to all factors of production including profits, depreciation, and wages and salaries. It is generally seen as the most important measure of economic impact as it represents the amount of impact generated within or felt within the economy. It is synonymous with Gross Domestic Product (GDP) the standard measure of economic performance for regions and nations.*

[20] *Market Economics' proprietary Economic Futures Model (2007)*

Table 10-1 : 2006 Current Economic Situation by Industry Sector[21]

Industry Sector (ANZSIC 96 1 Digit)		Whakatane District			Bay of Plenty Region			Whakatane's Share of BOP		
		ECs	GUs	Value Added ($m) ($2004)	ECs	GUs	Value Added ($m) ($2004)	ECs	GUs	Value Added ($m) ($2004)
A	Agriculture Forestry and Fishing	1,570	1,173	$ 192.9	9,040	6,725	$1,113.2	17%	17%	17%
B	Mining	20	3	$ 2.2	160	21	$ 28.4	13%	14%	8%
C	Manufacturing	1,130	136	$ 125.6	13,890	1,571	$1,131.2	8%	9%	11%
D	Electricity Gas and Water Supply	50	7	$ 35.1	440	30	$ 164.0	11%	23%	21%
E	Construction	740	272	$ 34.0	7,640	3,369	$ 410.2	10%	8%	8%
F	Wholesale Trade	310	80	$ 23.2	5,080	1,176	$ 423.0	6%	7%	5%
G	Retail Trade	1,690	324	$ 60.6	14,760	2,894	$ 484.2	11%	11%	13%
H	Accommodation Cafes and Restaurants	580	89	$ 12.7	7,100	851	$ 168.9	8%	10%	8%
I	Transport and Storage	280	88	$ 21.4	4,120	869	$ 301.6	7%	10%	7%
J	Communication Services	60	18	$ 5.3	1,430	169	$ 144.2	4%	11%	4%
K	Finance and Insurance	170	52	$ 20.4	1,680	646	$ 238.3	10%	8%	9%
L	Property and Business Services	780	823	$ 79.9	9,480	7,837	$ 917.7	8%	11%	9%
M	Government Administration and Defence	440	22	$ 40.0	2,590	110	$ 242.6	17%	20%	16%
N	Education	1,270	110	$ 46.1	7,030	567	$ 299.1	18%	19%	15%
O	Health and Community Services	1,530	136	$ 58.3	11,990	1,181	$ 411.4	13%	12%	14%
P	Cultural and Recreational Services	240	70	$ 9.1	2,730	619	$ 101.8	9%	11%	9%
Q	Personal and Other Services	450	125	$ 16.9	3,310	967	$ 120.0	14%	13%	14%
	Other Value Added	-	-	$ 137.7	-	-	$1,186.9	0%	0%	12%
Total		**11,310**	**3,528**	**$ 921.4**	**102,470**	**29,602**	**$7,886.5**	**11%**	**12%**	**12%**

10.2 Past Trends

For the purpose of this report, economic growth has been measured as the creation of employment and business locations between 2001 and 2006. This data has been derived from Statistics New Zealand's Business Frame. Prior to 2004, ECs and GUs were not collected for the agriculture, forestry and fishing sector. This means that growth can only be reported for the period 2004-2006 for this industry sector.

Overall, the Whakatane economy (excluding agriculture, forestry and fishing) has grown by 1,050 ECs (12%) over the five year period (Table 10-2), equivalent to approximately 2% per annum employment growth. Three sectors (construction, manufacturing and property business services) grew by more than 300 ECs over the period. The agriculture, forestry and fishing sector has average growth at 3% per annum since 2004.

In employment terms, the Whakatane economy has grown at a slower rate annually (2%) than the Bay of Plenty Region overall (4%). While the agriculture, forestry and fishing sector has decreased at a rate of 3% per annum in the Bay of Plenty Region since 2004, this sector has continued to grow in Whakatane District (3% p.a.).

[21] *Source: Statistics NZ Business Frame, 2006*

Table 10-2 : 2001-2006 Whakatane District Employment (EC) Growth by Industry Sector[22]

Industry Sector (ANZSIC 96 1 Digit)		ECs						Growth (n)	Growth (%)
		2001	2002	2003	2004	2005	2006	01-06	01-06
A	Agriculture Forestry and Fishing**	440	590	610	1,490	1,480	1,570		
B	Mining	20	10	20	20	20	20	-	0%
C	Manufacturing	800	1,100	790	750	880	1,130	330	41%
D	Electricity Gas and Water Supply	40	70	80	80	110	50	10	25%
E	Construction	370	450	480	540	660	740	370	100%
F	Wholesale Trade	240	260	250	250	290	310	70	29%
G	Retail Trade	1,610	1,660	1,670	1,740	1,780	1,690	80	5%
H	Accommodation Cafes and Restaurants	390	490	540	450	540	580	190	49%
I	Transport and Storage	270	260	270	270	290	280	10	4%
J	Communication Services	50	40	30	40	60	60	10	20%
K	Finance and Insurance	120	150	160	150	160	170	50	42%
L	Property and Business Services	440	580	630	710	880	780	340	77%
M	Government Administration and Defence	350	360	380	400	550	440	90	26%
N	Education	1,240	1,080	1,200	1,280	1,280	1,270	30	2%
O	Health and Community Services	2,200	1,550	1,550	1,590	1,470	1,530	- 670	-30%
P	Cultural and Recreational Services	210	190	190	190	230	240	30	14%
Q	Personal and Other Services	340	390	460	440	420	450	110	32%
Total (excl Agriculture, Forestry and Fishing)		**8,690**	**8,640**	**8,700**	**8,900**	**9,620**	**9,740**	**1,050**	**12%**

Over the five year period between 2001 and 2006, the number of business locations (excluding agriculture, forestry and fishing) in Whakatane District has increased from 1,890 GUs to 2,355 GUs, at an average annual growth of 4% (Table 10-3). The most significant increases in business locations have been in the property and business services (280 GUs) and the construction (70 GUs) sectors. The number of business locations for the agriculture, forestry and fishing sector has decreased by 1% per annum since 2004. The Bay of Plenty Region has also shown a decline in the number of businesses located in the agriculture, forestry and fishing sector (-2% p.a.). In business location terms, the Whakatane economy's average annual growth has been slightly slower than the Bay of Plenty Region (5%).

Table 10-3 : 2001-2006 Whakatane District Business Location (GU) Growth by Industry Sector[23]

Industry Sector (ANZSIC 96 1 Digit)		GUs						Growth (n)	Growth (%)
		2001	2002	2003	2004	2005	2006	01-06	01-06
A	Agriculture Forestry and Fishing**	152	162	184	1,204	1,180	1,173		
B	Mining	5	5	5	5	4	3	- 2	-40%
C	Manufacturing	122	126	124	128	126	136	14	11%
D	Electricity Gas and Water Supply	6	8	8	9	8	7	1	17%
E	Construction	205	208	214	228	241	272	67	33%
F	Wholesale Trade	83	87	91	86	81	80	- 3	-4%
G	Retail Trade	314	307	307	326	335	324	10	3%
H	Accommodation Cafes and Restaurants	71	81	86	84	92	89	18	25%
I	Transport and Storage	72	72	76	83	87	88	16	22%
J	Communication Services	15	13	15	16	16	18	3	20%
K	Finance and Insurance	45	50	52	47	49	52	7	16%
L	Property and Business Services	540	609	635	770	801	823	283	52%
M	Government Administration and Defence	20	21	23	24	25	22	2	10%
N	Education	103	100	103	107	111	110	7	7%
O	Health and Community Services	122	128	128	130	139	136	14	11%
P	Cultural and Recreational Services	77	76	79	79	77	70	- 7	-9%
Q	Personal and Other Services	98	105	107	115	114	125	27	28%
Total (excl Agriculture, Forestry and Fishing)		**1,898**	**1,996**	**2,053**	**2,237**	**2,306**	**2,355**	**457**	**24%**

[22] *Source: Statistics NZ Business Frame, 2001-2006*

[23] *Source: Statistics NZ Business Frame, 2001-2006*

10.3 Likely Future Economic Trends

To estimate likely growth under 'business-as-usual' conditions, the Market Economics' proprietary Economic Futures Model (EFM) has been run using Environment Bay of Plenty population projections to 2026. The EFM is an Excel-based model that combines detailed Input-Output (IO) data on current economies with population and export growth projections, to estimate future economic growth.

Whakatane's value added[24] is expected to grow by $123m, reaching $1.045 billion by 2026[25] while employment is expected to grow by 1,100 ECs, reaching 12,400 ECs (Table 10-4). Growth in the agriculture, forestry and fishing sectors will account for approximately 60% of total employment growth and 75% of value added growth in the District.

Table 10-4 : 2006-2026 Whakatane District Value Added and Employment Growth by Industry Sector[26]

Industry Sector (ANZSIC 96 1 Digit)		Value Added ($m) ($2004)					ECs				
		2006	2016	2026	Growth ($)	Share of Total Growth	2006	2016	2026	Growth (n)	Share of Total Growth
A	Agriculture Forestry and Fishing	$ 192.9	$ 233.2	$ 284.7	$ 91.8	75%	1,568	1,861	2,237	669	60%
B	Mining	$ 2.2	$ 2.4	$ 2.7	$ 0.5	0%	18	20	22	4	0%
C	Manufacturing	$ 125.6	$ 132.6	$ 142.4	$ 16.7	14%	1,128	1,216	1,331	203	18%
D	Electricity Gas and Water Supply	$ 35.1	$ 36.5	$ 37.9	$ 2.8	2%	46	48	50	4	0%
E	Construction	$ 34.0	$ 34.5	$ 34.4	$ 0.5	0%	740	752	750	10	1%
F	Wholesale Trade	$ 23.2	$ 24.1	$ 24.9	$ 1.7	1%	310	322	332	22	2%
G	Retail Trade	$ 60.6	$ 61.8	$ 62.2	$ 1.6	1%	1,694	1,728	1,737	43	4%
H	Accommodation Cafes and Restaurants	$ 12.7	$ 13.2	$ 13.6	$ 0.9	1%	584	608	624	40	4%
I	Transport and Storage	$ 21.4	$ 21.5	$ 21.7	$ 0.2	0%	282	285	289	7	1%
J	Communication Services	$ 5.3	$ 5.4	$ 5.5	$ 0.1	0%	58	59	59	1	0%
K	Finance and Insurance	$ 20.4	$ 21.6	$ 22.8	$ 2.5	2%	171	181	191	20	2%
L	Property and Business Services	$ 79.9	$ 82.8	$ 85.2	$ 5.3	4%	783	822	860	77	7%
M	Government Administration and Defence	$ 40.0	$ 41.7	$ 42.7	$ 2.7	2%	435	450	458	23	2%
N	Education	$ 46.1	$ 46.3	$ 45.5	-$ 0.7	-1%	1,270	1,275	1,251	- 19	-2%
O	Health and Community Services	$ 58.3	$ 58.4	$ 57.1	-$ 1.2	-1%	1,534	1,537	1,502	- 32	-3%
P	Cultural and Recreational Services	$ 9.1	$ 9.4	$ 9.6	$ 0.5	0%	240	248	253	13	1%
Q	Personal and Other Services	$ 16.9	$ 17.4	$ 17.7	$ 0.8	1%	446	459	466	20	2%
	Other Value Added	$ 137.7	$ 137.5	$ 133.9	-$ 3.7	-3%	-	-	-	-	0%
Total		**$ 921.4**	**$ 980.4**	**$1,044.5**	**$ 123.1**	**100%**	**11,307**	**11,871**	**12,415**	**1,108**	**100%**

10.4 Economic Impact of Rural Residential Development in Whakatane District

The key economic issues arising from subdivision of rural areas relate to:

- The loss and fragmentation of productive land
- The direct and induced effects of changing land use
- Increased retail and service spending.

This assessment addresses three distinct economic impacts on the local and regional economies, for the three case study areas and the Whakatane District overall, as follows:

[24] *Value Added is payments to all factors of production including profits, depreciation, and wages and salaries. It is generally seen as the most important measure of economic impact as it represents the amount of impact generated within or felt within the economy. It is synonymous with Gross Domestic Product (GDP) the standard measure of economic performance for regions and nations.*

[25] *Note, the EFM is based on Statistics NZ 2004 IO tables – future projections have been forecast in $2004 (i.e. without inflation) to show real growth by industry sector.*

[26] *Source: Market Economics' Economic Futures Model, 2007.*

- The Opportunity Impact: Negative economic impacts result from the loss of productive farming, forestry and horticulture land as it is converted to residential use.
- The Household Impact: Positive economic impacts result from retail and service demand generated by the new residential dwellings, providing new markets for existing providers and opportunities for new businesses to become established.
- The Construction Impact: Construction activity, including land development and construction of dwellings, generates significant, albeit short term and one-off, positive economic impacts.

This Economic Impact Assessment (EIA) assesses both the direct and flow-on impacts of each of these impact types in the context of rural residential development. Output has been fed through the appropriate industry sector[27] of the Whakatane District Input-Output model to derive the potential flow-on and total economic impacts of the land according to current use. Other potential economic impacts not quantified in this assessment include the economics of service and infrastructure provision, such as water, wastewater, and roading.

10.4.1 The Opportunity Impact

The Opportunity Impact results from the lost economic opportunity to Whakatane District as land is converted from primary production to residential use. For the purpose of this analysis, the Opportunity Impact has been calculated on the assumption that the current use of the rural land is as a dairy farm, forestry enterprise or horticultural enterprise depending on the land cover of the study area.

The first step was to calculate the potential output from the sub-dividable land. This was done using the land cover database (Whakatane District Council) to estimate the quantity of land by industry use that will be lost as a result of subdivision, according to the potential lots already calculated. These land areas by industry use were then applied to an Input-Output (IO) model of Whakatane District to estimate average output per hectare for farming, forestry and horticulture. To calculate the lost productivity for each case study area, the calculation was the lost land area (ha) by each industry multiplied by the average output per hectare.

10.4.2 The Household Impact

The quantity of potential additional rural residential lots that would be permitted according to current provisions is the basis for the EIA. It is important that this measure is viewed cautiously, as the difference between the potential number of lots and the actual take-up of these lots is likely to be very different. In addition, the measure does not necessarily indicate whether this activity is additional to the local or regional economy, or whether the activity is simply a displacement of other residential development within the local or regional context, for example extra household growth may not be stimulated by the availability of rural lifestyle lots and therefore households that would have lived in urban areas can choose to live in rural areas, however they will still have the same, or relatively similar, demand for retail sales irrespective of their location.

What is important, from the District's point of view, is that households settle within their jurisdiction, providing demand for goods and services which in turn offers further employment opportunities for their residents as well as enabling critical mass to be established to support infrastructure development (i.e. halls, sports grounds, wastewater systems).

The first step in deriving the household impact was to estimate the profile of the households that would locate in the potential new dwellings. This has been done with consideration of the profile of households currently located within the District's rural area. The result is market segmentation by distinct household types (according to age, income and family-type profile).

Then, the number of household types is multiplied by the average household spend by retail store and service category as determined by Market Economics' proprietary Retail Demand Model (RDM) to determine the size of the household based demand.

[27] *Note: For the agricultural sector a weighted average of the three agricultural (IO) sectors has been applied to the farming land.*

The RDM calculates average spend per household by retail store type, by combining information from the following data sources:

- Households from the Statistics New Zealand (SNZ) Census of Population and Dwellings
- Structural data on spend on goods and services by store type from SNZ's Household Economic Survey (HES)
- Retail sales ($) by store type from SNZ's Retail Trade Survey (RTS).

It is important to note that total retail and service demand generated by additional households does not translate directly to economic impact within the District. This is because of the following two explanations:

- A portion of the household demand generated will be focussed outside the District (sales leakage). The majority of goods purchased through retail outlets are manufactured outside the District.
- Therefore their value cannot be said to contribute to the District's economy. For most retail store types the gross margin runs at around 50%. Within this margin are amounts for employee wages and salaries, taxes, depreciation and profits, which all represent contributions to the district economy. The margin is higher for more service focussed sectors (such as the hospitality sector), where the value of goods purchased by the sector represents a smaller share of the total. For these retail and services sectors, the gross margin amounts are applied through the District economic model to assess their impacts.

Accordingly, the total household expenditure estimates are adjusted to account for leakage outside of the District, and reflect only the retail margin for local impact.

10.4.3 The Construction Impact

The Construction Impact is a one-off impact that occurs over the period that the land is developed and the dwellings are constructed, unlike the Household and Opportunity Impacts which occur every year (to a lesser or greater degree) from the time the residents first move in. The construction impacts are relatively short lived for each property, but there is potential for these to be distributed relatively evenly across time as individual houses are constructed.

The impacts could be spread across both the Whakatane District and the Bay of Plenty Region economies. For example, builders from Rotorua may be contracted to undertake some of the residential construction. Therefore, construction impacts have been assessed at both the district (75%) and the regional (25%) level.

Because there is no data currently available on the specific costs of developing the sections, and it is likely that the dwellings will be developed in an ad hoc manner rather than as an integrated development, assumptions have been made regarding the cost to develop the land and how these costs are spread across the economy, based on MELs' experience of similar Waikato / Bay of Plenty developments (see below).

10.4.4 Land Development Costs

The costs of developing a block of land from farmland into saleable sections is dependent on a wide range of factors including current use, location, topography, civil construction requirements, infrastructural requirements and development contributions.

For the purposes of this analysis an average development cost of $75,000 per lot has been used, based on previous experience of similar developments[28]. Specific requirements, such as the under-grounding of power lines and the wastewater infrastructural work required may increase this average cost.

[28] *Market Economics (2006). St Kilda Waterways, Stage 3 Economic Impact Assessment Report prepared for Grantchester Farms (Cambridge)*

It has been assumed that the largest share of the development costs will be in the construction sector (Table 10-5), covering civil and infrastructural construction costs. Other significant shares of the development cost are paid to the business services sector (planning, surveying, conveyancing, accounting, etc), local government (development fees and levies) and real estate agents (marketing).

Table 10-5 : Distribution of Estimated Development Expenditure[29]

Sector	Cost per Lot	
	$	%
Construction (non-building)	$ 48,750	65%
Business Services	$ 9,000	12%
Local Government Administration Services	$ 7,500	10%
Real Estate	$ 4,500	6%
Electricity Generation and Supply	$ 1,500	2%
Water Supply	$ 1,500	2%
Communication Services	$ 1,500	2%
Central Government Administration Services	$ 750	1%
Total	**$ 75,000**	**100%**

10.4.5 Residential Construction Costs

Residential construction costs vary significantly depending upon a number of factors, including:

- Size – larger houses are generally cheaper to build on a per square metre basis than smaller ones.
- Design – architecturally designed 'one-off' houses are significantly more expensive than 'off-the plan' houses.
- Construction materials.
- Location – both at a macro and micro level. Building a house is more expensive in some regions than in others. Also within regions, remote or awkward locations will contribute to higher overall costs.
- Nature of development – houses built as part of a large development can achieve greater economies of scale if design and specifications are similar.

For the purposes of this assessment, it has been assumed that the average size of homes constructed will be 250m² and the average costs will be $1,500/m². In assessing the economic impacts of this construction activity, it has been assumed that all of this expenditure will flow through the Bay of Plenty Region construction sector.

10.5 Assessment of Rural Subdivision Economic Impacts

10.5.1 Rural 1 Case Study

According to development potential analysis, no additional lots would be created in this case study area. From an economic perspective, this means that there will be no loss of productive land to new land uses and no new dwellings created. Therefore, it has been assumed that the current economic situation will prevail.

[29] *Note, these costs may vary slightly by territorial authority and regional council jurisdiction.*

10.5.2 Rural 2 Case Study

The development potential analysis indicates that there will be five additional lots in the case study area. The lots are approximately 14.5ha in total area and the predominant land-use is agricultural (as indicated by the land cover data base).

The Opportunity Impact
Using an IO model of the District economy, it is estimated that developing five additional lots from 14.5ha of farm-land would directly generate a reduction of total gross output to the value of $128,800 per annum (Table 10-6). This in turn represents a reduction of $31,900 value added and less than one FTE per annum, or a 0.2% reduction in the 2006 agricultural sector value added for Whakatane District as a whole. The negative opportunity impacts occur through permanent loss of land for agricultural activity as the land is developed for residential uses.

Table 10-6 : Rural 2 Case Study – The Opportunity Impact per annum

	Direct	Indirect	Induced	Total
Agriculture				
Gross Output ($000)	-$ 40.19	-$ 29.37	-$ 59.26	-$ 128.82
Value Added (GDP) ($000)	-$ 23.57	-$ 5.00	-$ 3.29	-$ 31.86
Household Income ($000)	-$ 0.27	-$ 0.08	-$ 0.04	-$ 0.38
Employment (FTEs)	- 0	- 0	- 0	- 0
Forestry				
Gross Output ($000)	$ -	$ -	$ -	$ -
Value Added (GDP) ($000)	$ -	$ -	$ -	$ -
Household Income ($000)	$ -	$ -	$ -	$ -
Employment (FTEs)	-	-	-	-
Horticulture				
Gross Output ($000)	$ -	$ -	$ -	$ -
Value Added (GDP) ($000)	$ -	$ -	$ -	$ -
Household Income ($000)	$ -	$ -	$ -	$ -
Employment (FTEs)	-	-	-	-
Total				
Gross Output ($000)	-$ 40.19	-$ 29.37	-$ 59.26	-$ 128.82
Value Added (GDP) ($000)	-$ 23.57	-$ 5.00	-$ 3.29	-$ 31.86
Household Income ($000)	-$ 0.27	-$ 0.08	-$ 0.04	-$ 0.38
Employment (FTEs)	- 0	- 0	- 0	- 0

The Household Impact
Developing five additional lots would directly generate an increase in total gross output to the value of $53,270 per annum. This in turn represents a gain of $17,990 value added and less than one FTE per annum, or a 0.3% increase in the 2006 retail and services sector value added for Whakatane District as a whole.

Note: positive household impacts would only arise if these five additional lots were additional households attracted to the District because of the availability of rural residential lots, (i.e. not households re-distributed from other locations within the District).

Table 10-7 : Rural 2 Case Study – The Household Impact per annum

	Direct	Indirect	Induced	Total
Gross Output ($000)	$ 17.11	$ 15.27	$ 20.89	$ 53.27
Value Added (GDP) ($000)	$ 9.11	$ 4.10	$ 4.77	$ 17.99
Household Income ($000)	$ 5.79	$ 1.79	$ 1.53	$ 9.11
Employment (FTEs)	0	0	0	0

The Construction Impact
Applying the land development cost estimate of $75,000 per lot to the 5 lots gives a total development cost of $375,000. This includes all the costs that 'add value' to the land, but does not include the cost of the land itself. Land costs are simply considered to be a transfer within the local economy and therefore do not generate additional economic impact. Total construction costs would amount to $1.88 million. This represents a one-off increase in gross output of $8.44 million, $1.97 million value added and 31 FTEs, or a 0.2% increase in the 2006 value added for Whakatane District as a whole.

Note: positive construction impacts would only arise if these five additional lots were additional households attracted to the District because of the availability of rural residential lots, (i.e. not households re-distributed from other locations within the District).

Table 10-8 : Rural 2 Case Study – The Construction Impact (one-off)

	Direct	Indirect	Induced	Total
Gross Output ($000)	$ 2,250.00	$ 3,038.75	$ 3,153.31	$ 8,442.06
Value Added (GDP) ($000)	$ 708.51	$ 775.90	$ 482.39	$ 1,966.80
Household Income ($000)	$ 469.89	$ 397.30	$ 155.75	$ 1,022.94
Employment (FTEs)	15	11	5	31

10.5.3 Rural 3 Case Study

The development potential analysis indicates that there will be five additional lots in the case study area. The lots are approximately 28.4ha in total area and the predominant land-use is agricultural with some minor horticultural activity (as indicated by the land cover data base).

The Opportunity Impact
Using an IO model of the Whakatane District economy, it is estimated that developing five additional lots of 28.4ha of farm and horticulture land would directly generate a reduction of total gross output to the value of $285,000 per annum (Table 10-9). This in turn represents a reduction of $63,500 value added and one FTE per annum, or a 0.3% reduction in the 2006 agricultural sector value added for Whakatane District as a whole. The negative opportunity impacts occur through permanent loss of land for agricultural activity as the land is developed for residential uses.

Table 10-9 : Rural 3 Case Study – The Opportunity Impact per annum

	Direct	Indirect	Induced	Total
Agriculture				
Gross Output ($000)	-$ 78.41	-$ 57.30	-$ 144.56	-$ 280.28
Value Added (GDP) ($000)	-$ 45.99	-$ 9.76	-$ 6.41	-$ 62.16
Household Income ($000)	-$ 0.52	-$ 0.15	-$ 0.07	-$ 0.74
Employment (FTEs)	- 1	- 0	- 0	- 1
Forestry				
Gross Output ($000)	$ -	$ -	$ -	$ -
Value Added (GDP) ($000)	$ -	$ -	$ -	$ -
Household Income ($000)	$ -	$ -	$ -	$ -
Employment (FTEs)	-	-	-	-
Horticulture				
Gross Output ($000)	-$ 1.46	-$ 1.15	-$ 2.08	-$ 4.69
Value Added (GDP) ($000)	-$ 0.83	-$ 0.24	-$ 0.25	-$ 1.32
Household Income ($000)	-$ 0.09	-$ 0.03	-$ 0.02	-$ 0.13
Employment (FTEs)	- 0	- 0	- 0	- 0
Total				
Gross Output ($000)	-$ 79.87	-$ 58.45	-$ 146.64	-$ 284.97
Value Added (GDP) ($000)	-$ 46.81	-$ 10.00	-$ 6.66	-$ 63.48
Household Income ($000)	-$ 0.61	-$ 0.17	-$ 0.09	-$ 0.88
Employment (FTEs)	- 1	- 0	- 0	- 1

The Household Impact
The Rural 3 Case Study area would have the same household impacts as the Rural 2 Case Study area (as both have five additional lots), representing an increase in total gross output to the value of $53,270 per annum, a gain of $17,990 value added, and a gain of less than one FTE per annum, or a 0.3% increase in the 2006 retail and services sector value added for Whakatane District as a whole.

Note: positive household impacts would only arise if these five additional lots were additional households attracted to the District because of the availability of rural residential lots, (i.e. not households re-distributed from other locations within the District).

The Construction Impact
The Rural 3 Case Study would have the same construction impacts as the Rural 2 Case Study, representing a one-off increase in gross output of $8.44 million, $1.97 million value added and 31 FTEs, or a 0.2% increase in the 2006 value added for Whakatane District as a whole.

Note: positive construction impacts would only arise if these five additional lots were additional households attracted to the District because of the availability of rural residential lots, (i.e. not households re-distributed from other locations within the District).

10.6 Potential Economic Impacts on Whakatane District Economy

Because the selected case study areas do not have significant potential for rural subdivision (maximum of 5 lots per case study area), and the maximum potential for rural subdivision within the Whakatane District as a whole is significant but unrealistic (refer to Appendix D), Market Economics has developed two scenarios of future take-up of the rural lots to show the likely economic impacts if the availability of this land stimulates additional population growth in the District.

- Scenario One: 300 new dwellings occupied full-time, developed over the next twenty years.

- Scenario Two: 150 new dwellings occupied full-time and 150 new dwelling occupied part-time (holiday homes), developed over the next twenty years.

While household growth in Whakatane District is projected to decline over time, the potential for a significant number of rural lifestyle blocks to be developed could stimulate additional growth in the market. In this way, the District may attract some demand for rural lifestyle / coastal living from other parts of the wider Bay of Plenty market which is unable to be satisfied elsewhere due to under supply of rural blocks or more expensive rural land costs. This development would attract new households to the District, due to the opportunity for rural residential lifestyle, whose needs would not be met in urban / town locations. In other words, additional rural subdivision for lifestyle purposes could re-position Whakatane District within the wider rural residential regional market, by making the location more attractive for growth.

Both the Environment Bay of Plenty and the Statistics New Zealand medium growth projections forecast a declining population for Whakatane District, resulting in a population that is between 800-1,300 people fewer in 2026 than in 2006. MEL has assumed that there is scope for the available land to stimulate market growth and attract a further 1,000 net additional people into the District.

This equates to approximately 300 new dwellings. It has been assumed that the 300 lots would be evenly split across the three rural zone areas (Rural 1, Rural 2, and Rural 3) even though the coastal lots may be more attractive than other areas within the District. A further assumption was that the lots would be of the minimum lot size according to the District Plan rules for the respective zones.

This means that approximately 1,050 ha would be taken up by these new households. We have used the land cover information for the entire rural area by zone to indicate how much land by industry use would be lost as a result of rural subdivision. Of the 1,050 ha in total, approximately 802 ha would be agriculture based, 212 ha would be forestry based and 36 ha would be horticulture based.

10.6.1 Scenario One

Scenario One assumes that 300 new dwellings are created in the next twenty years within the rural area, and that this growth is additional to the District. It has been assumed that 100% of the dwellings are occupied throughout the year.

The Opportunity Impact
Permitting the development of 300 dwellings in the rural area according to the assumptions specified above would generate a reduction of total gross output to the value of $7.4 million per annum (Table 10-10). In turn, this would amount to a loss of $2.1 million value added and 47 FTEs per annum, or a 0.7% reduction in the 2026 agricultural sector value added for Whakatane District as a whole. The negative opportunity impacts occur through permanent loss of land for agricultural activity as the land is developed for residential uses.

Table 10-10 : Scenario One – The Opportunity Impact per annum

	Direct	Indirect	Induced	Total
Agriculture				
Gross Output ($000)	-$ 2,229.65	-$ 1,629.48	-$ 2,518.33	-$ 6,377.46
Value Added (GDP) ($000)	-$ 1,307.69	-$ 277.57	-$ 182.36	-$ 1,767.63
Household Income ($000)	-$ 14.92	-$ 4.23	-$ 2.00	-$ 21.15
Employment (FTEs)	- 15	- 4	- 24	- 43
Forestry				
Gross Output ($000)	-$ 96.80	-$ 80.85	-$ 139.72	-$ 317.37
Value Added (GDP) ($000)	-$ 47.73	-$ 18.55	-$ 18.91	-$ 85.19
Household Income ($000)	-$ 1.27	-$ 0.56	-$ 0.38	-$ 2.21
Employment (FTEs)	- 1	- 0	- 0	- 1
Horticulture				
Gross Output ($000)	-$ 233.30	-$ 183.10	-$ 331.47	-$ 747.88
Value Added (GDP) ($000)	-$ 131.65	-$ 38.05	-$ 40.05	-$ 209.75
Household Income ($000)	-$ 14.05	-$ 4.05	-$ 3.09	-$ 21.19
Employment (FTEs)	- 2	- 0	- 0	- 3
Total				
Gross Output ($000)	-$ 2,559.75	-$ 1,893.43	-$ 2,989.52	-$ 7,442.71
Value Added (GDP) ($000)	-$ 1,487.08	-$ 334.17	-$ 241.33	-$ 2,062.58
Household Income ($000)	-$ 30.23	-$ 8.84	-$ 5.47	-$ 44.55
Employment (FTEs)	- 18	- 4	- 25	- 47

The Household Impact

The Household Impact of 300 dwellings would represent an increase in total gross output of $3.2 million per annum, a gain of $1.1 million value added and 20 FTEs, or a 1.7% increase in the 2026 retail and services sector value added for Whakatane District as a whole.

Table 10-11 : Scenario One – The Household Impact per annum

	Direct	Indirect	Induced	Total
Gross Output ($000)	$ 1,026.46	$ 916.11	$ 1,253.37	$ 3,195.94
Value Added (GDP) ($000)	$ 546.58	$ 246.21	$ 286.42	$ 1,079.21
Household Income ($000)	$ 347.12	$ 107.29	$ 92.04	$ 546.45
Employment (FTEs)	14	3	3	20

The Construction Impact

Total constructions costs would amount to $135 million. This represents a one-off increase in gross output of $506 million, $118 million value added and 1,860 FTEs, or an 11.3% increase in the 2006 value added for Whakatane District as a whole. Note, because the development would occur in an unstructured manner, as opposed to an integrated development, the construction impact would be spread over a number of years.

Table 10-12 : Scenario One – The Construction Impact (one-off)

	Direct	Indirect	Induced	Total
Gross Output ($000)	$135,000.00	$182,324.87	$189,198.80	$ 506,523.67
Value Added (GDP) ($000)	$ 42,510.85	$ 46,553.70	$ 28,943.58	$ 118,008.14
Household Income ($000)	$ 28,193.39	$ 23,837.94	$ 9,344.86	$ 61,376.19
Employment (FTEs)	878	685	297	1,860

10.6.2 Scenario Two

Scenario Two assumes that 300 new dwellings are created in the next twenty years within the rural area, and that this growth is additional to the district. It has been assumed that 50% of the dwellings are occupied throughout the year, and that 50% of the dwellings are holiday homes with an average stay of 8 weeks per annum.

The Opportunity Impact
Scenario Two would have the same Opportunity Impacts as Scenario One, representing a loss of total gross output to the value of $7.4 million per annum. In turn, this would amount to a loss of $2.0 million value added and 47 FTEs per annum, or a 0.7% reduction in the 2026 agricultural sector value added for Whakatane District as a whole. The negative opportunity impacts occur through permanent loss of land for agricultural activity as the land is developed for residential uses.

The Household Impact
The Household Impact of 300 dwellings (50% fully occupied) would represent an increase in total gross output of $1.8 million per annum, a gain of $621,000 value added and 12 FTEs, or a 1.0% increase in the 2026 retail and services sector value added for Whakatane District as a whole.

Table 10-13 : Scenario Two – The Household Impact per annum

	Direct	Indirect	Induced	Total
Gross Output ($000)	$ 590.22	$ 526.77	$ 720.69	$ 1,837.67
Value Added (GDP) ($000)	$ 314.28	$ 141.57	$ 164.69	$ 620.55
Household Income ($000)	$ 199.60	$ 61.69	$ 52.93	$ 314.21
Employment (FTEs)	8	2	2	12

The Construction Impact
Scenario Two would have the same Construction Impacts as Scenario One, representing a one-off increase in gross output of $506 million, $118 million value added and 1,860 FTEs, or an 11.3% increase in the 2006 value added for Whakatane District as a whole.

10.7 Economic Summary

Likely Economic Impacts
It is clear from assessing the economic impacts of the selected study areas, that the chosen areas are too small to show the likely scale of impacts that could occur according to the current zoning provisions.

In order to assess the likely economic impacts of permitting rural residential subdivision in Whakatane District, it has been assumed that there is scope for the available land to stimulate market growth and attract a further 1,000 net additional people (300 dwellings) into the District over ten years. Future household growth could be stronger than anticipated by Statistics New Zealand and Environment Bay of Plenty, due to the opportunity arising from additional development for lifestyle purposes. This would enable the District to attract a share of rural lifestyle / coastal living from other parts of the wider Bay of Plenty market. New household types, whose needs would not be met in urban / town locations, could be attracted to the District.

This EIA has assumed that once a dwelling has been created on a lot in the rural area, that the lot will not support any primary economic activity. However it is likely that some residents will choose to operate small hobby farms or horticulture activity on their land, which would slightly reduce the opportunity impacts. Often people looking to live on a rural lifestyle block have grand visions of running hobby farms; however this doesn't always work out for a variety of reasons, and an easy option from a maintenance aspect is to allow neighbouring farmers to graze stock on the land. It is difficult to estimate the proportion of households that would create an economically viable dairy farm or horticultural enterprise, and more likely that the output of such enterprises would be small.

Because the construction impacts cannot be compared directly with the annual opportunity and household impacts, we have modelled the development of 300 dwellings with 100% occupancy for a development period of ten years. This assumes that 30 households would be created on approximately 105ha per annum for the next ten years. To model the impacts of development, we have applied a growth rate of 1.5% per annum to the opportunity impacts and 1% per annum to the household and construction impacts, and then discounted the economic impacts over time by 10% per annum. The FTEs have not been discounted.

This analysis shows that over the ten year period the total economic impact would represent a gain in gross output of $311 million, with the construction impacts making the most significant contribution to the increase ($323 million) (Table 10-14). The rural subdivision would generate $70 million in value added and 1,700 FTEs over the ten year period. This shows a significant positive impact from subdivision; however this analysis does not assess the costs associated with dispersal of activity throughout the District.

Table 10-14 : Economic Impact over 10 years ($000s)

Impact Type	Gross Output Total	Value Added Total	Household Income Total	Employment (FTEs) Total
Opportunity Impact	-$ 21,866	-$ 6,060	-$ 131	- 260
Household Impact	$ 9,353	$ 3,158	$ 1,599	112
Construction Impact	$323,117	$ 72,511	$ 37,713	1,860
Total Impact	**$310,604**	**$ 69,609**	**$ 39,181**	**1,712**

We have also modelled the economic impact over the next 50 years of developing 300 dwellings with 100% occupancy for a development period of ten years to explore whether the short term construction impacts are outweighed by the long term negative opportunity impacts. This assumes that the average life of a house built on rural residential land is 50 years, however it is likely that housing stock could last for as long as 100 years.

Table 10-15 shows that over the 50 year period the total economic impact would represent a gain in gross output of $278 million, with the construction impacts continuing to make the most significant contribution to the increase ($323 million). The rural subdivision would generate $62 million in value added and an increase in 630 FTE years (around 12 FTEs per year). Over the 50 year period, the opportunity impacts (loss of productive land) would represent a reduction in gross output of $79 million, with a loss of value added in the order of $22 million, and a loss of 2,150 FTEs, however the net position would continue to be a positive impact.

Table 10-15 : Economic Impact over 50 years ($000s)

Impact Type	Gross Output Total	Value Added Total	Household Income Total	Employment (FTEs) Total
Opportunity Impact	-$ 79,062	-$ 21,910	-$ 473	- 2,154
Household Impact	$ 33,798	$ 11,413	$ 5,779	923
Construction Impact	$323,117	$ 72,511	$ 37,713	1,860
Total Impact	**$277,854**	**$ 62,014**	**$ 43,019**	**630**

This analysis has assumed that allowing land for rural subdivision will stimulate market growth. If this does not occur (i.e. additional households are not attracted to Whakatane District), then the availability of sections in the rural areas may stimulate a transferral of current residents from urban locations to the new land.

Other Impacts of Rural Subdivision

The current zoning provisions are concerning because they provide for scattered development within the rural area. From an economic perspective the net benefits of rural subdivision would be maximised where subdivision is spatially concentrated, as opposed to dispersed throughout the District. This would enable economic efficiencies for servicing communities through infrastructure, such as roading, water and wastewater.

Dispersal of housing throughout the District is likely to lead to longer driving distances for residents to access day to day goods and services. As the distance between home and the nearest shops increases, the average number of trips is likely to decrease. However, not all activities will see this pattern, for example children will still need to travel to school on a daily basis during the week and may need to travel further to access community facilities such as sports-grounds and halls. An increased number, or length, of trips from rural residential areas to shops and other points of community interest will mean that households spend more of their total household income on travelling (petrol and car maintenance), with correspondingly lower shares available for other goods and services (such as recreational and entertainment goods and services).

Reverse sensitivities arising from the co-location of residential activities with non-compatible productive land use activities is also a real concern for the District. Households moving into rural residential areas are often not aware of the types of activities carried out by rural producers, and the associated nuisance factors. Only once living in the location do they become aware of activities that may conflict with residential living, for example pesticide spray drift, heavy machinery noise, and animal noise during sleeping hours. This can create significant tensions when rural-lifestyle residents believe they have the right to a lifestyle similar to that experienced in urban areas but is incompatible with neighbouring rural production activities.

The Impact of Rural Subdivision on Land Values

A 2005 Motu working paper[30] investigated changes in the value of rural land nationally from 1989 to 2003. The analysis showed that rural land values increased the most in less populated areas with good climates and good proximity to local amenities (such as airports, beaches, lakes, ports, large towns, train stations, schools and ski areas).

The real value of rural land for all uses increased over the study period, and land uses that were least valued initially (such as commercial forestry, intensive and extensive pastoral and arable farms) increased the most (240-300%). The land uses with the highest value uses (such as urban, horticulture, pig/chicken farms, and lifestyle) increased at a slower rate (125-165%). However, the ranking of land values per hectare remained constant, with urban having the highest value by far, followed in order by

[30] *"Examining Changes in the Value of Rural Land in New Zealand between 1989 and 2003. Motu Working Paper 05-07 Motu Economic and Public Policy Research. August 2005.*

horticulture, pig/chicken farms, lifestyle, dairy, deer/horse, arable, intensive pastoral, extensive pastoral and commercial forestry uses.

What this indicates for Whakatane District is that the trend would be for a reduction of overall land value if lots that were formerly horticulture or pig/chicken farms were transferred to rural lifestyle, and an increase in the overall land values if the other activities (especially dairy and forestry) were converted to rural lifestyle.

10.8 So What Does this Mean for the District?

Subdividing rural areas creates a range of economic impacts, both positive and negative. The loss and fragmentation of productive land is a negative impact, while the stimulated construction activity and increased retail and service spending from new resident households produces positive economic impacts.

For this study, we have modelled the likely economic impacts of developing 300 households over a ten year period on rural land. The outcome of this analysis was a net positive gain in gross output of $311 million, $70 million in value added and 1,700 FTEs in total. The analysis showed that construction impacts will make the strongest positive contribution to the local economy. Even over the 50 year period the economic impacts for the District would be positive, with a net positive gain in gross output of $278 million, $62 million in value added, and, however, a reduction of 630 FTEs.

This analysis has assumed that the dwellings would represent additional growth in the Whakatane District of 300 dwellings over and above that already projected in current growth projections. The question is whether this rate of growth is achievable in the long term, as current growth projections show slowing down and then declining growth. The current District Plan provisions permit scattered development throughout the rural area, and whilst the economic impacts will be positive, the effects on urban/rural form and associated infrastructure provision may be adverse. If future development occurs in the urban areas, the positive construction and household impacts will still arise (providing new households are attracted over and above existing growth forecasts), but the detrimental impact on rural production capacity will be avoided.

11 Transportation and Traffic

The section provides a broad level transportation assessment as to the potential for traffic effects associated with land use change in the rural areas of the Whakatane District in relation to the three case study areas.

More specifically, it provides details of:

- The existing traffic situation across the Eastern Bay of Plenty;
- A high level traffic assessment of the potential traffic effects of land use change for the three case study areas; and
- Details of general transportation issues that are an effect of rural subdivision.

11.1 Existing Situation

The transport issues in the Eastern Bay of Plenty primarily relate to:

- Route security with routes at risk from bridge closure, flooding, slips and climate change.
- Timber haulage will increase with more forests in the east becoming ready for harvesting in the next thirty years. The consequence is likely to be more slow moving heavy vehicles.
- Commuting traffic between Whakatane, Tauranga, and Rotorua will increase as more people are likely to take up the lifestyle opportunities offered by living along the coast and working in the future employment opportunities in Te Puke and Rangiuru.

Traffic congestion is not seen as a primary issue. Existing traffic flows are presented in Table 11-1 and Table 36 and are generally low. At approximately 16,000 vehicles per day the level of service and road traffic safety on a two-lane rural highway start to deteriorate rapidly. Traffic flows (with the exception of SH30 west of Keepa Road) are significantly less than 16,000 vpd. This supports the statement in the Bay of Plenty Regional Land Transport Strategy that “the Eastern Bay of Plenty generally has sufficient capacity and services to manage growth in the shorter term”.

If more than 17,000 vpd are using a two lane road the whole traffic environment starts to deteriorate such as lack of gaps in traffic for vehicles to access from side roads. On this basis the traffic flows are generally low across the Whakatane network, with capacity to accommodate future growth in terms of the number of vehicles using the State highway network.

There are no significant road projects identified for Whakatane District in New Zealand Transport Agency’s 10 year land transport programme. State Highway 30 and State Highway 34 are both single carriageway two-lane highways and it is likely that this will remain the case for the foreseeable future.

Table 11-1 : Existing Traffic Flows (State Highways)

State Highway	RP	Location	2005 Annual Average Daily Traffic
2	225	Matata East	2 710
	241	West of SH 30	3 530
	242	Awakeri	9 390
	243	West of SH 30	1 960
	285	100m before Wainui Road	1 140
	286	100m past Wainui Road	3 490
30	205	South of SH 34 (Military Road)	2 450
	218	South of SH 2 (Awakeri)	5 880
	220	North of SH 2 (Te Rahu Bridge)	7 720
	229	West of Keepa Road (Whakatane)	15 310
34	0	South of SH 2	1 370
	11	South of SH 30 East	5 860
	25	East of SH 30 West	1 320

Table 11-2 : Existing Traffic Flows (roads adjacent to case study locations)[31]

Mid-block Sections	Daily traffic flow	
Existing Situation 2007	**AM**	**PM**
Kawerau Road (SH 34) – adjacent to Case Study 1	6440	2680
Wainui Road – adjacent to Case Study 2	2480	2520
Thornton Road – adjacent to Case Study 3	2690	3280

11.2 Traffic Impacts and Implications

An estimate of the traffic generated for the three case studies are presented in Table 11.3 below.

There is very minimal subdivision that can occur under the current District Plan rules for the three case study scenarios (i.e. 5 additional lots for the Case Study 2 area and 5 additional lots for the Case Study 3 area). The District Plan does specifically provide for any further subdivision in the Case Study 1 area. Subdivisions to date in the case study areas have not caused any traffic issues and future subdivision under the current District Plan provisions is unlikely to create any additional significant traffic or congestion problems.

[31] *Source: Derived from Whakatane Traffic Model (2006) peak hour traffic flows, Gabites Porter (NZ) Ltd.*

Table 11-3 : Potential Additional Traffic Generation

Case Study Area	Current Vehicle Trips Generated	Predicted		
		Number of Lots	Trips generated Vehicles per	
			Peak hour	Day
Kawerau Road (SH 34) – adjacent to Case Study 1	83	N/A	N/A	N/A
Wainui Road – adjacent to Case Study 2	135	5	6	52
Thornton Road – adjacent to Case Study 3 (Coastal)	124	5	6	52

Note: Trip generation per lot is assumed as 10.4 daily vehicles movements, or 1.2 peak hour vehicles movements.
Source: Transit Planning Policy Manual, August 2007 (Appendix 5B)

11.3 Capacity

The Highway Capacity Manual (HCM) is widely used throughout the world and contains concepts, guidelines, and computational procedures for computing the capacity and quality of service of various highway facilities, including freeways, signalized and unsignalized intersections, rural highways, and the effects of transit, pedestrians, and bicycles on the performance of these systems.

The Highway Capacity Manual defined three capacity measures:

- *Basic capacity is "the maximum number of passenger cars that can pass a given point on a lane or roadway during one hour under the most nearly ideal roadway and traffic conditions which can possibly be attained".*
- *Possible capacity is "the maximum number of vehicles that can pass a given point on a lane or a roadway during one hour, under the prevailing roadway and traffic conditions".*
- *Practical capacity is "the maximum number of vehicles that can pass a given point on a roadway or in a designated lane during one hour without the traffic density being so great as to cause unreasonable delay, hazard, or restriction to the drivers' freedom to manoeuvre under the prevailing roadway and traffic conditions".*

Based on the HCM the practical capacity flow rates on a two lane highway are 1,700 vehicles per hour, in one direction.

This is used as a guide to the road layout that is likely to be economically and operationally acceptable in most instances, and which can therefore be used to guide subsequent analysis, as required.

11.4 Capacity Analyses

A broad capacity analysis has been completed based on a practical capacity threshold of 1,700 vehicle trips per hour, per direction as identified in the HCM. For the purposes of this "high-level" assessment only roads that would provide direct access to the relevant case study areas have been assessed, being:

- Kawerau Road (SH 34) in Case Study 1.
- Wanui Road in Case Study 2.
- Thornton Road in Case Study 3.

The predicted changes in practical capacity peak hour flows are shown in Table11-4 below.

Table 11-4 : Traffic Analysis at Mid-Blocks

Mid-block Sections	Peak hour vehicle flow		Practical Spare Capacity Available	
Future Scenario	**AM**	**PM**	**AM Peak**	**PM Peak**
Case Study Subdivisions only:				
Case Study 1 – Kawerau Road (SH 34)	644	268	80%	92%
Case Study 2 - Wainui Road	254	258	92%	92%
Case Study 3 – Thornton Road	275	334	91%	89%
Worse Case Scenario:				
Case Study 1 – Kawerau Road (SH 34)	674	298	79%	91%
Case Study 2 - Wainui Road	528	532	84%	84%
Case Study 3 – Thornton Road	405	464	87%	86%

It is shown that adequate capacity exists on the adjacent road network in all three case study areas to accommodate additional traffic movement that is or could be generated by the subdivision as considered in the broad level assessment. The results therefore indicate that the existing road network can operate within capacity as a result of subdivision to the maximum development potential within the three case study areas.

11.5 Route Security

Route security has been identified as a potential issue in the subdivision of 40A Moore Road. An advice note on the resource consent identifies that there is the potential for flooding and that dwellings may be inaccessible during periods of flooding. Route security due to flooding and earth instability is not a result of rural subdivision but it has the potential to affect a greater number of people when rural communities are increasing in size due to growth in rural subdivision.

11.6 Road Access

Access to the properties in the case study areas is not an issue, however providing safe access is critical, and can be an issue for rural subdivision. Accesses can have adverse effects on the State Highway network, for both traffic already on the State Highway and those attempting to enter it.

In the case study 1 and 3 areas, access was achieved through right of ways, meaning one access point served numerous dwellings. This is an efficient mechanism for providing access, provided that the access point has suitable visibility and appropriately construction.

11.7 Road Suitability

These issues have not been raised in any of the case studies but are discussed in the context of the wider Whakatane rural area. There are a number of areas throughout the Whakatane District where rural subdivision is occurring but the road access is not entirely appropriate for the increase in the number of vehicles that will now be using the road. The reasons for the problems are generally associated with roads that are too narrow, increased use of unsealed roads, too steep, single laned bridges and increased use of roads with sharp bends. These roads are not on the Council's priority lists for upgrades but once the subdivisions are approved they become an issue. This is a significant issue for the resource consent process, as because the roads are not on the priority list, development contributions can potentially not be secured for the future upgrades required to accommodate the increased use of the roads, as a condition of consent. Because of the ad hoc and sporadic nature of rural subdivision in District, it is difficult for the Council to predict which roads will come under pressure due to future

subdivision. As such, most of the upgrades likely to be required cannot be predicted in the LTCCP, and contributions obtained from developers for roading improvements usually do not meet all the costs. This leads to unplanned and unexpected expenditure by the Council.

11.8 Conclusions

The key conclusions that can be drawn from the broad traffic level analysis are as follows:

- The three land use scenarios are forecasted to generate case study 1 (10 vph or 83 vpd), case study 2 (22 vph or 187 vpd), case study 3 (20 vph or 176 vpd) if maximum subdivision potential is realised.
- The key transport issues facing the Whakatane District are route security (flooding and instability, especially along the SH2 route), vulnerable bridges (Pekatahi Bridge, Landing Road Bridge), and the length of the SH2 route between Matata and the Wainui Road / SH2 intersection.
- There are no significant roading proposals identified in the next ten years which are likely to impact on future traffic flows and distribution of traffic.
- The population of the Whakatane District is forecasted to decrease marginally by 1% over the next 25 years and therefore the amount of overall traffic growth is expected be minimal.
- Existing traffic flows are generally low to modest (<10,000 vpd) across the roading network of the Whakaane District.
- No specific capacity issues have been identified on the rural highways in the vicinity of the three case study areas. However, development pressure in the future is likely to occur in pockets, which could have isolated impacts on the transportation network at Ohope, the Coastlands / Piripai area, the Ohiwa Harbour and environs, and in rural areas subject to relatively intensive rural residential subdivision.
- Adequate capacity exists to accommodate additional traffic movement that could be generated by future subdivision in the three case study areas. The results indicate that the existing road network will operate well within capacity.
- The landowner's survey indicates that distance of rural properties to goods and services, schools and centres of employment is not a negative aspect of living in the rural areas of the District (only 7%, 9% and 12% of the respondents from the respective case study identified travel distance as a negative).
- Only 7%, 8.6% and 11.6% of respondents from the surveyed case study areas respectively stated that the distance from their property to goods and services, schools and work was a negative aspect of living in a rural Whakatane area.

12 Infrastructure

The review of the available information has shown that there were generally no more than minor effects associated with the provision of infrastructure to service the properties created by recent subdivision in the case study areas. Overall the majority of the development in the case study areas have addressed the provision of service infrastructure through the use of onsite solutions, with the exception of those properties that have access to the Plains Water Supply Scheme.

The consideration of the potential for cumulative effects to occur as result of the provision of ineffective and inefficient infrastructure services has therefore focused on the wider rural areas of the District.

12.1 Water Supply

The properties created in case study areas 1 and 3 are serviced via connections to the Plains Water Supply Scheme. Storage is not a requirement for domestic usage although sometimes farmers choose to install storage for peak demand activities such as dairy washdown.

A programme of works to address capacity and water quality issues at several locations in the Plains Water Supply Scheme is expected to be announced this year. Some consumers in the Case Study 1 area will continue to experience low pressures during times of peak demand until the identified issues with the Plains Water Supply Scheme have been addressed. Further subdivision in those areas that can be provided with connections to the Plains Water Supply Schemer without reticulation upgrading is likely to further reduce the level of service to existing consumers. Increased pressure on groundwater sources by large rural users may also result in some difficulties occurring in the future when additional capacity is sought from the bores that provide water for domestic supply.

Clustering on the plains could assist with better supply and lower cost of upgrades for the Plains Water Supply Scheme. The plains water supply upgrade strategy also is only intended to provide for the existing demand and does not include provision for significant increases in demand.

The Case Study 2 area has the potential to be supplied from the Ohope Water Supply Scheme but there is no intention of making provision for this service over the short and medium term. While the programmed scheme upgrades are only focussed on providing desirable levels of service to the existing consumers in the identified water supply areas, extension to provide for trickle feed supply to new development outside of the current water supply areas is generally at technically feasible option.

The use of roof collection and water storage tanks can generally be considered to be a technically feasible option to provide for water supply to new rural properties in the District. Annual average rainfall ranges from around 1,200mm at Matata (Case Study 3) to around 1,700mm at Kawerau (Case Study 1). The average monthly rainfall in summer is usually around 5-10% less than the monthly average for the whole year. However, prolonged periods of below average rainfall can occur from time to time. Accordingly, most households would not find roof collection and water storage tanks to be a sufficiently reliable water supply option for a modern permanent residence.

The subdivisions that have been allowed in case study areas 1 and 3 have resource consent conditions requiring that an accessible water supply of sufficient flow and water pressure for fire fighting purposes be provided. As such, it is possible that alternative fire fighting sources may need to be investigated and if necessary provided.

12.2 On-Site Wastewater Disposal

All of the case study areas require onsite treatment and disposal of wastewater. There is recognised potential for effects associated on site disposal of wastewater including those caused by nutrients, pathogens (from older systems) and hydraulic impacts. There can also be problems associated with lack of maintenance of systems and increased demand for tank emptying services for disposal of sludge. In the steeper parts of the District such as the case study 2 area there is some potential for increased

erosion and potential for impacts to waterways and wetlands that are attributed with high values (such as the Ohiwa Harbour).

However, despite the potential for effects, compliance with the On-Site Effluent Treatment Regional Plan is accepted as a suitable means to ensure that onsite treatment and disposal systems will provide effective, environmentally friendly and safe disposal of domestic wastewater. The onsite disposal of wastewater is a permitted activity throughout the rural areas of the District if the system is designed, constructed and operated in accordance with the provisions of the On-Site Effluent Treatment Regional Plan.

The regional plan allows conventional septic tank and drain field solutions to be used in most situations. However, advanced treatment systems may be required for sites adjacent to sensitive receiving environments (nutrient removal required) or sites with either very free draining or very impermeable soil types. EBoP has not indicated that they have any significant concerns in relation to the potential for cumulative effects to occur as a result of increased use of onsite treatment and disposal systems throughout the rural areas of the District.

Overall there are no known issues that would render subdivision and subsequent development in the rural areas of the District unsuitable for the use of onsite treatment and disposal solutions in accordance with the Regional Plan. However, site specific investigations may be required to confirm the suitability of any building site for the use of an onsite solution. For example, resource consents issued for the case study 1 area do have conditions that require specific design of wastewater treatment and disposal systems due to the high ground water table.

12.3 Stormwater

The Council is generally not aware of any issues with stormwater disposal in the case study areas, or the wider rural area, provided that control of sediment laden runoff during construction is addressed in accordance with the EBoP requirements.

Stormwater is obviously required to be managed on site. This is easily achieved in the case study 3 area. The management of stormwater post development in the case study 1 area is generally achievable within property boundaries, but there may be difficulties with localised areas that are low lying. There are some issues associated with the management of stormwater in the case study 2 area related to erosion and the extra costs associated with controlling stormwater runoff during development. There are however accepted design solutions that can be used to address these issues.

12.4 Solid Waste

There are extra costs to the community associated with need to provide for refuse collection services to rural areas. The transfer station is currently located in Whakatane, which is some distance from the rural users. Clustering of lifestyle properties in certain areas does reduce this cost.

12.5 Landowners Survey

The landowner's survey asked whether the provision of wastewater and water supply and other services was either a negative or positive aspect of living and working in the rural areas of the District. Only 16% of the respondents considered that the level of infrastructural services provided in the rural area was a negative aspect of rural life, while conversely 44% and 41% of the responses were neutral or positive.

However, it should also be noted that having to pay high rates to the Council despite providing all amenities and services was an answer that several respondents listed as their least favourite aspect of living in the rural area.

13 Social Effects

13.1 Overview

A number of the social effects associated with increased rural subdivision for lifestyle purposes have already been highlighted, with the most prevalent issue being reverse sensitivity. This becomes a more important issue as more and more houses are built in the rural area for lifestyle purposes and pressure is put on the acceptability of 'normal' rural practices in this environment.

The potential for reverse sensitivity to adversely affect established rural activities through growth of lifestyle activities in the rural area is already shown through the Council's complaints register, which has recorded a number of complaints against normal rural activities such as frost fans, farm machinery, other noises associated with rural activities and dust. The community workshop confirmed that many of the people purchasing rural properties for lifestyle purposes were not aware of the noises and smells associated with normal every-day rural activities. This issue has the potential to cause considerable tension in communities, with farmers feeling they are unable to adequately manage the intrusions on their normal farming practices.

Reverse sensitivity has also been identified as a potential issue through the recent subdivision consents for the case study areas. The majority of the subdivision consents in case study area 1 had conditions and / or advice notes advising that the sites are in a rural location with activities, noise and dust typical of rural areas. Likewise the subdivision consent for Moore Road (case study area 3) advised that the property is located adjacent to the loading, storage, parking and servicing of heavy vehicles and that a no complaints clause exists.

The nature of the rural subdivision rules in the Proposed District Plan does not encourage cluster housing or concentration of lifestyle properties around the existing rural settlements. This situation has the potential to lead to isolation of property owners (sometimes by choice) but also an undermining of the existing rural settlements. Many of the rural villages in the District are at the lower end of the socio-economic spectrum with very few community facilities. Lifestyle properties clustered around community villages has the ability to strengthen not only the economic base but generate a closer rural community that is able to support quality community infrastructure such as schools and community facilities. Lifestyle properties spread in an ad-hoc manner throughout the rural area generally will not support rural communities to the same degree.

The social issues relating to subdivision in the rural area and the rural area generally are outlined below, with particular reference to the results of the landowner's survey, which showed that the rural areas are facing a number of issues as this environment experiences change.

13.2 Privacy

The landowner's survey confirmed that privacy is of great importance to those that live in the rural areas. Not only was this identified as a key reason to move to rural areas, but many respondents felt that subdivisions with smaller sections, and consequently dwellings closer to each other, was an issue that could potentially ruin the character of rural areas of the District in the future.

In terms of the satisfaction privacy (or perceived privacy) provides to their rural living experience, privacy was considered either a "positive" or "extremely positive" aspect by 71% of the respondents. This trend was generally consistent across the three case study areas.

13.3 Schools

The increase in lifestyle properties in rural areas may result in increased numbers of students attending rural schools. This obviously depends on the demographics of people moving into the rural area and the location of the newly created properties in relation to schools. An increase in the roll of rural of rural

schools is generally seen as a positive, as a number of rural schools have been experiencing decline in pupil numbers in recent years.

The results of the landowner's survey indicate that the distance to schools was not a particularly important factor when deciding to move into the rural area and that it has not proved to be a negative experience of living in the country.

Correspondingly the quality of the schools appears to be a relatively positive part of the rural living experience according to the survey results, with only 7% of the respondents finding this a negative aspect. It should be noted however that the number of respondents with school aged children was not identified through the survey.

There were some notable differences of opinion on the quality of the schools between the case study areas. The respondents in the Kawerau area were in the main "neutral" (60%) about the quality of their local schools, with only 34% of the respondents considering them a positive aspect. This is in contrast to the Stanley area where none of the respondents were "negative" and 66% were "positive" about the quality of their local school.

13.4 Social-Economic

The last census showed that the rural areas of Whakatane have a low to average annual household income, with around 29% of the population having an annual household income of less than $30,000. Whakatane ranks highly on the New Zealand Deprivation index with 25% of the population ranked as level 10 (the most extreme deprivation), and 18% as level 9.

The most common occupations are managers, labourers and professionals, indicating that the main source of income is not from rural production.

It is interesting to note that more than two-thirds of respondents to the landowner's survey stated that affordability and costs were a very important factor in deciding to live in the rural area.

In contrast to this, employment opportunities, the opportunity to subdivide their land and the ability to generate income from their land were factors that generally did not appear to be significant to the respondents. Less than a quarter of the respondents believed that the opportunity to subdivide their rural property was an important aspect; with 39% of the respondents stating it was not important at all.

The ability to generate income from their properties was only deemed "extremely important" by 18% of respondents; with 26% of the respondents stating it was not important at all. This trend was generally consistent across the three case study areas which suggests the majority of the respondents are living in these rural areas for lifestyle purposes only.

13.5 Rural Community

The landowner's survey showed that being part of a rural community was not a particularly important factor in deciding to live in a rural area, despite nearly two-thirds of those landowners surveyed considering themselves as "lifestylers".

Interestingly 64% of the respondents then went on to state that being part of a rural community had in fact been a "positive" or "very positive" part of their rural living experience. This tends to suggest that people underestimate their need to continue to feel as part of a community when they decide to move to a rural area.

The landowner's survey also showed some notable differences between the three case study areas when it came to responses on this topic. A resounding 83% of respondents from the Stanley area considered that being part of a rural community was a "positive" or "very positive" part of their rural living experience, compared to the 58% and 64% for Kawerau and Thornton respectively.

13.6 Safety and Crime

The landowner's survey showed that those that live in the rural areas generally see these areas as a place that is largely safer than the urban areas. Only 3% of the respondents stated that safety was not an important factor when deciding to move to their rural property and 71% of the respondents considered being free from crime was an extremely positive aspect of living rurally. This perception of safety within the rural areas appears to have largely translated into reality for the majority of the respondents, with 71% considering being free from crime was a "positive" or "extremely positive" aspect of living rurally.

This was especially the case in the Stanley area, with an overwhelming 92% of the respondents from this case study area considering that that being free from crime was "positive" or "extremely positive" aspect of rural living. Interestingly again 25% of the Kawerau and 31% of the Thornton respondents were neutral in terms of how important safety is to the enhancement of rural life.

13.7 Rural Recreational Opportunities

The recreational opportunities available in the rural areas were identified by the respondents as only being a moderately important factor in deciding to live there. However, the responses were more favourable when asked how rural recreational opportunities influenced their experience of rural living, with 54% of respondents stating this was either a "positive" or "extremely positive" aspect. Again it was interesting to see that 58% of the respondents from the Stanley case study area and 65% of the respondents from Thornton case study area believe the rural recreational opportunities available to them are a "positive" or "extremely positive" aspect of their rural living experience. This contrasted with 62% of the respondents from Kawerau being "neutral" on the extent to which recreational opportunities enhances their living experience. The Thornton and Stanley areas are both reasonably coastal, and the survey may have highlighted the recreational opportunities afforded by coastal areas.

14 Cultural Effects

The rural communities of the District are diverse and dynamic. Their prosperity, demography and culture vary significantly between and within areas, and also over time. The rural culture is based firmly on the land use and there seems to be two different cultures; those who use the rural soils to generate income and those who chose to live in the rural environment for lifestyle reasons. The rural communities in the District do have a high proportion of Maori, and tangata whenua are an intrinsic part of these rural communities.

The case studies have not highlighted any apparent cultural issues (either positive or negative) as a result of subdivision in the rural areas. However, all the case study areas have only had subdivision occurring for lifestyle purposes rather than for rural production in recent times. The most common wider cultural issues associated with this subdivision tend is related to reverse sensitivity type effects, which is a direct result of locating the two differing uses of rural land in close proximity to each other.

14.1 Waahi Tapu and Archaeological Sites

The consultation with tangata whenua has identified a real concern that waahi tapu and / or archaeological sites are not being afforded enough protection from the impacts that can be attributed to increased subdivision and development in the rural areas. Many waahi tapu and archaeological sites are located in the rural areas and with increased subdivision and development comes the risk of damage to these important places to iwi. Local iwi are aware of waahi tapu, however they are not always willing to release this information into the public realm, in case this leads to destruction of the waahi tapu.

The main risk to waahi tapu and archaeological sites is the increased amount of earthworks that results from the subsequent development associated with subdivision for lifestyle purposes, in particular for house sites and accessways. This issue is usually addressed through conditions on resource consents, requiring any earthworks to stop immediately upon discovery of archaeological items or sites and the appropriate action taken with the Historic Places Trust. Resource consent conditions of this type are particularly important for subdivision of land in coastal areas where there was historically a high level of Maori settlement. However, such an approach cannot replace the value that can obtained from early and constructive consultation with tangata whenua, as such consultation is the only way to ensure protection for waahi tapu.

There are also concerns about the ability to develop Maori owned land for traditional purposes (i.e. papakainga development). There are very few District Plans which contain adequate provisions for papakainga development in rural areas. The Proposed District Plan currently does provide for papakinga development of one or two dwellings as a permitted activity in the Rural 1 and 2 Zones. Generally though, resource consent is required for papakinga development that comprises of more than two dwellings in the Rural zones.

14.2 Rural Culture

The landowners survey has shown that the ‘rural culture’ that many New Zealanders have traditionally associated with country living does not appear to be as strong or distinct within the Whakatane District as might have originally been expected. The extent that this can be attributed to the changes that have occurred in the rural areas of the District over the years (as represented by the three case study areas) cannot be readily defined, but this change appears to have been the main contributor to this perception.

The results of the landowner’s survey indicate that the majority of respondents consider themselves to be “lifestylers”. This can be generally summarised as people living on a smaller properties within the rural area for living purposes (i.e. a house with some land) as opposed to productive purposes (i.e. use of the land for agriculture, horticulture, forestry and viticulture).

The landowner's survey showed that 75% of the respondents owned a rural property of less than 10 hectares in size. While it is possible that some properties of this size may be viable economic units, it more likely that properties of this size do not provide for the sole income for the landowner.
However, despite the above, the most poignant result that has come out of the landowner's survey is that nearly two-thirds of the respondents stated that being part of a "rural community" had turned out to be a "positive" or "very positive" aspect of their rural living experience. This tends to suggest that there is a 'rural culture' within the rural areas of the District that is distinct from that experienced in the urban areas of the District. While this is not sought by those who move to rural areas for lifestyle purposes, it appears that this is something that enhances their living experience once they are established in the rural areas. In essence, it appears that people still need to feel part of a community when living in the rural areas of the District.

The normal amenity aspects attributed to the rural environment such as privacy, peace and quiet, scenery and open space were clearly the favourite characteristics when respondents to the landowner's survey were asked to list what they liked the most about the country. However, what exactly defines the 'community' or the 'culture' that exists within the rural areas appears to be something that people fine more difficult to define.

Overall it appears that these normal amenity aspects, combined with the less tangible (and to a degree less obvious) qualities of rural life such as friendly neighbours, community support and feelings of safety, are the main contributing components to the 'rural culture' of the Whakatane District. However, the potential for impact on this 'rural culture' from changes in the rural areas associated with subdivision for lifestyle purposes is difficult to quantify.

15 Effects on the Natural Environment

The case study assessments have not identified any specific effects on the natural environment that can attributed to subdivision in the rural areas. However, the potential for impacts to natural systems and features were raised through the resource consent processes for the three case study areas and are highlighted in the resource consents as either conditions or advice notes.

A number of the subdivisions in the case study areas required fencing and protection of native vegetation from stock and grazing. The subdivision on Stanley Road in the case study 2 area required suitable native trees and shrubs to be established on the steeper areas of the site. Such mitigation measures undoubtedly have a positive effect on the natural environment, both through the stabilisation of the soil and enhanced ecological benefits.

Some of the subdivisions in the Case Study 3 area have consent conditions and / or advice notes that discourage residents from keeping domestic animals such as cats. Ferrets are also not permitted. It is assumed that this is in response to the proximity of the subdivisions to the kanuka stand. There are also advice notes stating that there is potential for gardens to invade and degrade the existing natural areas.

These types of consent conditions on subdivisions in the rural area result in the maintenance of the natural environment if not an overall improvement. There is potential that these environmental outcomes would not be realised if subdivision for lifestyle purposes was not occurring in the rural areas of the District. The use of consent conditions are also an effective mechanism for off-setting some of the negative effects on the natural environment that can often be associated with rural subdivision.

The landowners survey has confirmed that the character and amenity aspects attributed to the rural areas of the District, together with the social aspects of perceived increased privacy and perceived increased safety, are the most popular aspects of living in these rural areas. The landowner's survey revealed the following information:

- 81% of the respondents considered that the 'rural environment' (the open spaces, vegetation, etc) was either a "positive" or "extremely positive" aspect of their rural living experience;
- 56% of the respondents considered that the level of noise was either a "positive" or "extremely positive" aspect of their rural living experience; and
- 60% of the respondents considered that the air (including odour) was either a "positive" or "extremely positive" aspect of their rural living experience.

SECTION 3 – SUMMARY OF EFFECTS ON THE ENVIRONMENT

16 Cumulative Effects

Section 3 of the Resource Management Act 1991, outlines the meaning of effects to include:

a) *Any positive or adverse effect; and*
b) *Any temporary or permanent effect; and*
c) *Any past, present, or future effect; and*
d) Any cumulative effect which arises over time or in combination with other effects—
e) *regardless of the scale, intensity, duration, or frequency of the effect, and also includes—*
f) *Any potential effect of high probability; and*
g) *Any potential effect of low probability which has a high potential impact.*

Cumulative effects are not further defined in the RMA but have two parts, namely:

1. Effects arising over time; and
2. Effects arising in combination with other effects

The concept of cumulative effects was establish in Gargiulu v Christchurch City Council
"…any one incremental change is insignificant in itself, but at some point in time or space the accumulation of insignificant effects becomes significant."

It is widely accepted that rural subdivision can result in significant cumulative effects. The difficulty with cumulative effects is that they may only become apparent over the longer term. Analysis of the information obtained from the case studies has shown that some cumulative effects are beginning to develop as a result 'ad-hoc' subdivision for lifestyle purposes in the rural areas of the District. These cumulative effects are mainly associated with impacts to landscape character and rural amenity, rather than a noticeable combination of all effects such as impacts to the transportation networks, problems with the provision of service infrastructure and degradation of the natural environment.

The cumulative impact to the social fabric of the rural areas as a result of 'ad-hoc' subdivision for lifestyle purposes is less tangible, but there are indicators that suggest changes are occurring to the 'rural culture' in the District. However, some of this change can be considered to be both negative and positive depending on the people that are experiencing the change.

The assessments completed for the case study areas have identified the typical effects that are being experienced in the rural environments of the District as a result of subdivision undertaken in accordance with the existing District Plan provisions. A summary of these effects, which includes reference to some of the cumulative effects that have started to arise over time, is provided for each of these case study areas below.

16.1 Case Study 1 Area – Kawerau

The case study 1 area displays higher levels of stewardship, coherence, visual scale with low naturalness. The visual scale was assessed as a 'significant' influence on the character of the landscape within and surrounding this case study area. The openness or visibility of the site with its surroundings and lack of obstructing elements results in a significant visual scale.

Over time as development has occurred this has resulted in the dwellings being very obvious from the road and has given an impression of ribbon development in the rural area. The location of dwellings and

the impact this has had on the perceived openness of this rural area has started to cumulatively led to visual effects and a negative effect on rural character.

Of most concern is the capacity of larger adjoining properties which border Kawerau Road to the north. These properties have the potential for subdivision that could result in up to 10 additional sites at an average of 2 hectares. Without careful consideration of the potential for cumulative effects this type of subdivision could detract significantly from rural qualities of the Kawerau Road area and the visual elements of Putauaki and the Rangitaiki Plains.

The piecemeal approach to development of the Rural 1 Zone in this case study area under the poor soils criteria has the potential for significant impacts over time on the sensitive rural character associated with this area. With its central location and abundance of linear roads, scenic values on the Rangitaiki Plains in relation to the view from the road is a significant issue. The extensive views of outstanding natural landscapes and features are also coming under threat, particularly the views to Putauaki (Mount Edgecumbe).

There do not appear to be any significant issues associated with service infrastructure in this case study area. However, there does appear to be an expectation that water supply can be provided under pressure when the reality is that a trickle feed is all that will be available over the short and medium term. There is also appears to be an expectation that refuse will be collected from the gate as occurs in the urban areas of the District.

Access to sites has not been identified as an issue although care needs to be taken with the number of logging trucks using the existing road network. The additional traffic generated through subdivision for lifestyle purposes is and will continue to utilise inappropriately designed roads. This includes those that are unsealed or too narrow for the increased volume of traffic created by subdivision.

As in all rural areas care needs to be taken in relation to the cumulative impact on existing rural users as a result of the potential for reverse sensitivity, especially those sites that are located in close proximity to the larger sites which are used for rural production.

The landowner's survey highlighted the following in relation to the rural living experience attributed to the case study 1 area:

- Distance to schools was identified as being a negative experience in the Case Study 1 area, more so than the other two case study areas;
- Distance to work was identified as very positive;
- Recreational opportunities were ranked the lowest of the three case study areas;
- The properties in the case study 1 area were perceived as being the most affordable; and
- Kawerau was identified as having air quality issues *(although this is more likely to be attributed to the timber mill rather than an effect of rural subdivision).*

16.2 Case Study 2 – Ohiwa Harbour

Due to the high visibility into the site and the steep undulating landforms, house sites are limited and sensitive to development in the case study 2 area. The poor location of dwellings and/or associated structures are starting to cause a high visual disturbance in the area. However, this impact is somewhat balanced by the higher degree of naturalness attributed to the area as a result of the protection achieved for remnant bush, avoidance of visual disturbance on slopes and houses that have been well integrated into the landscape.

Natural elements, patterns and processes are still prevalent within the area and may be threatened by future development. The prominence and elevation of sites within the area means development can detract from the natural and rural qualities inherent to this area. This could in turn lead to cumulative effects on Ohiwa Harbour over time.

Unless these qualities are recognised now and managed accordingly, an increase in subdivision and subsequent development in this rural area could result in a significant loss of the rural qualities attributed to the area, which have been identified as contributing to the areas outstanding natural landscapes.

The use of effective resource consent conditions will ultimately determine whether future development has a negative impact on the area over time. The consent conditions used to date have proved to be effective mechanisms for the management of the natural and rural qualities of the area. These conditions coupled with the steep topography of the area and the larger average lot sizes have resulted in a moderate level of integrated subdivision.

The cumulative effect of future development within the area could potentially be significant due to the steep topography, high view shed depth, limited house sites and context of the visually sensitive landscapes. The most significant threat to this rural area is poorly integrated buildings and structures. House sites are generally prominent to viewers travelling south along Wainui Road and in particular from the headlands close to the area. In terms of the wider area the most significant potential effect is likely to be access tracks (scaring associated with cuts and batters) and increased provision of infrastructure.

Again there do not appear to be any significant issues associated with the level of service infrastructure. The quality of the domestic wastewater discharges is a potential issue for the Ohiwa Harbour, given this is a sensitive receiving environment. Advanced treatment systems are a necessity for this area to reduce the cumulative impact associated with the use of on-site treatment and disposal systems.

Although access to this case study area has not been identified as an issue, development pressure is likely to continue to occur in pockets around the Ohiwa Harbour, which could have isolated impacts on the existing transportation network.

The landowner's survey highlighted the following in relation to the rural living experience attributed to the case study 2 area:

- An unusually high percentage of the respondents considered that there is a strong rural experience in this location (83%);
- 92% of the respondents considered that this location was safe and free from crime;
- The responses indicated that this area has the least amount of employment opportunities of the three case study areas;
- Fragmentation of land was identified as being a particularly negative experience in this area;
- The ability to generate income in the rural environment was not important to the respondents that reside in this area;
- The importance of rural environment ranked very high for the case study 2 area at 92%; and
- Noise and urban people with urban expectations were identified as a negative effect in the case study 2 area.

16.3 Case Study 3 – Coastal

Disturbance was assessed as having a more than 'apparent' influence on landscape character within the case study 3 area. The area has a high visual scale which reduces the visual absorption capacity. Buildings situated within Rural 3 Zone are generally located near the top of the secondary and tertiary dunes, which produces a high level of disturbance both visually and physically through the earthwork damage within the dunes. As the dune slopes are shallow, minor excavations are likely to cause significant disturbance to the shape of the dunes.

The siting of buildings on natural features and edges (line between land and sky, bush and pasture, sand dunes and sloping and flat land) is particularly important to reducing the negative cumulative effects of subdivision in this area. Managing the impact of development on the stand of kanuka is also critical to minimising the potential for significant ecological effects.

While the subdivision and subsequent development of the currently degraded or marginal areas of the Rural 3 Zone has the potential to improve the visual character of these areas, the current linear pattern of subdivision does not respond well to the natural landform and coastal processes. The linear pattern of development (often double storied dwellings) is a result of buildings positioned along the top of the secondary dunes.

As in the other two case study areas there do not appear to be any significant issues with the provision of service infrastructure. The quality of domestic wastewater discharges is a potential issue in this area, given the sensitive receiving environment and proximity to the coast. Advanced treatment systems are a necessity for this area to reduce the potential for cumulative impacts from the use of on-site treatment and disposal systems.

The landowner's survey highlighted the following in relation to the rural living experience attributed to the case study 3 area:

- Distance to work was identified as very positive by the respondents(55%) with only 6% of the respondents identifying this as a negative effect;
- The feeling of safety was lowest in this area;
- The quality of schools was also considered the lowest in this area;
- Recreational opportunities in this area were seen as the highest of the three case study areas;
- Properties within this area were perceived as being the least affordable of the three case study areas;
- The area was identified as having the highest employment opportunities of the three case study areas;
- Fragmentation of land was identified as being a particularly negative experience; and
- The ability to generate income in the rural environment was seen as being very positive.

16.4 The Bigger Picture

The subdivision provisions of the Proposed District Plan have led to dispersed subdivision patterns in all three of the case study areas. Where clustering has occurred this appears to be mainly due to the size and boundaries of the parent site rather than good lot layout and design. Although this pattern of subdivision has spread the effects in some cases, in others it has exacerbated them.

Landscape is the best example of where the design of the subdivision can have negative or positive effect on the rural environment. Dispersal has also undoubtedly led to greater conflicts between landuses, particularly where lifestyle lots are interspersed with productive rural uses. This pattern has spread traffic loading but has meant that public transport is not a viable option. Similarly, economic benefits of subdivision are spread widely, but as a result do not have appeared to have assisted the struggling rural communities.

Each of the new sites are virtually self contained in terms of service infrastructure, being self sufficient for wastewater and often water supply. This is a fairly inefficient approach to the management of service infrastructure for areas that are increasing in density, although there is a positive as the Council does not have the financial responsibility for maintenance.

The landowner's survey results suggest that the opportunity to subdivide was not a significant attraction for moving into the rural areas of the District. This factor was also not particularly important to the current landowners within the case study areas.

17 Anticipated Environmental Effects

The Proposed District Plan outlines Anticipated Environmental Effects to monitor the success of the District Plan in achieving its intended results. It is important to consider the findings of the case studies against the Anticipated Environmental Effects to provide a broad level analysis as to the success of the current provisions (in particular the existing rules) of the District Plan in managing subdivision in the rural areas of the District. Each of the Anticipated Environmental Effects contained in the District Plan relevant to rural area of the District has been broadly assessed in the table below.

Environmental Results Anticipated	Case Study 1	Case Study 2	Case Study 3	Generally	Comments
Environmental Conservation					
Land that retains its life supporting capacity	✓	✓	✓	✓	Subdivision in the rural parts of the District has not significantly affected the life supporting capacity of the soil but has reduced the land use options available by steadily reducing the size of properties in the rural areas..
A decrease in the number of small lots created in the Rural 1 (Plains) zone that foreclose land options.	×	n/a	n/a	×	The subdivision rules (especially exploitation of the poor soils rules) have led to an increase in the number of small lots.
An increase in the occupancy of existing titles	-	-	-	×	The generous subdivision rules undermine this anticipated environmental result by the ease with which new titles can be created.
An increase in the protection of significant cultural heritage features	-	-	-	✓ ×	The three case study areas did not contain any cultural heritage features. Subdivision can be a mechanism for protecting cultural heritage features but at present cultural heritage seems to be only protected by way of consent conditions.
Manage the density of housing within Rural 2 (Foothills) and Rural 3 (Coastal) zones.	n/a	✓	✓	×	The rural subdivision rules in the Proposed District Plan manage density through minimum lot sizes (blanket zoning) but do not identify appropriate densities for given areas.
Developments well integrated to preserve the natural character of the coastal environment.	n/a	×	×	×	The case study 2 area has resulted in satisfactory placement of houses but this could be better with more controls on location of dwellings, colour schemes and screening planting. The development in the case study 3 area has resulted in dwellings being located on the tops of dunes, two storey dwellings and linear patterns of subdivision, which does not respond well to the natural landform and

Environmental Results Anticipated	Case Study 1	Case Study 2	Case Study 3	Generally	Comments
					coastal processes. There is potential for integration to be achieved but this is difficult with subdivision being dealt with on a case by case basis.
Retention and enhancement of kanuka stands between Tarawera and Rangateikei Rivers	✓	n/a	✓	✓	This is well achieved through consent conditions for subdivision. However, there are no controls if land is not subdivided.
The ecological values associated with Ohiwa Harbour are retained and/or enhanced.	n/a	×	n/a	-	More vegetation could be used to screen development and enhance the native bush around Ohiwa Harbour. Some subdivisions are designed better than others with retention and enhancement of native bush. The requirements for planting could be strengthened.
Land Supply and Infrastructure					
Sufficient land appropriately zoned to allow a wide range of activities to establish and operate.	✓	✓	✓	✓	The rural subdivision rules do allow a range of lot sizes to cater for a variety of needs and activities although the fragmentation of productive land could limit the ability to re-establish some rural productive activities in the future.
Infrastructure planning is efficient and effective because of a high degree of certainty about the location, design and construction of infrastructure assets.	✓	✓	✓	×	The rural subdivision rules make it difficult to predict where development might occur and to plan for the required infrastructure to service new pockets of lifestyle properties.
Subdivision of land that meets the demands for housing and business opportunities, where	✓	×	×	×	Subdivision in the rural areas has essentially met the demands for housing but not always in a manner that is environmentally acceptable.

Environmental Results Anticipated	Case Study 1	Case Study 2	Case Study 3	Generally	Comments
environmentally acceptable.					
Esplanade Reserves / Riparian Management					
Sustainable management of the District's riparian and coastal margins	n/a	×	✓	×	Through the use of subdivision consent conditions the Council has attempted to reduce the effect of subdivision on riparian and costal margins, particularly through protection of existing native vegetation. However, this could be achieved more effectively through the use of design guidelines that encourage use of the natural features in design and public access to the coastal margins.
Retention and restoration of riparian margins to provide natural buffers and hazard mitigation	n/a	×	×	×	The response to natural hazards appears to be piecemeal with assessments being completed for each subdivision on a case by case basis.
Protection of significant indigenous riparian biodiversity	n/a	✓	✓	✓	The use of subdivision consent conditions to ensure protection of native bush from weed species and pests such as cats and ferrets is common practice.
Enhancement of water quality within district waterbodies	-	-	-	-	There is no information that suggests that recent subdivision has achieved enhancement of water quality.
Enhancement of reserve network providing public and recreational access to district waterbodies	n/a	×	×	×	The subdivision in the case study areas did not result in additional public access to the coast.
Increased public knowledge of values of district waterbodies and access to and along water margins	n/a	×	×	×	The subdivision in the case study areas did not result in additional public access to water bodies.
Building Bulk and Location					
An open visual rural character with adequate daylight and separation about	✓×	✓	✓	✓	The bulk and location requirements for the rural areas provide adequate daylight and building separation. The location of houses in the case study 1 area provide for unobscured views to Putauaki, however when viewed from the road, the new dwellings created a negative impact.

Environmental Results Anticipated	Case Study 1	Case Study 2	Case Study 3	Generally	Comments
buildings.					
Building density, scale and form is responsive to and appropriate in its environment.	✓	×	×	×	The case studies highlighted that location and scale of dwellings is very important to management of the impacts from rural subdivision. The dwellings in the Case study 1 area were well placed and did not interferer with the views of Putauaki, however when viewed from the road, these dwellings had a negative impact on rural character.
Nuisance Performance Standards					
Reduced incidence of noise nuisance affecting property owners and occupiers as evidenced by a reduction in number of complaints lodged with Council alleging excessive noise.	-	-	-	×	Subdivision in the case study areas has not resulted in any specific additional complaints about noise (some subdivisions did however have no-complaints clauses). However, overall, as shown by the complaints received over a number of years by the Council, there does still appear to be a level of concern with some people about noise associated with normal day-to-day rural operations.
Reduced incidence of odour and aerosols adversely effecting amenity values for property owners and occupiers, as evidenced by a reduction in number of complaints lodged with Council.	-	-	-	×	Subdivision in the case study areas has not resulted in any specific additional complaints about noise (some subdivisions did however have no-complaints clauses). However, overall, as shown by the complaints received over a number of years by the Council, there does still appear to be a level of concern with some people about noise associated with normal day-to-day rural operations.
No objectionable odours experienced off-site.	-	-	-	×	There are still a reasonable number of odour complaints received from the rural area.
Reduced incidence of glare and lighting nuisance affecting property owners and	-	-	-	-	This does not appear to be a significant issue in the rural environment.

Environmental Results Anticipated	Case Study 1	Case Study 2	Case Study 3	Generally	Comments
occupiers as evidenced by a reduction in number of complaints lodged with Council.					
A continued low incidence of vibration nuisance affecting property owners and occupiers, as evidenced by few, if any, complaints lodged with Council.	-	-	-	✓	This does not appear to be a significant issue in the rural environment and there are very few complaints regarding vibration.
Signs					
Minimal adverse visual amenity and traffic safety effects from signs, measured by a reduction in number of complaints related to size and location of signs and a reduction in the number of road accidents which can be attributed to advertising distractions.	n/a	n/a	n/a	✓	This does not appear to be a significant issue in the rural environment.
Parking, Loading and Access					
Provision of on-site car parking, loading and manoeuvring areas without off-site traffic or amenity	✓	✓	✓	✓	This is not usually an issue in rural areas given the size of the properties.

Environmental Results Anticipated	Case Study 1	Case Study 2	Case Study 3	Generally	Comments
impacts.					
Reduced nuisance generated by dust from motor vehicle movements.	-	-	-	×	There are a number of rural roads which remain unsealed. Because the rural subdivision rules cannot provide any certainty about where subdivision might occur in the future, it is difficult to identify roads that will need sealing before resource consent applications are received by the Council. This means that there may be costs that are required to be met by the Council as these costs are not being met through contributions from developers.
All new properties to have safe access to the road.	✓	✓	✓	✓	
Traffic generated by business activities is well provided for enabling safe, efficient and convenient movement of vehicles.	n/a	n/a	n/a	-	Each application would need to be assessed on its merits.
					Natural Hazards
New habitable building development in well known high flood or stability risk areas will be permitted only where mitigation can be readily achieved.	✓	✓	✓	✓	There are examples of consent conditions requiring dwellings to be constructed only on identified building platforms which is a response to the potential for future dwellings to be impacted by natural hazards. However, this approach is not particularly proactive. Perhaps a more efficient approach would be to identify areas of potential hazard as a layer in the District Plan. While it appears that this anticipated environmental result is being achieved through consent conditions there is potential that some natural hazard risks may not have been satisfactory addressed as they were not fully understood or known.
Retention of coastal foredune and wetland environments as natural buffers and hazard moderators	-	✓	×	×	These issues were addressed on a case by case basis upon receipt of a resource consent application for subdivision. However, the Council has recently released decisions on Variation 6 to the Proposed District Plan, which seeks to plan for and manage identified coastal hazards.
No net increase in stormwater	×	n/a	n/a	×	It is inevitable that stormwater discharges will increase with the increase in impermeable surfaces that accompanies subdivision for lifestyle purposes. There

Environmental Results Anticipated	Case Study 1	Case Study 2	Case Study 3	Generally	Comments
discharges in flood-prone areas					was no evidence provided in the applications reviewed that this matter is being consistently considered prior to the issue of resource consents. However, this issue is addressed by the Council through resource consents if it is raised as an issue by EBOP.
Natural Heritage					
The protection of those cultural resources of special significance to the community as a result of their natural, intrinsic and cultural values.	-	-	-	-	There are examples in the case study 2 and 3 areas of requirements for the protection of cultural sites and / or replanting of native bush.
The maintenance and enhancement of cultural heritage sites and their associated values.	-	-	-	-	The maintenance of cultural heritage sites seems to only occur when they are inadvertently uncovered. There are very few rules in the District Plan which actively protect cultural heritage sites by way of encouragement.
The retention of outstanding and significant cultural heritage features in a largely natural state and free from inappropriate human modification.	×	×	×	×	The consultation with tangata whenua has suggested that waahi tapu sites are coming under increased pressure from increased subdivision for lifestyle purposes in the rural areas of the District.)
To increase public awareness and public value of the cultural and built environment.	-	-	-	-	
To increase the use of voluntary	-	-	-	×	There is little incentive measures in the District Plan to encourage protection of cultural heritage features.

Environmental Results Anticipated	Case Study 1	Case Study 2	Case Study 3	Generally	Comments
protection measures for significant cultural heritage features.					
Landscape					
No appreciable change to the landscape values in the scheduled landscape sites.	✓	×	×	×	Location and positioning of the dwellings is an issue in the more sensitive locations throughout the rural area.
Retention of the visual quality of landscapes identified as having significance.	✓	×	×	×	The design of subdivisions in the rural areas could make better use of vegetation, incorporate better positioning of dwellings, make better use of existing areas of native bush and be more sympathetic to the topography.
Integration into the existing landscape character of modifications to the landscape in rural areas.	×	×	×	×	There are a number of examples in the case study areas where integration of new dwellings into the landscape has not been achieved well.

***Note: only those anticipated Environmental Effects relating to subdivision and development in the rural area have been monitored.*

✓ Environmental result achieved
- Neutral
n/a Not applicable
× Environmental result not achieved

SECTION 4 – OPTIONS FOR ADDRESSING THE EFFECTS OF RURAL SUBDIVISION FOR NON PRODUCTIVE PURPOSES

18 Implications of the Current Approach to Rural Subdivision

The case studies have provided a basis to determine the current level of effects associated with rural subdivision in the Whakatane District. It is apparent that the cumulative impacts of subdivision in the rural areas for lifestyle purposes are becoming a significant resource management issue for the District. The fact that the effects are starting to become apparent cumulatively over time means that each effect cannot simply be considered in isolation of the other actual and potential effects.

The current basis under the Proposed District Plan for allowing rural subdivision is primarily the classification of soil type. The Rural 1 Zone is based on the higher quality soils while the Rural 2 Zone encompasses the less versatile soils. While the resource management basis for this distribution of the rural zones is logical (protection of the life supporting capacity of the soil resource of the District), this approach only really focuses on one aspect of the environment, effectively ignoring all other considerations.

At present the Proposed District Plan assumes that the appropriateness of subdivision in the rural areas is entirely dependent on the soil capability. There is also an underlying assumption that soils with lesser capability are not suitable for productive use and is only suitable for rural lifestyle. However, as demonstrated by the various assessments completed for the study, there are other important considerations that do need to be included in this balancing exercise, including landscape character, amenity, economics, service infrastructure, social, cultural, and natural features, all of which are affected to some degree by rural subdivision.

While the protection of the life supporting capacity of the soil resource of the District is an important resource management issue, especially given the importance of the primary sector to the District's economy, consultation with landowners has shown that there are some anomalies associated with the soil classification approach. These anomalies are probably now more apparent as there is now a reasonably high level of diversity in the use of the land productive purposes. One example is that some farmers have indicated that soil classed as "less versatile" in the District is the most useable land during the winter, as it is generally sandy and free draining, and does not become "muddy" during rainfall events. The assumption that soil with less capability is only suitable for rural lifestyle purposes does now need to be considered in the context of the diversity of activities in the rural area

The current subdivision provisions promote a standard subdivision lot size with no methods to encourage the consideration of landscape features or contours in the design process. The Rural 2 Zone rules do provide some flexibility with the minimum lot size of 5000m2 and an average requirement of 2 hectare. However, while providing for protection of the most fertile soils, this simplistic method of distributing zones and therefore future subdivision does not provide for detailed assessment as to whether it is actually appropriate for subdivision to occur in each location.

There are also currently no clear mechanisms for assessing the appropriateness of the proposed lot size. Resource consent can be granted so long as the minimum lot sizes are met. The only basis for consenting subdivision is the zone (based on soil capability), and the size of the proposed lots. As shown by the variety of different conditions of consent placed on the subdivisions for lifestyle purposes recently, there is no standard approach to the mitigation of the effects of such subdivision.

The use of the poor soils criteria in the Rural 1 Zone is leading to piecemeal approach for subdivision for lifestyle purposes within sensitive rural character areas. To a degree the growth in popularity of rural living in the District has meant that greater consideration is required of other effects such as impacts on rural character. The case studies have shown that the current subdivision provisions have led to dispersed subdivision patterns in the District, where appropriate location of development has only occurred as a result of the size and boundaries of the parent site, rather than good subdivision design.

Proposed Change 2 to the Regional Policy Statement establishes objectives and policies for the rural areas, and although versatile soils feature heavily, the overall intent is to protect these soils from being used for non-productive purposes. This specifically includes rural lifestyle activities. The methods used in the Proposed District Plan to protect the most versatile soils are therefore still important for the overall management of the resources in the rural areas of the District. However, the ability of these methods to manage the other effects associated with subdivision in the rural areas for lifestyle purposes appear to be limited.

The assessments completed as part of the study have shown there are a wide range of effects associated with rural subdivision in the Whakatane District. However, the scale and importance of these effects are not consistent throughout the District. The character of some rural areas are more sensitive to development than others, while other areas such as those near wetlands and the coast are more susceptible to the impact on the natural environment.

The case study 1 area has a high level of openness, resulting in dwellings being very obvious from the road and perceptions of ribbon development. The location of dwellings and the lack of obstructing landscape features has led to visual effects and a negative effect on rural character. Additional development in the case study 1 area may also result in significant issues that will need to be addressed in the future with increased volume of traffic on inappropriately sized roads.

The case study 2 area contrasts nicely with the case study 1 area in that it has steep undulating landforms and high visibility into the site that can better absorb development. The effects of subdivision are somewhat balanced by the higher degree of naturalness through the protection of remnant bush, avoidance of visual disturbance on slopes and houses that have been well integrated with the landscape. The most significant constraint to this area is the prominence and elevation of the land, with the potential for future development to detract from the natural and rural qualities. The quality of on-site wastewater discharges is also a potential effect of development over time, given the presence of sensitive receiving environment such as the Ohiwa Harbour.

The case study 3 area is largely coastal with dune based landforms. This allows a higher degree of visual absorption provided the dwellings are not located on ridgelines or the dunes. Coastal areas traditionally face tremendous development interest so there is the potential for significant cumulative effects if the coastal areas are allowed to be developed to their full potential under the provisions of the Proposed District Plan.

The economic benefits of subdivision occur regardless of where the subdivision (and consequent dwellings) is located. However, there are economic costs over the long term where previously viable lots for production are subdivided into smaller lots and are therefore no longer viable productive economic units. This effect may not be apparent over the short term but is a long term and cumulative effect that needs to managed. This effect is most notable where a larger lot creates a series of smaller lots which cannot then economically sustain the new owners without inputs from other income sources. The increased diversity of productive use in the rural areas of the District does now require flexibility in terms of lot sizes. For example, to be economically viable, a dairy operation requires a relatively large land holding whilst a kiwifruit operation requires a substantially less area of productive land. Although subdivision provisions do need to be flexible to provide for different productive land uses, once properties are subdivided, it is very uncommon for properties to then be amalgamated again in the future, even when there are market drivers present that encourage such an outcome.

An analysis of the Environmental Results Anticipated by the Proposed District Plan indicates that the current provisions are only partially satisfying these expectations in the context of rural subdivision. The

Environmental Results Anticipated include a decrease in the number of small lots created in the Rural 1 Zone that foreclose land options. However, the recent popularity for rural living, means the 60% poor soils provisions are being exploited to their full potential, resulting in an relatively significant increase in small lot subdivision in the Rural 1 Zone.

The landscape analysis completed for the case study areas showed that developments were not well integrated to preserve the natural character. Ecological values of Ohiwa Harbour were generally not retained or enhanced through subdivision, nor did subdivision lead to enhancements to the reserve network. In general, building density, scale and form was not responsive to or appropriate to the environment. However, the picture is not all negative in terms of alignment with the Anticipated Environmental Effects. In some cases rural subdivision has led to positive effects such as retention and enhancement of kanuka stands, there is flexibility of lot sizes, protection of significant indigenous riparian biodiversity has been achieved and there are good controls on the location of habitable buildings in known high flood risk areas. Many of these outcomes have been achieved through the use of robust consent conditions and therefore are dependent on the quality of the resource consent process and the experience and knowledge of the processing planner. Subdivision can be an effective and efficient mechanism for the protection and enhancement of natural features, areas, landscapes, viewshafts, and ecology. However, the success of the outcomes often depends on the extent that features requiring protection have been identified in statutory and non statutory policy documents.

In general, the current approach to rural subdivision used in the Proposed District Plan is a 'blanket' approach that has a focus on protection of the life supporting capacity of the soil resource, which does not recognise the ability of some areas to more easily absorb the effects of rural subdivision than others. As a result an appropriate balance for the mitigation of actual and potential effects is not always achieved, meaning that overall the Anticipated Environmental Effects in the Proposed District Plan are not consistently achieved.

18.1 Statutory Methods, Mechanisms and Techniques for Management of Effects

The main theme that has come out of the assessments completed as part of the study is that the current provisions of the Proposed District Plan have lead to new dwellings for lifestyle purposes being located in an ad hoc manner throughout the rural area of the District. To a degree this has achieved the main thrust of the Proposed District Plan, which is to protect the life supporting capacity of the high quality soils contained within the District. However, the ad hoc nature of subdivision in the rural areas, and the increasing popularity for rural living, means that over time this type of development will start to put some pressure on the ability of the land resource to continue to be used for a variety of productive purposes.

The tendency of this approach to only focus on one aspect of the environment, effectively ignoring all other considerations, means that decisions about the most appropriate location for new dwellings are generally made on the basis of where poor soils are situated, as opposed to the most suitable location in terms of avoiding or mitigating adverse effects. Cumulatively this approach means the Anticipated Environmental Effects in the Proposed District Plan are not consistently being achieved.

There are a number of statutory methods, mechanisms and techniques that are currently used throughout the country that have proved to be successful in balancing the need to protect the life supporting capacity of the soil resource with the need to manage the cumulative effects of rural subdivision such as impacts on landscape character, amenity values, natural features, transportation networks and service infrastructure. A number of options are outlined below.

18.1.1 Structure Plans

Structure plans are generally developed to influence the way that development occurs for areas under pressure for development in the immediate future (usually in a holistic manner). Structure plans can be included in district plans to define the allotment pattern and overall layout of roads, open-space and protection areas for any future development of specific areas. Structure Plans may influence the way

development occurs to avoid or mitigate effects on the environment and ensure a co-ordinated approach to the development.

18.1.2 Clustering

Mechanisms to encourage the clustering of residential lots within a rural environment have been developed for various district plans. A good example is the Kapiti Coast District Plan which provides for clustering of development as a discretionary activity for up to 12 'rural hamlet' lots within a larger balance property. Design requirements include specific standards to define the cluster, the proximity of the residential allotments, the nature of the enclosing larger allotment and distances from other clusters or other development. A strategic master plan of the wider area or smaller individual structure plans could incorporate this technique effectively with the intention of relieving development pressure and revitalising small rural settlements such as Matata, Te Teko, Taneatua and Waimaha.

18.1.3 Allotment Dimensions

Minimum frontage requirements or spacing between entrances for lifestyle properties can assist in ensuring that the perception of lifestyle development from rural roads continues to be one of 'spacious' and 'open'. The views of driveways, gates and letterboxes and the perception of intensive development is usually obtained from roads, and these types of controls address these effects directly. This type of control coupled with the appropriate landscape framework could address several of the visual issues that will continue to impact on the character of the wider Kawerau Road area. This control technique can be utilised in a broader framework of statutory and non statutory methods, including the use of rural subdivision design guides.

18.1.4 Design Guidelines

Design guidelines provide parameters for development and practical examples of how rural subdivision can be located and designed, ranging from overall layout to the individual lot design. Design guidelines emphasise responsive and innovative design and current best practice. Developers are encouraged to look beyond the minimum standards and requirements of the District Plan, and to explore opportunities that enhance the rural area, both now and into the future. Design guidelines often have no statutory weight on their own and must be referenced in the District Plan in order to have a statutory influence. This can be achieved effectively through assessment criteria and information requirements.

18.1.5 Visual Catchment Assessments

Visual catchments studies or 'zones of visual influence' maybe an option for providing for more effective management of sensitive landscape areas such as the Ohiwa Harbour foothills. Inappropriate development can be highly visible when located on prominent ridgelines and slopes of the foothills. However, as case study 2 has demonstrated, dwellings can be integrated successfully into the landscape over time provided that District Plan has the appropriate mechanisms in place to influence development and mitigate any adverse impacts. The recognition of sensitive landscape 'edges'[32] could be identified to define appropriate landscape thresholds to manage future development capacities in an area.

18.1.6 Farm Park Development

Farm parks generally provide a more sustainable and desirable form of development within a rural environment and can meet demand for lifestyle properties within close proximity to town centres, while protecting the rural character and productive capacity of the remaining rural land.

Many district plans have provided for lifestyle demand by allowing for farm park developments within rural areas. Residential lots and their dwellings are each individually located to ensure the least impact on

[32] *Examples of Visual edges include the line between land and sky, bush and pasture or sloping and flat landform Edges are often visually sensitive and prominent transitioning landform and land cover within landscapes units*

landscape character. Specific assessment criteria and possibly some fundamental standards are important in clearly guiding any proposal and the resource consent decision. This can include requirements for a minimum balance area that are a percentage of the parent lot and which are protected from further subdivision in perpetuity to ensure the land resource continues to be available for productive purposes.

In Waikato there is an intention to identify residential farm park areas on planning maps, with a structure plan included within the district plan that outlines the development pattern for the area. The district plan includes assessment criteria, which are used for determining the appropriateness of new residential farm park areas and in considering controlled activity resource consents for subsequent dwellings, accesses, infrastructure and landscaping.

The foothills landscape character type of the Rural 2 Zone would lend itself to the concept of residential farm park development. These types of development are an effective means of providing for protective covenants for sensitive landscape and visual areas combined with comprehensive land management plans, while managing adverse effects associated with low density subdivision and development.

However, there are some negative issues associated with residential farm parks as has been discovered by a number of Councils. The use of the balance of the farm park as a working farm can led to reverse sensitivity issues being exacerbated, particularly if the residential lots are small (e.g. 5000m2). This does not allow a sufficient setback between the new dwellings and farming operations to mitigate against odour, dust and noise Council's has also experienced difficulties with ownership of the balance lot and decisions about the management of the balance lot. In particular multiple ownership of the balance lot by the residential lots simply leads to the creation of a rural residential subdivision in a predominately rural area, which is not the intention of the residential farm park design concept.

18.1.7 Lifestyle Lot Provisions

This is a technique used by Hastings District Council to control subdivision for lifestyle purposes. The provisions of the District Plan allow for a lifestyle lot of 1.5 to 2.5 hectares to be created once every three years provided there is a balance lot of more than 20 hectares in the Rural Zone (wider rural area) and 12 hectares in the Plains Zone (fertile soils), which are the minimum lot size standards for these zones. This technique obviously allows for some flexibility when creating a lifestyle lot in areas of high quality soils. However, care does need to be taken when drafting such provisions to ensure that they are not used inappropriately, especially in coastal locations.

18.1.8 Coastal Impact Assessment

The case study 3 area differs considerably from the other two case study areas as the main issue is not concerned with retention of rural character, rather it involves the protection and enhancement of the natural character of the coastal environment, as this is the dominant landscape type of the Rural 3 Zone. The use of standard control techniques for sensitive rural landscapes such as those contained in the Rural 3 Zone is often unsuitable because of the diversity of both the landscapes and the development proposals.

A detailed coastal impact assessment would be appropriate to assess in more detail the issue of naturalness in the wider coastal context, with specific reference to matters of national importance contained in Section 6 of the RMA, in particular "the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development".

The output of such an assessment could be similar to a constraints map, indicating those areas to be avoided, and those areas capable of absorbing subdivision. As subdivision in the Rural 3 Zone is already a discretionary activity the use of detailed assessment criteria in conjunction with design guidelines is also an option. Such approaches essentially provide for specific guidance in the district plan for the processing of resource consent applications, and in particular the use of appropriate conditions to avoid, remedy or mitigate actual and potential effects.

18.1.9 More Stringent Assessment Criteria

Assessment criteria are an important tool for ensuring that the effects of subdivision and subsequent development are identified and avoided, remedied or mitigated. They have the potential to focus both the applicant and the decision maker on the effects of significance. Strengthening the assessment criteria in district plans requires applicant's to more fully consider and address the effects of the development.

Examples of more stringent assessment criteria may include a focus on:

- Effects on rural character
- The extent to which the activity adversely affects water quality.
- Potential for adverse cumulative effects;
- Suitability for onsite waste treatment and disposal; and
- Effects from natural hazards.

The disadvantage to this approach is that it manages subdivision on a case by case basis, and may overlook the cumulative effects. The success of this approach is also reliant on accurate information being supplied with the application. This approach does however allow for flexibility and each case to be assessed on its merits.

18.1.10 Limiting Rural Development

Many Councils are now limiting rural subdivision opportunities and instead concentrating rural-residential development around existing rural communities in an attempt to control urban sprawl and preserve rural character. There would be significant environmental, economic and social benefits if rural-residential development were limited to around the existing rural communities. Discouraging subdivision in the rural areas would also allow the current rural character to be retained and large lots to be retained for production purposes. The provision of infrastructure and services is also a lot more efficient as the Council could predict with some certainty where development will occur. On site servicing for wastewater and water could still occur, provided the sites were of sufficient size.

This option would require a wholesale change to the zoning approach currently used in the Proposed District Plan as the current rules allow subdivision to occur anywhere in the rural area so long as the minimum lot size requirements are met.

There are distinct advantages to this approach in terms of social infrastructure. Clustering development around a focal point such as a school or hall creates and strengthens the community. This may also have economic benefits if local shops are part of the hamlet. Social services such as public transport also become more viable when populations are clustered. Encouraging such development would also remove the pressure on the more productive areas, although conversely it does limit the development opportunities for the larger properties. The major limiting factor for the District is however the anticipated growth rate. As the District is not expected to experience any significant positive growth over the medium to long term such an approach may actually have the effect of discouraging growth.

18.2 Transportation Issues for Rural Subdivisions

There are a number of mechanisms that can be used to minimise the cumulative impacts on the existing transportation network that can result from ad hoc subdivision in the rural areas of the District. Consideration should be given to the following when considering any alternative statutory methods, mechanisms and techniques for the management of rural subdivision.

- Where possible it is better to cluster properties. This provides opportunities to consolidate access onto the collector roads and for properties to be more easily served by passenger transport through measures such as hail and ride, park and ride or by encouraging ride sharing. Sustainable transport measures and development should be encouraged.

- Some rural roads are unsealed with poor geometry. Development and growth needs to be matched with the provision of road improvements. Upgrading existing unsealed roads can be costly.
- Providing safe access is critical. It must be demonstrated that any access will not have adverse effects on the primary road network, and that all access or intersections with local roads are safe, primarily by applying accessway safety and intersection standards. If direct access is unsuitable then an alternative access may need to be found via the local road network. It will need to be demonstrated that adequate access can be provided for any development proposal.
- Severance must be avoided. Additional safe access across the adjacent roads may need to be provided.

19 Suggested Approach to Future Management of Rural Subdivision

Analysis of the census data for Whakatane District indicates that population trends are stabilising if not declining slightly. However, whilst the rural area is not under pressure at the moment, and the growth data suggests that this is not likely to be the case over the long term, there is potential for overflow of growth from surrounding areas such as Tauranga, which is likely to be targeted at the lifestyle market. Given that the rural area is not presently under intense development pressure, the Council has the opportunity to revise their approach to rural subdivision and address many of the identified effects associated with such subdivision, especially the potential for significant effects to occur cumulatively over time.

The landscape of Whakatane District is widely varied, ranging from the coastline to the alluvial plains, to the densely forested slopes of the Uruweras. Through the case study analysis, it has become apparent that the "one size fits all" approach is simply inappropriate for the rural areas of the District. The current provisions are based singularly on the protection of the life supporting capacity of the soil to the detriment of other factors such as landscape character, infrastructure and rural amenity.

The study has shown that bringing a balance to the management of the effects of subdivision in the rural areas of the District will enable the community to better achieve the Anticipated Environmental Effects. The recommended approach for addressing the effects of rural subdivision can be broken down into a number of steps as outlined below.

1. Constraints Map

As established by the current subdivision provisions contained in the Proposed District Plan and Proposed Change 2 to the Regional Policy Statement versatile soils are an important feature of rural area of the Whakatane District. This data layer should be overlaid with the outcomes from a visual absorption analysis. The visual absorption analysis should identify those areas in the District with a greater ability to absorb development, and those highly sensitive to development. This could be completed using a simple three tier approach comprising high, medium and low. The combination of the soils and visual absorption should be used to guide rural development and thereby the location and extent of zoning. Development should be discouraged where the highly sensitive visual landscapes overlap with versatile soils and encouraged where the least sensitive landscapes overlap with lower quality soils.

2. Establishing the Limits of Rural Communities

Given the slow population growth anticipated for the Whakatane District it is accepted that not all rural communities will grow. Through constraints and economic analysis the Council could identify some "winners", that is rural settlements that are appropriate and viable to receive rural-residential growth. In these uncertain times of peak oil rural communities may become more attractive for those wishing to have a rural lifestyle. Clustering rural-residential development also makes the provision of infrastructure and social infrastructure more viable and cost effective. It is important that the Council consolidates their rural-residential growth only into a small number of rural hubs rather than spreading the growth. Success of rural-residential communities depends on a critical mass of population and with a number of widely spread rural communities; there is the risk that any population growth will be spread too thinly to have any significant positive benefits.

3. Analysis of Appropriate Lot Sizes

At present three lot sizes are used in the Proposed District Plan for the rural area. These are 8 hectare minimum for Rural 1 and 5000m2 minimum with a 2 hectare average in Rural 2. An analysis of the potential use of lots of these sizes needs to be undertaken to determine whether indeed these are the most appropriate sizes. For any identified "no go" areas (e.g. areas of high visual sensitivity and high quality soils) it may be more appropriate to increase the minimum lot size. As an example, with the current increase in dairy production, a 8 hectare property is not large enough to sustain a viable dairy herd. If the entire rural area were to be subdivided into 8 hectare lots in accordance with Rural 1 Zone

provisions the District would lose its potential to accommodate dairy farms into the future. Although it is impossible to predict whether dairy farming will continue to be a viable land use option for the District in the future, reducing the majority of sites to the minimum lot size would have the effect of foreclosing land use options for the future.

4. Development of Design Guidelines

There are many examples of successful design guidelines to assist the promotion of sustainable rural subdivision. Successful outcomes for both the developer and the Council include:

- Encourages better quality rural subdivision and development;
- Encourages thorough analysis of the site and its features;
- Provides a better community and environmental outcome;
- May streamline resource consent processes where it can be demonstrated that there are significant benefits to the wider community and the environment;
- Non-notified applications processes can be used where there is a clear and logical community and environmental benefit;
- Encourages the protection and enhancement of productive landuse potential; and
- Avoids rural amenity conflicts such as reverse sensitivity.

The design guidelines do not need to be overly complex but should establish solid design principles to guide rural development. Because of their very nature, design guidelines can contain significantly more detail than the District Plan. They therefore can become invaluable tools for both applicants and the processing planners.

5. Strengthening Subdivision Assessment Criteria

Design criteria and guidelines do not have any statutory weight unless they are incorporated into the district plan or referred to in the district plan (which is generally achieved in the assessment criteria). In order to give the design guidelines direct status in the resource consent process the existing assessment criteria in the District Plan would need to be changed to include requirements to achieve “compliance with design guidelines”. The assessment criteria could also be strengthened to provide for more guidance to both applicants and processing planners when considering of appropriate approaches for the mitigation of cumulative effects.

Appendix A: Study Area

Appendix B: District Plan Zoning

Appendix C: Rural Census Area Units

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Appendix D: Potential Additional Capacity under Existing District Plan Provisions

Appendix E: Soils

Appendix F: Outcomes from Iwi Consultation

Appendix G: Outcomes from Community Workshop

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Appendix H: Economic Futures Model Detailed Methodology

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Economic Futures Model Detailed Methodology

The Economic Futures Model (EFM) is one of Market Economics' proprietary models. The model works by taking estimates of future household consumption and export demand for 2006, 2011, 2016, 2021 and 2026 and determining economic activity required to produce these demands – including all of the associated flow on implications.

Growth in household consumption is based on population projections, while projections of export demand are derived using econometric analysis. The flow on implications are then calculated using IO mathematics , with growth rates by the 48 industries for each five year period from 2006 to 2026 being the major output. These growth rates, with productivity allowances, are then used to estimate the future economic and environment implications associated with growth.

To date, the model has been set up to analyse only a Business-As-Usual (BAU) scenario with a 20 year outlook. The BAU scenario assumes the following: (a) the current economic interdependencies between industries within a study area will continue to prevail, (b) negligible or minimal technological progress, and (c) current use of natural resources and production of emissions per unit of economic activity will hold through time. The current model has been designed to operate at the national, regional and territorial authority level.

The rationale for developing the EFM was to assess possible future implications (including environmental implications) of economic change within a New Zealand study area. It is however important to note that environment-economy interactions are characterised by complex feedbacks, time lags and non-linearities, all of which are unpredictable. In this way, the EFM cannot 'predict' or 'foretell' the future, but rather assesses the likely tradeoffs of simple scenarios characterised by limiting assumptions.

The key feature of the EFM is that it establishes not only direct economic growth in key economic industries, but also the indirect growth associated with flow-on effects. Growth in the Wood Product Manufacturing industry, for example, will most likely result in growth in other industries, particularly through supply chain linkages. Furthermore, if additional workers are required as a result of this growth, then additional expenditure by households will occur. This, in turn, will result in further flow-on growth, particularly services supporting households. The model furthermore captures economic inter-linkages between territorial authorities, regions and New Zealand economies.

Appendix I: Whakatane Rural Monitoring Project Survey

Appendix J: Assessing Economic Impacts

Assessing Economic Impacts

Economic impacts can be assessed in a number of ways. There are three broad categories of impact. These are Gross Output, Value Added, and Employment. Each can be assessed in terms of the direct, indirect (flow-on), induced (flow-on) and total effects. The most commonly used measures are direct and total effects (which take into account all direct, indirect and induced impacts) as shown in Figure x.

Impact Measure	Impact Type			
	Direct	Indirect (Flow-on)	Induced (Flow-on)	Total
Gross Output ($)	**X**	**o**	**o**	**X**
Value Added ($)	**X**	**o**	**o**	**X**
Employment (FTEs)	**X**	**o**	**o**	**X**

X - Most commonly used measures o - Other measures

Figure 19-1 : Economic Impact Measures

Gross Output is the broadest measure of economic impact. It accounts for total expenditure that occurs as a result of an event occurring (e.g. a development being built). However, gross output is not an accurate indicator of economic impact as it includes the full value of all transactions and does not take into account the cost of generating additional expenditure including the value of goods that have been produced outside the region. These goods do not generate economic impact in the region, except through the act of selling.

Value Added is payments to all factors of production including profits, depreciation, and wages and salaries. It is generally seen as the most important measure of economic impact as it represents the amount of impact generated within or felt within the economy. It is synonymous with Gross Domestic Product (GDP) the standard measure of economic performance for regions and nations.

Employment is a measure of the number of Full Time Equivalent employees (FTEs) that will be employed over the period of a year as a result of additional activity generated by an event.
Direct Effects are also termed the first round effects. They cover the direct spending that occurs for an event (e.g. direct earthmoving costs, direct building costs). This direct spending sustains a certain amount of direct employment to meet these direct needs, and generates a certain amount of direct value added ($).

Indirect Effects are the effects that occur when suppliers to the directly impacted businesses have to increase their production to meet the increase in demand for goods and services. This requires the further purchase of other goods and services from their suppliers. Indirect effects are calculated in terms of indirect gross output ($), and value added ($).

Induced Effects cover the induced effect of additional wages and salaries paid into the regional economy inducing additional expenditure. Businesses either directly or indirectly impacted are assumed to be operating at maximum capacity and therefore additional demand causes them to either hire additional workers or pay overtime. This means more money is available to households in the economy. The induced effect covers how this money then flows through the system as people spend more.