Potential future demand for commercial land

Far North District

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Making sense of the numbers

The Far North District Council influences the development and uptake of commercial land in the Far North. It does this through its role as a regulator, as a decision-maker in relation to land use, and as a major infrastructure provider. In addition, the Council is in a position to leverage regional and national initiatives within the District that can positively impact on commercial land use and subsequent economic development and growth.

Currently, the Council is undertaking a consolidated review of the Far North District Plan 2009, and as part of this review requires an assessment of the commercial and industrial zones required over the next 10 to 30 years. BERL was engaged to assist the Council with this review, particularly in regards to the future, potential demand for commercial land. This report is the result of this research.

BERL was selected to undertake this research on behalf of the Council because we completed work for UNISA in 2014/15 on the projected demand for industrial land in the Upper North Island. As part of that research, our team completed a case study of the Northland Region and developed a planning tool specifically for the Far North and Whangarei Districts. This current research adds to this knowledge base and updates the planning tool for the Council.

The key tasks BERL has completed include:

- Engaging with stakeholders to better understand their preferences in regards to commercial land, and identifying the common preferences, characteristics or locations noted.
- Projecting the potential future demand for commercial land taking into account the preferences noted in our stakeholder engagement; the size and shape of the future economy in the Far North District; and any known regulatory or planning policies that may impact on future investment decisions regarding commercial land.
- Producing a model to forecast the potential demand for commercial land in the Far North District, and where appropriate updating the industrial land tool to include information on commercial land to assist the Council in their assessment of commercial and industrial zones

In the Far North District there is approximately 687.2 hectares of land used for commercial purposes, with 257.7 hectares of land zoned for commercial activities. However there is one substantial property, or group of properties which makes up about 58% of this total area of land used for commercial purposes. This group of properties is on a special commercial zone, the Carrington Estate Zone, located on the Karikari Peninsula. The 390 hectares included in this Zone is a unique estate, currently established though not fully developed. The existence of this Estate zoned commercial more than doubles the total area of commercial land in the District. This makes it more difficult to interpret the current scale and profile of land use and the expected changes over the next thirty years.

The pattern of land use and employment density on this 58% of the land used for commercial purposes is not representative of the pattern of land use and employment density on the other 42% of land used for commercial purposes. Nor is this land use thought to represent the pattern expected in additional land required for commercial uses over the next thirty years.

There is also no particular reason to expect similar such estates to require the Far North District Plan to have set aside further zoned commercial land in large blocks to come available over the next thirty years. If they do eventuate they can be treated on an individual basis.

In order to provide a more realistic picture of current and future commercial land uses we have in this report generally omitted the Carrington Estate Zone from our estimates and tables. For these reasons we have not allowed an increase in this category of zoned land over the coming thirty years.

Apart from the Carrington Estate Zone, in the Far North District there are approximately 295 hectares of land used for commercial purposes of which approximately 15 hectares are vacant. The 280 hectares of occupied commercial land is across 900 titles while the vacant land is across 87 titles. Commercial land is concentrated in four key areas: Kaitaia; Kerikeri; Kaikohe; and Paihia-Russell-Opua. Commercial land is predominantly used for retail purposes and offices, but there are large one-off uses such as for commercial accommodation in Paihia and Kerikeri.

The stakeholders that we engaged with indicated that the location of their business is important because of access to customers; infrastructure such as roads and telecommunications; and geographic proximity to other similar businesses. For example, retail stores want to be located in close proximity to other retailers and service providers such as medical centres. Alternatively, stakeholders who expressed an interest in establishing a tourist venture were conscious of the provision of other attractions and/or accommodation to ensure that the people they were trying to attract to purchase their service had other services available to them.

Across Kaitaia, Kerikeri and Kaikohe there is a total of just under five hectares of vacant commercial land, which is a third of all vacant commercial land in the District. The average area of each vacant title in these three towns is about 0.13 hectares or 1,300 square metres, which is suitable for only limited commercial development. This provides an early indication that there may not be a sufficient supply of suitable zoned commercial land to meet the immediate needs of developers. We would encourage the Council to investigate this further, but our observations of these towns is that this land may not be located in the right area and may not have access to some infrastructure such as roading. There could also be other barriers that are preventing the further development of these parcels of land.

Approximately 7,590 employees are employed on commercial land in the Far North District. The largest areas of employment are on land used for retail purposes and in office buildings, followed by land used for social purposes (health and education).

Kerikeri has the largest amount of commercial land used for retail purposes and employs the largest number of people in the Retail sector, at approximately 819 FTEs. The scope of commercial offices in Kaitaia, Kerikeri and Kaikohe is very similar, each occupying about 5 hectares of land, the first two each employing about 500 people, and Kaikohe employing about 430 people. Consequently the employment density in Kaitaia and Kerikeri is about 100 people per hectare, and in Kaikohe about 80 people per hectare.

Overall, Kerikeri has the largest amount of employees on commercial land at 1,765 people, and Kaitaia has 1,612.

Employment on commercial social land is large in Kaitaia and Kawakawa. In Kaitaia this is influenced by the presence of health care providers and tertiary education organisations. Employment on commercial land in Kawakawa is concentrated on commercial social land, particularly the health facilities.

In general stakeholders believe there is probably sufficient land zoned for commercial purposes in the Far North District and that the future demand for this type of land will likely be due to economic growth and population growth. However, several barriers were identified that could prevent the uptake of zoned commercial land. These discussions also raised concerns regarding the development of commercial activities in areas zoned for rural production, industrial or residential uses.

Two scenarios were devised to assist the Council to consider the potential demand for commercial land. A Business as Usual (BAU) scenario, where current economic growth and population trends continue , and a higher growth scenario, where projects under the Tai Tokerau Northland Economic Action Plan are successful and further investment in the Far North is encouraged through the success of Iwi, hapū and whanau-lead initiatives.

In our economic modelling, per annum growth in employment between 2014 and 2045 was projected across six commercial land uses. These land uses are accommodation, office, tourist, social, retail and other. Under the BAU scenario an additional 6.4 hectares of commercial land will be required in the Far North District by 2045, while under a higher growth scenario this rises to an additional 77.2 hectares of commercial land being required.

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1 Introduction

The Far North District Council recognises the importance of long term planning and appropriate zoning for commercial, industrial, rural production and residential activities in the District. The Council is also aware of the need for appropriate placement and management of activities to ensure any potential adverse effects of industrial, commercial, or rural production or residential activities are mitigated.

Currently, the Council is undertaking a consolidated review of the Far North District Plan 2009, and as part of this review requires an assessment of the commercial and industrial zones required over the next 10 to 30 years. BERL was engaged to assist the Council with this review, particularly in regards to the future, potential demand for commercial land. This report is the result of this research.

BERL was selected to undertake this research on behalf of the Council because we completed work for UNISA in 2014/15 on the projected demand for industrial land in the Upper North Island. As part of that research, our team completed a case study of the Northland Region and developed a planning tool specifically for the Far North and Whangarei Districts. This research adds to this knowledge base and updates the planning tool for Council.

The key tasks BERL has completed include:

- Engaging with stakeholders to better understand their preferences in regards to commercial land, and identifying the common preferences, characteristics or locations noted.
- Projecting the potential future demand for commercial land taking into account the preferences noted in our stakeholder engagement; the size and shape of the future economy in the Far North District; and any known regulatory or planning policies that may impact on future investment decisions regarding commercial land.
- Producing a model to forecast the potential demand for commercial land in the Far North District, and where appropriate updating the industrial land tool to include information on commercial land to assist the Council in their assessment of commercial and industrial zones.

As part of completing these tasks, our team has also addressed the following research questions:

- How much land is currently zoned and used for commercial activities in the Far North District? How much zoned commercial land is vacant? Where is this occupied and vacant commercial land?
- How many people are employed on land used for commercial activity and what is the estimated employment density on this land?[1]

This report is broken into four sections. We begin our discussion with an explanation of the data and information that we have used to address the two questions noted above. In Section three we discuss the current situation in the Far North District before discussing the potential future situation in Section four. Our Appendix A illustrates how we match the CoreLogic and Statistics New Zealand data on land use and employment, while Appendix B discusses the industries within our CGE mode and an explanation of how the model works.

[1] Here, employment density is defined as the number of employees per hectare. Employment density can change with improvements in productivity, land prices and capital costs.

2 Data and information on commercial land

To project the potential future demand for commercial land in the Far North District we need to understand the current situation. This section of our report discusses what data and information is available on commercial land, and how we undertook our analysis and addressed the following research questions:

- How much land is currently zoned and used for commercial activities in the Far North District? How much zoned commercial land is vacant? Where is this occupied and vacant commercial land?
- How many people are employed on land used for commercial activity and what is the estimated employment density on this land?

Section 3 of this report discusses the answers to these questions by commercial land use and location.

2.1 Data sources

The four key sources of data and information on commercial land use and employment that we used in this research are CoreLogic, Statistics New Zealand, Far North District Council, and the BERL Regional Database.

2.1.1 CoreLogic

CoreLogic provides a wide variety of property information. The key pieces of data that we usually focus on are land use, land title, land area, capital value, land value, and rates. This data allows us to track the patterns of commercial land use within a specified area over time. In this project we have focused on land use, land title and land area in the current year.

CoreLogic uses their own land use classification system. For this research we have focused on the following classifications:

- Commercial Retail
- Commercial Accommodation
- Commercial Social
- Commercial Office
- Commercial Tourist
- Commercial Mixed Use
- Commercial Other
- Commercial Vacant

Land classified as commercial retail, commercial accommodation, commercial office, and commercial vacant are self-explanatory. Land used for commercial retail purposes, for example, includes land used for retail stores such as supermarkets while land used for commercial accommodation purposes includes motels and hotels.

Land classified as commercial social includes land used for medical centres, rest homes, or by tertiary education providers. In turn, land classified as commercial tourist includes land used for heritage, artistic or sport and recreation type activities.

Land classified as commercial mixed-use and commercial other have been excluded from our analysis because we are unable to determine what activity is occurring on this land. This makes it particularly difficult to project the future demand for this land use as we are unable to determine the current activities.

Data on land use by industry is available from CoreLogic, but this data set is not comprehensive and it does not contain a definite number of businesses. This means one business may use more than one title or a number of businesses can be located on a single title.

In regards to historical data, there are gaps in the data and some records are incomplete. There has also been some changes in classifications and/or the interpretation of what constitutes an industry during this time. This means the data does require some 'data cleaning'; nevertheless, this database is large, comprehensive and useful for land use information.

2.1.2 Employment and employment density

Statistics New Zealand data is used to determine employment by industry. We are interested in employment and employment density because economic and population growth will drive the demand for commercial land over the next 10 to 30 years.

Employment density is expected to change across some industries due to changes in technology, capital investment, and/or the expansion or contraction of business operations. This will impact on the demand for land, as businesses need more or less space to operate.

Employment by industry data is available either from the Census of Population and Dwellings, which is held every five years or from the Business Demography Database, which is an annual business survey. This data is classified using the Australia New Zealand Standard Industry Classification (ANZSIC) system, which allows comparisons to be made between geographic areas and across time. However, neither the Census nor the Business Demography Database survey obtains complete coverage, and there can be some variation in the numbers between these data sets. This data is the best available at a detailed level by industry and geographical area.

2.1.3 Far North District Council

The Far North District Council data provides two key pieces of data. These are the amount of land zoned for different purposes and the location of that land within the Far North District, as at a specific point in time. This data allows us to examine the amount of land zoned for commercial purposes throughout the Far North District, and compare that to the Corelogic data on land used for commercial purposes.

The Far North District Council uses their own land zone classification system. For this research we have focused on the following classifications:

- Commercial Offices
- Commercial Retail
- Commercial Services
- Commercial Wholesale
- Commercial Vacant
- Commercial Carpark or Toilet
- Multi-Major Use Commercial

For much of our analysis we have combined these seven zone classification into a single commercial zone classification.

2.1.4 BERL Regional Database

The BERL Regional Database draws on data and information from a variety of official sources including Statistics New Zealand and the Ministry of Business, Innovation and Employment.

This database includes information at a territorial authority level on resident population, Gross Domestic Product (GDP), GDP per capita, employment measured by Full Time Equivalents (FTEs) and Employee Counts (EC), business units, and location quotients. It also has information at a territorial authority level on variables such as visitor numbers and building consents. This information is available from 1994 to the present.

In this research, the BERL Regional Database is used to provide additional data for our economic modelling. Once we have established the current situation in regards to commercial land use and employment we can then project potential future requirements.

In this research we have established two scenarios to assist the Council to consider what the potential demand for commercial land will be in the Far North District. These scenarios are a Business as Usual (BAU) scenario, where current economic growth and population trends continue, and a higher growth scenario, where projects under the Tai Tokerau Northland Economic Action Plan are successful and further investment in the Far North is encouraged through the success of iwi, hapū and whanau-led initiatives.

Both of these scenarios use the BERL Computable General Equilibrium (CGE) Model to determine the size and shape of the District economy. This is an economy wide model, which means it also considers the impact of any potential change in demand (and/or supply) on the regional and national economy and alters various factors to reach equilibrium. These factors can include, for example, the labour supply or the price received for the export of our goods.

It is important to maintain consistency in our approach – not only with the UNISA work – but also with broader trends in the Northland Region and the New Zealand economy. We cannot project a large increase or decrease in the demand for commercial land in the Far North District without taking into account the broader demands that could occur within the Northland Region, and what is happening in the New Zealand economy over this period.

Also, we have to consider economic development projects that are currently occurring in the District and region such as the projects generated by the Tai Tokerau Northland Economic Action Plan and associated Growth Study. It is also important to consider projects that iwi and hapū are engaged in, particularly around land use and productivity improvements, and the potential that Treaty of Waitangi settlements could have on the social and economic well-being of this District. Some of these factors can be built into our modelling assumptions, some are more difficult to quantify. For this reason, we would note that our modelled results, even under a high growth scenario, may be conservative.

3 Commercial land in the Far North District

In the Far North District there is approximately 687.2 hectares of land used for commercial purposes, with 257.7 hectares of land zoned for commercial activities. However there is one substantial property, or group of properties which makes up about 58% of this total area of land used for commercial purposes. This group of properties is on a special commercial zone, the Carrington Estate Zone, located on the Karikari Peninsula. The 390 hectares included in this Zone is a unique estate, currently established though not fully developed. The existence of this Estate zoned commercial more than doubles the total area of commercial land in the District. This makes it more difficult to interpret the current scale and profile of land use and the expected changes over the next thirty years.

The pattern of land use and employment density on this 58% of the land used for commercial purpose is not representative of the pattern of land use and employment density on the other 42% of land used for commercial purposes. Nor is this land use thought to represent the pattern expected in additional land required for commercial uses over the next thirty years.

There is also no particular reason to expect similar such estates to require the Far North District Plan to have set aside further zoned commercial land in large blocks to come available over the next thirty years. If they do eventuate they can be treated on an individual basis.

Therefore in order to provide a more realistic picture of current and future commercial land uses we have in this report generally omitted the Carrington Estate Zone from our estimates and tables.

In the Far North District, apart from the Carrington Estate Zone there is approximately 295 hectares of land used for commercial purposes, of which about 15 hectares is vacant. The 280 hectares of occupied commercial land is across 900 titles while the vacant commercial land is across 87 titles.

Commercial land in the Far North District is concentrated in four key areas: Kaitaia; Kerikeri; Kaikohe; and Paihia-Russell-Opua. Commercial land is predominantly used for retail purposes and offices, but there are large one-off uses of commercial land such as for commercial accommodation in Paihia and Kerikeri.

This section of our report focuses on the amount of occupied and vacant commercial land in the Far North District, where it is located, and what activities occur on this land in these areas.

3.1 Key locations

Commercial land in the Far North District is concentrated in four key areas: Kaitaia; Kerikeri; Kaikohe; and Paihia-Russell-Opua, as shown in Table 3.1 below. These areas are Statistics New Zealand Census Area Units (CAUs), so in the case of Kaitaia this includes the CAUs of Kaitaia East and Kaitaia West. This is also the reason why Paihia, Russell and Opua (East and West) are grouped together.

Table 3.1 Occupied and vacant commerical land, titles and hectares, Far North District

Areas	**Occupied Commercial**		**Vacant Commercial**		**Total Commercial**	
	Titles	*Ha.*	*Titles*	*Ha.*	*Titles*	*Ha.*
Kaitaia	141	26.5	18	2.2	159	28.7
Kerikeri	202	68.9	11	1.6	213	70.5
Kaikohe	114	18.8	8	1.2	122	19.9
Paihia-Russell-Opua	157	31.6	23	3.0	180	34.6
Sub Total	**614**	**145.7**	**60**	**8.0**	**674**	**153.7**
Rest of Far North	284	135.4	27	6.6	311	142.1
Total Far North District	**898**	**281.1**	**87**	**14.7**	**985**	**295.8**

Source: BERL and Corelogic. Note: Carrington Zone omitted.

This concentration of commercial land in the town centres of the Far North is unsurprising given the type of businesses that typically occupy zoned commercial land – retail, offices, accommodation, tertiary education and health care.

Kaitaia, Kerikeri, Kaikohe, and Paihia-Russell-Opua have just over 50 percent of all the commercial land in the District, at 153 hectares of commercial land, of the total 295 hectares. (Note that this excludes the 390 hectares in the Carrington Estate Zone designated commercial accommodation land and golf course on the Karikari Pennisula). The remainder of the commercial land in the Far North District is scattered throughout the District and includes a large number of titles over a small amount of land.

The exception to this is Pokere-Waihaha, where there is 38.9 hectares of commercial land. This land includes 18.3 hectares of commercial accommodation held over five titles, and 13.1 hectares of commercial retail land held over two titles. There is no vacant commercial land within this CAU.

These four key locations are also where a substantial amount of the zoned commercial land within the Far North District lies. As shown in Table 3.2, 136 hectares of land within these four key locations are zoned as commercial land, with the remaining 121.7 hectares spread across the rest of the district. This shows that for these four key locations there is more land used for commercial purposes then there is zoned as commercial land, with almost 18 hectares more land used for commercial purposes.

Table 3.2 Occupied and vacant land zoned for commercial use, titles and hectares, Far North District

Areas	**Zoned Commercial**		**Vacant Zoned Commercial**		**Total Zoned Commercial**	
	Titles	*Ha.*	*Titles*	*Ha.*	*Titles*	*Ha.*
Kaitaia	326	39.5	26	2.8	352	42.2
Kerikeri	197	21.5	11	1.4	208	22.9
Kaikohe	224	23.0	11	1.4	235	24.4
Paihia-Russell-Opua	312	38.0	48	8.5	360	46.4
Sub Total	**1059**	**122.0**	**96**	**14.0**	**1155**	**136.0**
Rest of Far North	483	96.1	91	25.7	574	121.7
Total Far North District	**1542**	**218.1**	**187**	**39.6**	**1729**	**257.7**

Source: BERL and Far North District Council

Across the entire Far North District (excluding Carrington Estate Zone) there is 257.7 hectares of land zoned as commercial and 295.8 hectares of land used for commercial purposes. This means that at least 38.1 hectares of land used for commercial purposes is occurring on non-commercial zoned land.

3.2 Commercial zoned land by use

Across the Far North District the main land use of commercial zoned land, as shown in Table 3.3, is residential with just over 80 hectares used for this purpose, or around 31 percent of total commercially zoned land. The second largest use is commercial with 68.9 hectares, and the third largest use in community services with 39.3 hectares. This shows that only around 27 percent on land zoned as commercial in the Far North District is actually used for that purpose. Also with 295.8 hectares of land used for commercial purposes, having 68.9 hectares of this land on commercially zoned land, means that less than a quarter of land used for commercial purposes occurs on land zoned for that purpose.

Table 3.3 Commercial zoned land by use, hectares, Far North District

Land Uses	Land Area (ha)
Residential	80.9
Commercial	**68.9**
Community Services	39.3
Primary Industry	24.4
Industrial	16.0
Other	10.4
Recreational	8.3
Lifestyle	4.9
Transport	2.4
Utility Services	2.2
Vacant	0.0
Grand Total	**257.7**

Source: BERL and Far North District Council

As shown in Table 3.3, more industrial land uses, such as primary industry, industrial, transport and utility services, use around 45 hectares or 17 percent of land zoned as commercial in the Far North District. It is uses, such as residential, community services, recreational, lifestyle and other that use the bulk of the currently commercially zoned land, with 143.8 hectares of land.

Analysing land use and zone classifications for the Far North District shows that while commercially zoned land holds the largest amount of land used for commercial purposes. This is followed by land zoned for coastal living where 57.9 hectares of land is used for commercial purposes, and land zoned as rural production, which has 54.8 hectares of land used for commercial purposes.

Table 3.4 shows that across the Far North District the zoning of the 295.8 hectares of land used for commercial purposes. This reveals that along with commercial, coastal living and rural production zone land, land used for commercial purposes is within land zoned for conservation, recreational activities, industrial, and other land zones (including special zones).

Table 3.4 Land used for commercial purposes by zone classification, hectares, Far North District

Zone Classifications	Land Area (ha)
Commercial	**68.9**
Coastal Living	57.9
Rural Production	54.8
Conservation	50.3
Recreational Activities	24.2
Industrial	21.1
Other	18.6
Grand Total	**295.8**

Source: BERL and Far North District Council

Our analysis shows that there is not a substantial difference between the amount of land zoned for commercial purposes and the amount of land used for commercial purposes. There is just 38.1 hectares more of commercial used land than commercially zoned land in the Far North District. The issue for the Far North District Council is that land being used for commercial purposes is generally not land zoned for commercial purposes. Only around 23 percent of land used for commercial purposes in zoned commercial.

For the purposes of this study, which is examining the growth needed in land used for commercial purposes out to 2045 the mismatch between zoning and land use is out of scope.

3.3 Occupied commercial land by use

The largest use of commercial land in the Far North District is commercial accommodation, at 143 hectares across 166 titles. Excluding Karikari Peninsula from this discussion, approximately 35 hectares of land is used for commercial accommodation in Kerikeri while 17 hectares of land is used for commercial accommodation in Paihia. Russell currently has 9 hectares of commercial accommodation, while Kaitaia has 4 hectares. Kaikohe has about 3 hectares of commercial accommodation across two land titles and Taipa Bay-Mangonui has one and a half hectares across 10 land titles.

Table 3.5 Occupied commercial land, by land use and area

Commercial Land		Kaitaia	Kerikeri	Kaikohe	Paihia-Russell-Opua	**Sub Total**	Rest of Far North	**Far North District**	Carrington Zone
Retail	*Titles*	73	108	65	56	**302**	149	**451**	
	Ha.	10.7	17.9	5.8	2.8	**37.2**	31.9	**69.1**	
Office	*Titles*	33	44	31	8	**116**	21	**137**	
	Ha.	4.7	5.0	4.9	0.6	**15.3**	2.1	**17.3**	
Accommodation	*Titles*	12	16	2	78	**108**	58	**166**	6
	Ha.	4.1	34.8	2.6	25.9	**67.4**	75.4	**142.8**	318
Tourist	*Titles*	0	0	0	1	**1**	3	**4**	1
	Ha.	0.0	0.0	0.0	0.7	**0.7**	6.0	**6.7**	73
Social	*Titles*	2	11	5	1	**19**	16	**35**	
	Ha.	2.7	3.9	3.4	0.1	**10.2**	4.8	**15.0**	
Other	*Titles*	9	7	10	4	**30**	26	**56**	
	Ha.	2.4	1.6	1.9	0.7	**6.6**	11.0	**17.7**	
Sub Total	*Titles*	**129**	**186**	**113**	**148**	**576**	**273**	**849**	**7**
	Ha.	**24.7**	**63.2**	**18.7**	**30.9**	**137.3**	**131.2**	**268.6**	**391**

Source: BERL and Corelogic. Note: Carrington Zone separate.

The stakeholders that we engaged with indicated that the location of their business is important because of access to customers; infrastructure such as roads and telecommunications; and geographic proximity to other similar businesses. For example, retail stores want to be located in close proximity to other retailers and service providers such as medical centres. Alternatively, stakeholders who expressed an interest in establishing a tourist venture were conscious of the provision of other attractions and/or accommodation to ensure that the people they were trying to attract to purchase their service had other services available to them.

This finding is supported by other BERL research on the importance of location and business success. This research found that businesses operate in an ecosystem and they change location to take advantage of changes in markets, supply chains, or incentives. Areas can therefore change in terms of their viability for a business and this can also lead to land use changes as businesses move in and out of an area.

3.3.1 Retail

The Far North District has approximately 69 hectares of land used as commercial retail land spread throughout the District. Kerikeri has the largest amount of commercial land used for retail purposes, with 18 hectares, which is 25 percent of all the retail commercial land in the District. This is followed by Kaitaia with 10.7 hectares of commercial retail land and Kaikohe with 5.8 hectares. This land use reflects the role of these towns as rural service centres that provide goods and services to residents as well as visitors to the District. Paihia-Russell-Opua also have small retail areas, at 2.8 hectares in total.

Our discussions with Retail NZ regarding commercial land use highlighted that small and large retailers do not develop their properties in the same way, and that the format of stores needs to be considered in planning new retail greenfield sites and the intensification of brownfield areas. For example, for smaller retailers their issues are often focused on the cost of rates, rent, and various council costs such as signage. In turn, the issues for larger retailers may be about space – road access, car parking, and the size of the site - and a CBD area may not be not compatible or appropriate for their business needs.[2]

3.3.2 Office

A smaller but significant user of commercial land is offices. Over 17 hectares of land in the Far North District is used for commercial offices, with approximately five hectares of commercial land occupied by offices in each of the towns of Kaitaia, Kerikeri, and Kaikohe respectively.

Stakeholders indicated that businesses require certainty to invest and grow, but they also need certainty to locate to an area. This certainty can be around access to infrastructure such as roading and reticulated water, wastewater and sewage, as well as certainty that appropriate zoning is in place to ensure their business is located in the 'right area' and is clustered with other 'like-minded businesses'. This is particularly important in town centres where business and professional services are provided to surrounding rural areas.

3.3.3 Vacant commercial land

At this point it is worth noting where the vacant commercial land is located. Across Kaitaia, Kerikeri and Kaikohe there is a total of just under five hectares of vacant commercial land, which is a third of all vacant commercial land in the District. The average area of each vacant title in these three towns is about 0.13 hectares or 1,300 square metres, which is suitable for only limited commercial development. This provides an early indication that there may not be a sufficient supply of zoned commercial land to meet the immediate needs of developers

Table 3.6 Commerical land, vacant, Far North District

Areas	Commercial Vacant	
	Titles	*Ha.*
Kaitaia	18	2.2
Kerikeri	11	1.6
Kaikohe	8	1.2
Paihia-Russell-Opua	23	3.0
Moerewa	5	3.0
Taipa Bay-Mangonui	10	2.9
Sub Total	**60**	**8.0**
Rest of Far North	27	6.6
Total Far North District	**87**	**14.7**

Source: BERL and Corelogic

We would encourage the Council to investigate this further, but our observations of these towns is that this land may not be located in the right area or may not have access to some infrastructure such as roading. There could also be other barriers that are preventing the further development of this land.

3.3.4 Social

Education and health providers occupy commercial land that is classified as "commercial social". This includes tertiary education providers, adult and community education providers, residential care, and medical and other health care services. Two-thirds of this land use is concentrated in Kerikeri, Kaikohe and Kaitaia.

Here we would note the presence of tertiary education providers such as NorthTec and the size of the campus that is typically associated with a polytechnic. Residential care facilities are also large land uses, with many

[2] Face to face interview with Fiona Mulder and Greg Harford, Retail NZ 3 March 2016.

facilities offering independent living as well as assisted care and hospital facilities. Some tertiary education providers establish themselves on existing brownfields sites but residential care and medical and other health care services generally require large greenfield sites that are close to other population-based services.

The demand for commercial land for social uses is population-based. The population of the Far North District has remained fairly stable over the last 10 years, at around 56,000 residents. Looking ahead however, if the District was to promote itself as a retirement destination, as a place to live, work and raise a family, or as the location for people considering immigrating to New Zealand the demand for population-based services such as health and education could increase.

Further, while the population of the District has remained fairly stable, the demographics of who lives in the District have changed. The population pyramid of the District is currently shaped like an hour glass with large numbers of young people and older people at the top and bottom of the pyramid, and a smaller number of people in the working age population. Any change (or increase) in this population pyramid could drive a demand for commercial land for social uses, and stakeholders have indicated a willingness to invest in these areas in Kerikeri, Kaikohe and Kaitaia.

3.3.5 Tourist and accommodation

The Northland Regional Council in their 30 Year Transport Strategy indicates the projected flows of domestic and international visitors into and out of the Northland Region in 2040, and the associated access points for these visitors.

Their illustrative map also highlights current and future "tourism areas" in Opononi, Kaitaia, and in and around Taipa, Mangonui, and Cape Reinga, with the potential visitor flows between these areas. The broad area of Paihia, Russell and Kerikeri is considered a key tourist centre, and along with Whangarei, is noted as an access point for cruise ships.

Commercial land that is used for "tourist" purposes includes land used for heritage, artistic, and sport and recreation activities. Currently very little land is zoned for this use in the Far North District, as shown in Table 3.5. However, we would note here that the land in the Paihia-Russell-Opua area that is currently used for this purpose has associated commercial accommodation activity also located there. If strategies such as the 30 Year Transport Strategy, the Northland Action Plan, and various Iwi and hapū plans are successful then the demand for commercial land for tourist purposes could potentially grow.

It is therefore worthwhile considering commercial land used for this purpose as the demand for this type of land use may grow in the future. It is also worth considering this land use in conjunction with commercial land used for accommodation as the demand from domestic and international visitors for commercial accommodation may also drive the demand for services provided by businesses located on commercial tourist land.

The Northland Regional Growth Study argues that industries that support the visitor economy should be a focus for the future growth of the regional economy. In addition, the associated Action Plan lists the following as the "game changers" for Northland that will underpin business growth:

- Transport – better connectivity with Auckland, within the region and with export markets. Northland is a place-based economy. Roading in particular is critical for Northland to develop and affects virtually every part of the economy.
- Digital Infrastructure – full digital coverage (whether it is ultrafast broadband, rural broadband or mobile coverage) across the region at acceptable speeds and with a consistent connection to enable business to be conducted efficiently and effectively.

- Skills and Capability – governance, management, entrepreneurship, soft skills and technical and industry specific skills.

Water is the fourth game-changing but in the context of our discussion around commercial accommodation and tourist type activities, water is not as relevant as a game changer.

Stakeholders discussed with us a variety of future plans in regards to tourism and hospitality activities. These included the development of new activities as well as the expansion of existing activities, and a greater offering of commercial accommodation options.

Some of these developments were at the resource management stage while others were at the concept and design stage. Others were part of future business plans or were identified as potential opportunities if and when other developments took place.

3.3.6 Mixed use, and other uses for commercial land

Across the Far North District there is an estimated 12.7 hectares of mixed-use commercial land. This land is spread across 54 titles. Again, the key areas where land is used for mixed-use commercial purposes is within Kaitaia, Kerikeri, Kaikohe, and Paihia-Russell-Opua. Kerikeri currently has the largest amount of commercial mixed-use, at 5.7 hectares. Businesses that locate on commercial mixed-use land include petrol stations, motor vehicle sales and servicing, personal services such as hairdressers, beauty therapists, laundromats, and dry-cleaners, and car parking.

Table 3.7 Commercial land, mixed use, Far North District

Areas	Commercial Mixed Use	
	Titles	*Ha.*
Kaitaia	12	1.8
Kerikeri	16	5.7
Kaikohe	1	0.1
Paihia-Russell-Opua	9	0.7
Sub Total	**38**	**8.4**
Rest of Far North	16	4.3
Total Far North District	**54**	**12.7**

Source: BERL and Corelogic

As discussed earlier, projecting the future demand for commercial land used for a variety of purpose (mixed-use) is difficult. This is because more than one activity occurs on these sites, and the demand for these activities may also vary.

3.4 Employment on commercial land

In section 2 we discussed how Statistics New Zealand data is used to determine employment by industry. Table 3.8 below illustrates the split of employment by land use in the Far North District and by selected CAUs. The CAUs that we have selected have large numbers of people employed in these sectors and/or large areas of commercial land used for this purpose.

Table 3.8 Commercial land, employment, Total Far North District and selected CAUs

Area	Retail *Employees*	Office *Employees*	Accommodation *Employees*	Tourist *Employees*	Social *Employees*	Other *Employees*	Total Commercial *Employees*
Far North District							
Kaitaia	551	494	36	36	400	95	1,612
Kerikeri	819	504	55	59	259	69	1,765
Kaikohe	267	433	6	6	216	74	1,002
Paihia-Russell-Opua	455	207	380	18	21	72	1,153
Kawakawa	59	33	6	12	366	18	494
Taipa Bay-Mangonui	110	36	40	0	18	24	228
Rest of Far North	**482**	**90**	**348**	**18**	**326**	**69**	**1,333**
Total Far North District	**2,743**	**1,797**	**871**	**149**	**1,606**	**421**	**7,587**

Source: CoreLogic, BERL. Note: Carrington Zone omitted

Approximately 7,587 employees are employed on commercial land in the Far North District. The largest areas of employment are on land used for retail purposes and in office buildings, followed by land used for social purposes (health and education).

Kerikeri has the largest amount of commercial land used for retail purposes and employs the largest number of people in the Retail sector, at approximately 819 FTEs.

The commercial office scope in Kaitaia, Kerikeri and Kaikohe are very similar, each occupying about 5 hectares of land, the first two each employing about 500 people, and Kaikohe employing about 430 people. Consequently the employment density in Kaitaia and Kerikeri is about 100 people per hectare, and in Kaikohe about 80 people per hectare. Overall, Kerikeri has the largest number of employees on commercial land at 1,765 people, and Kaitaia has 1,612.

Employment on commercial social land is large in Kaitaia and Kawakawa. In Kaitaia this is influenced by the presence of health care providers and tertiary education organisations. Employment on commercial land in Kawakawa is concentrated on commercial social land, particularly the health facilities. According to Statistics New Zealand there are 540 employees in the Health Care and Social Assistance sector in Kawakawa. Of this number, 180 employees are in the Hospital sector (which is not part of social commercial land) while of the remaining 360 employees, 330 employees are Allied Health Services professionals and the others are split between Medical Services, Other Health Care Services and Social Assistance Services.

Smaller numbers of people are employed in retail and offices in Kawakawa, while commercial land used for tourist and accommodation purposes employs approximately 18 people.

Commercial accommodation in Paihia-Russell-Opua dominates the employment in this area, with approximately 380 employees located on commercial land in this area. Hotels and motels generally have a large number of staff, either permanent front of house, cleaning and restaurant staff or casuals that they employ during the busy summer months.

Land used for tourist purposes employs a smaller number of people, at just 149 employees in the Far North District. Kerikeri and Kaitaia again dominant this area of employment, with approximately 64 percent of all people employed in commercial tourist land employed in these areas. The presence of heritage and cultural activities in these areas, along with commercial operators focused on eco-tourism and outdoor activities influences this.

4 Looking towards 2045: economic modelling of land use

To undertake our economic modelling of the potential demand for commercial land in the Far North District towards 2045, we asked key stakeholders "what factors are likely to drive the demand for commercial land in the Far North District?" Their answers were mixed; but in general stakeholders believed there was probably sufficient land zoned for commercial purposes in the Far North District and that the future demand for this type of land would likely be due to economic growth and population growth.

The following discussion summarises some of the key points raised by stakeholders before discussing how we used these viewpoints and information to undertaken our economic modelling.

4.1 Sufficient land zoned for commercial purposes

In general, stakeholders agreed that there is probably sufficient land zoned for commercial purposes now and that future demand is likely to be met by the existing supply. However, several barriers were identified that could prevent the uptake of zoned commercial land and/or lead to the development of commercial ventures not zoned for commercial land use.

These discussions also raised concerns regarding the development of commercial activities in areas zoned for rural production, industrial or residential uses. Here, concerns centred on the availability of greenfield sites leading to a "domino effect" where businesses relocated (or located) outside of the CBD because of the availability of a site or because of pressure to move. This pressure could arise due to an increase in land values; reverse sensitivity issues; or issues around the provision of infrastructure such as water, roading or telecommunications.

4.2 Economic and population growth

Economic growth discussions focused on the plans that individuals, hapū, Iwi, businesses and the District (local government) have in place now, or are considering, and how the success of these plans could positively impact on the economy of the Far North District.

For example, stakeholders noted that the economy of the District could grow in the future due to the success of investment plans and strategies such as those put forward by the Tai Tokerau Northland Economic Action Plan Northland Strategy and the economic development plans and investment strategies of iwi and hapū.

Many stakeholders spoke of the potential for Māori economic development to drive key areas of the economy going forward in the Far North - whether this be through investment in commercial accommodation and tourism ventures, or through the bringing into production of currently unproductive land or land that could be intensified and used more productively.

Specific developments were noted, such as the redevelopment of Peppers Carrington and the potential impact this will have on the demand for tourist activities; the settlement of Treaty of Waitangi claims, and the impact this will have on accelerating investment activity in and around towns such as Kaikohe and Kaitaia; and the potential expansion of irrigation and water supply, and how this could lead to an increase in horticulture production, the diversification of crops. Further, if there was an increase in the amount of land in productive uses for horticulture or apiculture, it was argued that there would be a subsequent increase in the demand for pack houses, cool stores, processing plants and associated transport and logistics.

Others also noted the potential for the population of the District to grow through immigration – with people moving to the District to retire, returning to the District to work and raise a family (after being away for a period), or moving to the District from overseas.

These discussions also focussed on how an increase in the resident population could lead to a growth in the demand for services and how these services are often located on commercial land. For example, an increase in the demand for Allied Health Services due to an increase in the number of people retiring to the Far North District and the associated provision of services such as retirement villages and private hospitals.

4.3 Economic modelling

In this research we have established two scenarios to assist the Council to consider the potential demand for commercial land in the Far North District. These scenarios are:

- Business as Usual (BAU) scenario, where current economic growth and population trends continue.
- Higher growth scenario, where projects under the Tai Tokerau Northland Economic Action Plan are successful and further investment in the Far North is encouraged through the success of Iwi, hapū and whanau-lead initiatives.

In our economic modelling, we have projected per annum growth in employment between 2014 and 2045 across six commercial land uses. These land uses are accommodation, office, tourist, social, retail and other.

We have excluded mixed-use from our analysis but included commercial other. Our earlier analysis has indicated that the type of employment located on this land relates predominantly to personal services and is associated with employment in commercial retail and commercial office buildings.

Our focus on employment is due to using a "demand side" model. We are interested in what will drive the demand for commercial land over the period to 2045 and the subsequent impact this demand will have on economic activity, as measured by employment.

In Section 3 of this report we discussed the number of people employed on the various types of commercial land in the Far North District. This data provides the baseline for our projections looking forward. We also considered the employment density associated with each of these land uses; hence our reason for being hesitant to include mixed-use commercial land in our analysis.

4.3.1 Limitations to consider

The basis for projecting future activity levels by different industries is employment density. Employment density is defined in this project as the number of employees per hectare, which varies by industry. Employment density also may change over time as an industry expands or technology decreases the demand for labour.

If there is a change in the type of industry that is located in an area, or if there is a change in the number of businesses within a particular industry located in an area, then employment density will change. Employment density drives the demand for commercial land.

Population-based projections on the demand for commercial land generally assume that the current average employment density across all commercial business types will continue into the future. This assumption will not hold true if there are significant differences in employment density across different commercial business types, and if there is projected to be a change in the mix of business types in the future.

An understanding of employment density across different industries and changes in employment density over time is therefore fundamental to understanding the factors driving the demand for commercial land. This is because data on employment and employment density allows us to consider if there is sufficient commercial land available or if more land will be required. For the main uses of commercial land in the urban centres of the Far North District we do not expect major changes in employment density over the coming thirty years, and accordingly have based our land use projections on the employment density in each land use in 2014.

We also assume as part of our modelling that vacant commercial land will be occupied prior to any new zoned commercial land becoming available. Unfortunately our economic modelling is “blind” to where this land is located in the sense of if it is located in the right place and/or if it is the right size. Our model is also “blind” to geographic limitations such as, if the demand for commercial land is in an area where there are land limitations such as erosion or wetness. This means that while we can model the potential demand for commercial land within a particular CAU, we are unable to model exactly where that land is located within that area. This exercise is possible but is not the focus of this project and is outside our project scope.

4.3.2 Land use tool

The BERL team have also derived a land use tool. This tool provides snapshot information towards 2045 on industrial and commercial land. This snapshot information includes longitudinal data on employment and land use by CAU. Council team members can change the variables of interest to focus on a particular CAU or type of land use. Previously this tool focused on industrial land and we have modified and adapted our approach to include commercial land.

4.3.3 BAU scenario

Under the Business As Usual (BAU) scenario of the BERL model of the national economy (the CGE model), the implication is that the economy of the Far North District continues to grow at a steady rate of 0.7 percent per annum towards 2045. This results in an estimated 290 hectares of land used for commercial purposes in the District, supporting the employment of approximately 9,335 people. (This excludes the Carrington Estate Zone.) Compared to the current situation, under a BAU scenario there will be a need for a minimum of an additional 6.4 hectares of commercial land by 2045. This number assumes that current vacant land will be utilised.

It is important that we consider the growth of the Far North District economy in relation to the surrounding districts, and in relation to the New Zealand economy. Under this scenario we therefore assume that the growth rate of the District economy remains fairly stable compared to the regional and national economy, and that commercial developments that are consented or known to occur in the future eventuate.

The Far North District has more commercial retail and office land than the Whangarei and Kaipara districts. For example, in 2014 there was 69.1 hectares of commercial retail land in the Far North District compared to 41.1 hectares of commercial retail land in the Whangarei District. However, employment on commercial retail land was higher in the Whangarei District and so therefore was employment density. As discussed earlier, employment density is an important indicator of potential demand and the growth rates used in the BAU and Higher Growth scenario reflect this.

Under the BAU scenario, the greatest demand for commercial land will be from businesses engaged in “commercial social”, i.e. health and tertiary education with a growth rate of 1.5 percent per annum. This is based on population growth and projected growth in employment in businesses and sectors that occupy this type of land.

In regards to population growth, under the BAU scenario we assume that the overall population of the District remains fairly stable. However, the resident population of the District includes a large number of young people and those over the age of 65. We expect that the population of the District will continue to age, and that the birth rate, particularly among Māori, will also remain fairly high. Our population projections may therefore be conservative as both of these factors will influence resident population growth.

Here we would also acknowledge the uneven nature of population growth that has been occurring in the District to date and that is likely to continue into the future. Between the 2001 and 2013 Census, for example, the resident population of the District grew by 2.2 percent, from 54,534 people to 55,713 people. During that time, some areas of the District experienced population decline – such as Kaitaia and Kaeo – while others experienced growth – such as Taipa Bay-Mangonui and Kerikeri.

This indicates that under a BAU scenario, the demand for land in Kerikeri for "commercial social" purposes is likely to grow towards 2045 while the demand for this type of land use in Kaitaia is likely to decline.

Interestingly, under the BAU scenario the demand for commercial land for commercial accommodation and tourist businesses will slowly decline on a per annum basis. This indicates that sufficient land is zoned for this use and that the number of people employed in businesses that operate commercial accommodation or tourist, sport or recreation ventures will decline. This per annum decline in employment is shown in Table 4.1 below and in more detail in Table 4.2.

Table 4.1 illustrates the differences in employment growth by land use under each of the scenarios. Note, the percentage change is a per annum change. Under the High Growth scenario employment grows at a higher rate in the Far North District. This higher growth rate is more in line with national averages over this period.

The only commercial land use that does not have higher employment growth under the Higher Growth scenario compared to the BAU is "commercial social". This is because the employment growth rate for businesses located on this type of land is already the same as the national average.

Table 4.1 BAU and High Growth scenarios, employment growth, per annum towards 2045

Industry classification	BAU scenario %pa change to 2045	Growth scenario %pa change to 2045
Commercial Accommodation	-0.1%	1.3%
Commercial Office	0.3%	1.2%
Commercial Tourist	-0.6%	0.6%
Commercial Social	1.5%	1.5%
Commercial Other	0.6%	1.2%
Commercial Retail	0.6%	1.2%

Source: BERL

Under the BAU scenario an additional 6.4 hectares of commercial land will be required in the Far North District by 2045, while under a higher growth scenario this rises to an additional 77 hectares of commercial land being required. Table 4.2 illustrates the amount of commercial land in 2014 and 2045 under a BAU scenario by land type, and the employment associated with this land use. The employment in 2045 is projected based on the demand for this type of labour and the associated employment density.

In 2045, we estimate that there will be a need for 21.1 hectares of vacant commercial land. In 2014, the Far North District had 14.7 hectares of vacant commercial land, which means that across the District only another 6.4 hectares will be needed if the currently vacant commercial land is utilised.

It should be noted here again, that this projection makes no assumptions regarding the ability of businesses requiring commercial land to be able to use the currently vacant commercial land.

Table 4.2 BAU scenario, commercial land and employment, 2014 and 2045 snapshots

Property Classification		Far North District
Commercial Retail	Land 2014	69.1
	Employees 2014	2,743
	Employment/ha	39.7
	Employees 2045	3,331
	Land 2045	83.9
Commercial Office	Land 2014	17.3
	Employees 2014	1,797
	Employment/ha	103.6
	Employees 2045	1,956
	Land 2045	18.9
Commercial Accommodation	Land 2014	142.8
	Employees 2014	871
	Employment/ha	6.1
	Employees 2045	835
	Land 2045	138.0
Commercial Tourist	Land 2014	6.7
	Employees 2014	149
	Employment/ha	22.3
	Employees 2045	124
	Land 2045	5.6
Commercial Social	Land 2014	15.0
	Employees 2014	1,606
	Employment/ha	107.1
	Employees 2045	2,575
	Land 2045	23.3
Commercial Other	Land 2014	17.7
	Employees 2014	421
	Employment/ha	23.8
	Employees 2045	514
	Land 2045	19.9
Total Commercial	Land 2014	268.6
	Employees 2014	7,587
	Employment/ha	28.3
	Employees 2045	9,335
	Land 2045	289.6
Commercial Mixed Use	Land 2014	12.7
Commercial Vacant	Land 2014	14.7
Extra land needed	**Land 2045**	**6.4**

Source: BERL Note: Carrington Zone omitted.

4.3.4 High growth scenario

Under the High growth scenario, employment in the District grows by 1.18 percent per annum. This means an additional 10,200 people across the District are in employment in 2045. As noted earlier in Table 4.1, employment in businesses across each of the six commercial land uses grows under this scenario.

For example, employment in commercial accommodation is projected to grow by 1.3 percent per annum between 2014 and 2045. This growth is influenced by an increase in visitor numbers to the Region and the associated increase in tourist attractions, recreational activities, and associated infrastructure such as cafes, restaurants, roading and accommodation. In turn this positive growth is influenced by the fulfilment of the Tai Tokerau Northland Economic Action Plan and further investment in the Far North through private and public initiatives.

Table 4.3 High growth scenario, commercial land and employment, 2014 and 2045 snapshots

Property Classification		**Far North District**
Commercial Retail	Land 2014	69.1
	Employees 2014	2,743
	Employment/ha	39.7
	Employees 2045	4,010
	Land 2045	101.0
Commercial Office	Land 2014	17.3
	Employees 2014	1,797
	Employment/ha	103.6
	Employees 2045	2,577
	Land 2045	24.3
Commercial Accommodation	Land 2014	142.8
	Employees 2014	871
	Employment/ha	6.1
	Employees 2045	1,289
	Land 2045	181.7
Commercial Tourist	Land 2014	6.7
	Employees 2014	149
	Employment/ha	22.3
	Employees 2045	177
	Land 2045	7.9
Commercial Social	Land 2014	15.0
	Employees 2014	1,606
	Employment/ha	107.1
	Employees 2045	2,575
	Land 2045	23.3
Commercial Other	Land 2014	17.7
	Employees 2014	421
	Employment/ha	23.8
	Employees 2045	607
	Land 2045	22.2
Total Commercial	Land 2014	268.6
	Employees 2014	7,587
	Employment/ha	28.3
	Employees 2045	11,236
	Land 2045	360.4
Commercial Mixed Use	Land 2014	12.7
Commercial Vacant	Land 2014	14.7
Extra land needed	**Land 2045**	**77.2**

Source: BERL. Note: Carrington Zone omitted.

As shown in Table 4.3, in 2014 approximately 269 hectares of land was used for commercial purposes, by 2045 this land use has grown to 360 hectares. This is an increase of approximately 91 hectares. However, this could be reduced to an increase in demand by only 77 hectares of commercial land if the 15 hectares of commercial land vacant in 2014 was all utilised.

Appendix A Commercial land classifications

As noted in Section 2, we have used CoreLogic property classifications in our analysis of land use and Statistic New Zealand ANZSIC classifications in our analysis of employment. The following table illustrates how we have matched the industry employment with the property classifications.

Table 4.4 Statistics New Zealand ANZSIC and CoreLogic property classifications

Statistics New Zealand ANZSIC	CoreLogic Classification	
G39 Motor Vehicle and Motor Vehicle Parts Retailing	Commercial Other	LI
G40 Fuel Retailing	Commercial Other	LI/C
G41 Food Retailing	Commercial Retail	C
G42 Other Store-Based Retailing	Commercial Retail	C
G43 Non-Store Retailing and Retail Commission Based Buying and/or Selling	Commercial Retail	C
H44 Accommodation	Commerical Accommodation	C
H45 Food and Beverage Services	Commercial Retail	C
J54 Publishing (except Internet and Music Publishing)	Commercial Office	C
J55 Motion Picture and Sound Recording Activities	Commercial Office	C
J56 Broadcasting (except Internet)	Commercial Office	C
J57 Internet Publishing and Broadcasting	Commercial Office	C
J58 Telecommunications Services	Commercial Office	C
J59 Internet Service Providers Web Search Portals and Data Processing Services	Commercial Office	C
J60 Library and Other Information Services	Commercial Office	C
K62 Finance	Commercial Office	C
K63 Insurance and Superannuation Funds	Commercial Office	C
K64 Auxiliary Finance and Insurance Services	Commercial Office	C
L66 Rental and Hiring Services (except Real Estate)	Commercial Office	C/LI
L67 Property Operators and Real Estate Services	Commercial Office	LI/C
M69 Professional Scientific and Technical Services (exc Comp Sys Dsn & related)	Commercial Office	C/LI
M70 Computer System Design and Related Services	Commercial Office	C
N72 Administrative Services	Commercial Office	C
N73 Building Cleaning Pest Control and Other Support Services	Commercial Office	C
O75 Public Administration	Commercial Office	C
O76 Public Order Safety and Regulatory Services	Commercial Office	C
P81 Tertiary Education	Commercial Social	C
P82 Adult Community and Other Education	Commercial Social	C
Q85 Medical and Other Health Care Services	Commercial Social	C
Q86 Residential Care Services	Commercial Social	C/R
R89 Heritage Activities	Commercial Tourist	C
R90 Artistic Activities	Commercial Tourist	C
R91 Sport and Recreation Activities	Commercial Tourist	S&R
R92 Gambling Activities	Commercial Tourist	C
S94 Repair and Maintenance	Commercial Office	LI/C
S95 Personal and Other Services	Commercial Other	C

Source: BERL

Appendix B A Computable General Equilibrium (CGE) model

A Computable General Equilibrium (CGE) model is a whole-of-economy model that is widely used in economic policy analysis and for measuring the economy-wide effects of change. CGE models can be dynamic or static, and they assume that all players in the economy are either maximising their utility or profits.

BERL has developed and applied variations of the CGE model to the New Zealand economy since the 1970s and 1980s. This model provides a projection of the profile of the New Zealand economy, in terms of the size and shape of industries, and the overall economy. It gives a comprehensive description of industry activity levels according to macro-economic assumptions, including population levels and labour supply.

The data input for the base year is the recorded employment in each industry. The relationships between industries have been derived and traced over the years in inter-industry input-output tables. The industry classification in the version of the BERL CGE model being used for this work has 53 industries, as shown in Table 4.5.

Table 4.5 Industries in the CGE model

No.	Industry	No.	Industry
1	Horticulture and fruit growing	28	Residential construction
2	Sheep, beef, livestock and cropping	29	Other construction
3	Dairy cattle farming	30	Industrial goods wholesaling
4	Other farming	31	Other wholesaling
5	Services to agriculture, hunting & trapping	32	Retail trade
6	Forestry & logging	33	Accommodation, cafes & restaurants
7	Fishing	34	Road freight transport
8	Mining & quarrying	35	Road passenger transport
9	Oil & gas extraction and exploration & petroleum refining	36	Rail, water, air transport and transport services
10	Meat and dairy product processing	37	Communication services
11	Other food processing & mfg	38	Finance
12	Beverage malt and tobacco mfg	39	Insurance
13	Textiles, clothing, footwear & leather mfg	40	Services to finance and insurance
14	Log sawmilling, timber dressing & other wood product mfg	41	Real estate
15	Paper and paper product mfg	42	Equipment hire and investors in other property
16	Printing, publishing & recorded media	43	Ownership of owner-occupied dwellings
17	Chemical and chemical product mfg	44	Scientific research, technical & computer services
18	Rubber and plastic product mfg	45	Other business services
19	Non-metallic mineral product mfg	46	Central govt administration & defence
20	Basic metal manufacturing	47	Local govt administration
21	Structural, sheet and fabricated metal product mfg	48	Pre-school, primary, secondary & education
22	Transport equipment mfg	49	Other education
23	Machinery and other equipment mfg	50	Hospitals and nursing homes
24	Other manufacturing	51	Other health and community services
25	Electricity generation & transmission and gas supply	52	Sport, cultural and recreational services
26	Water supply	53	Personal and other services
27	Sewerage, drainage and waste disposal services		

Appendix C Maps of commercial land use in key locations

Figure 4-1 Commercial and vacant land uses in Kaitaia

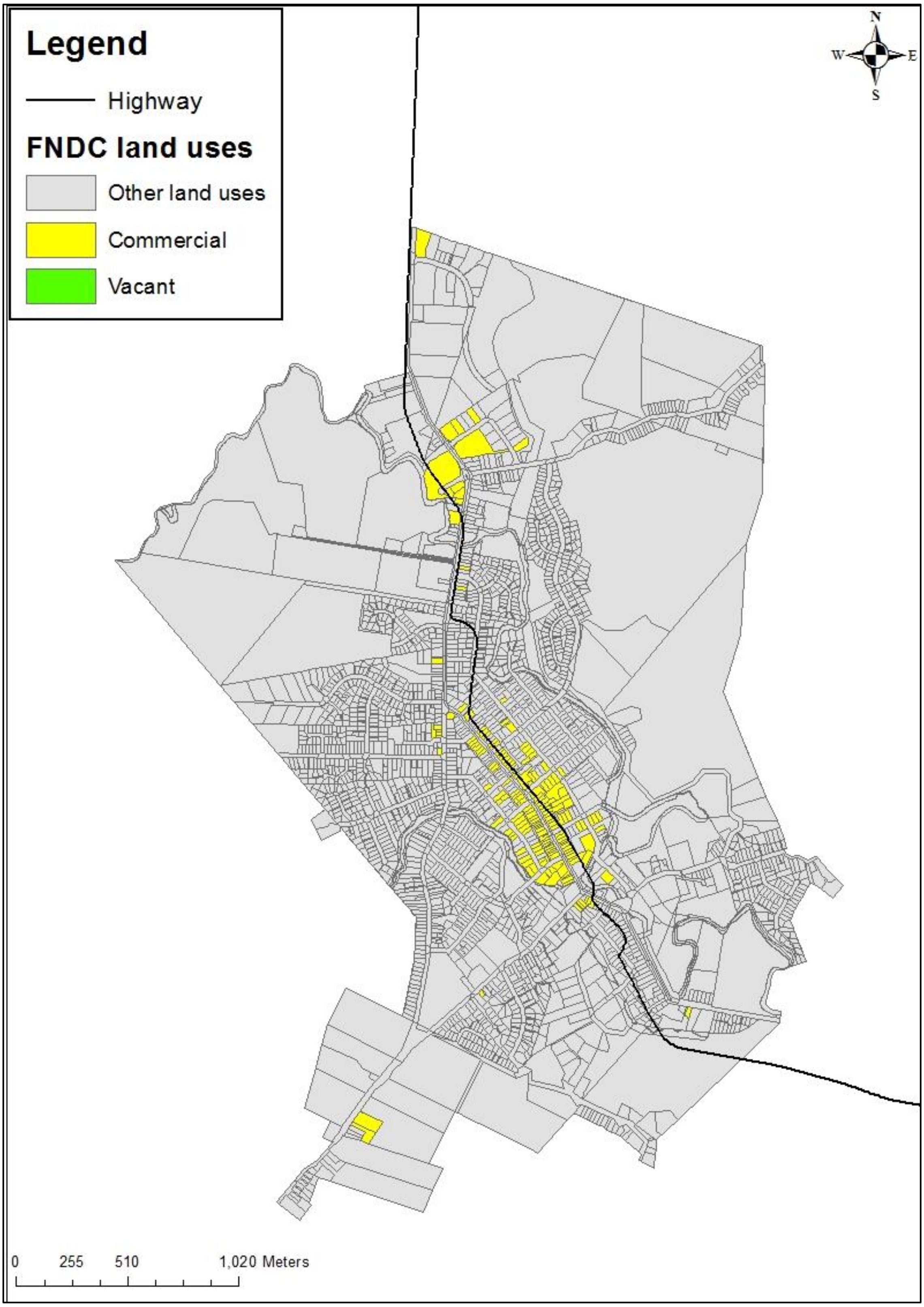

Figure 4-2 Commercial and vacant land uses in Kerikeri

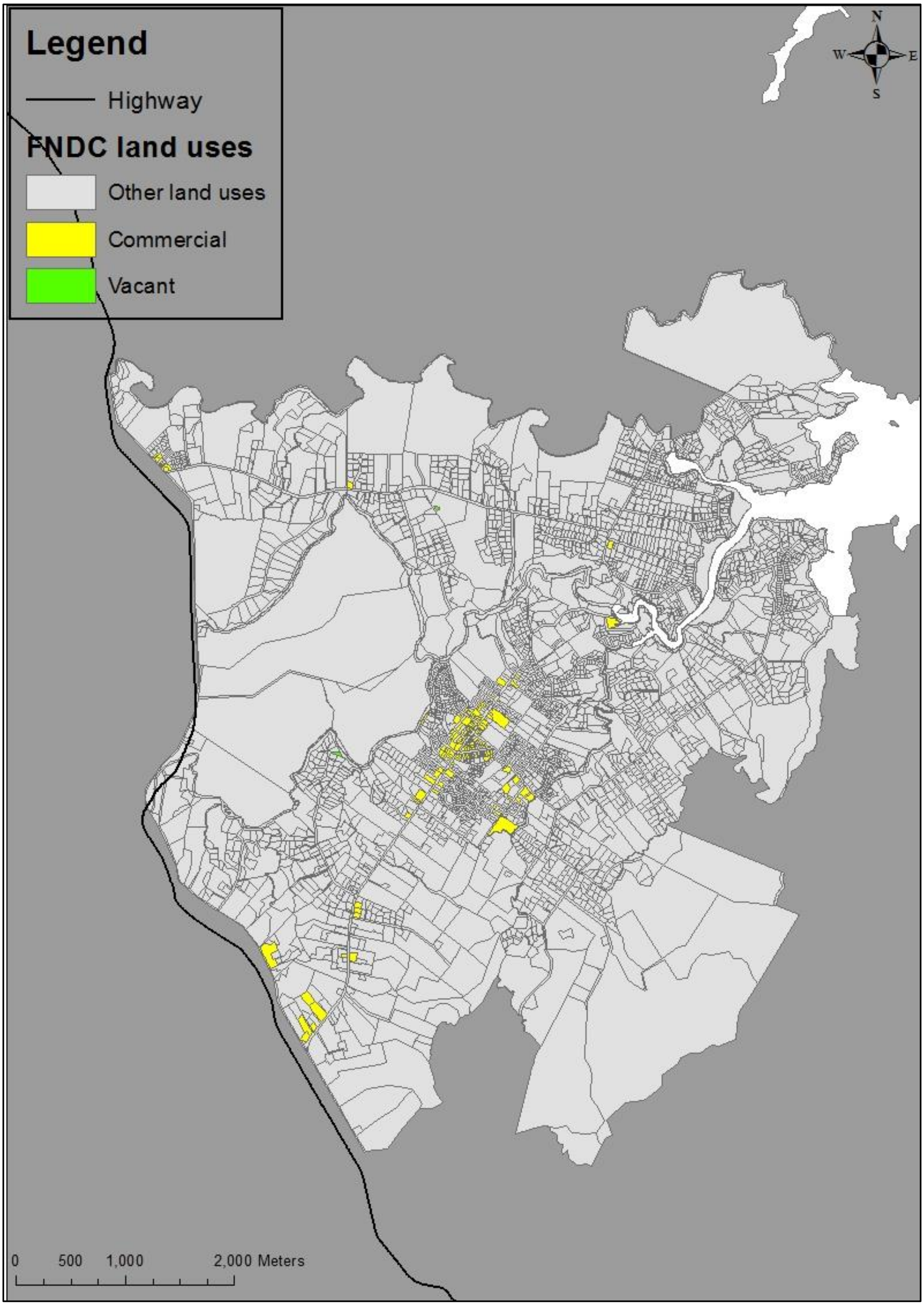

Figure 4-3 Commercial and vacant land uses in Kaikohe

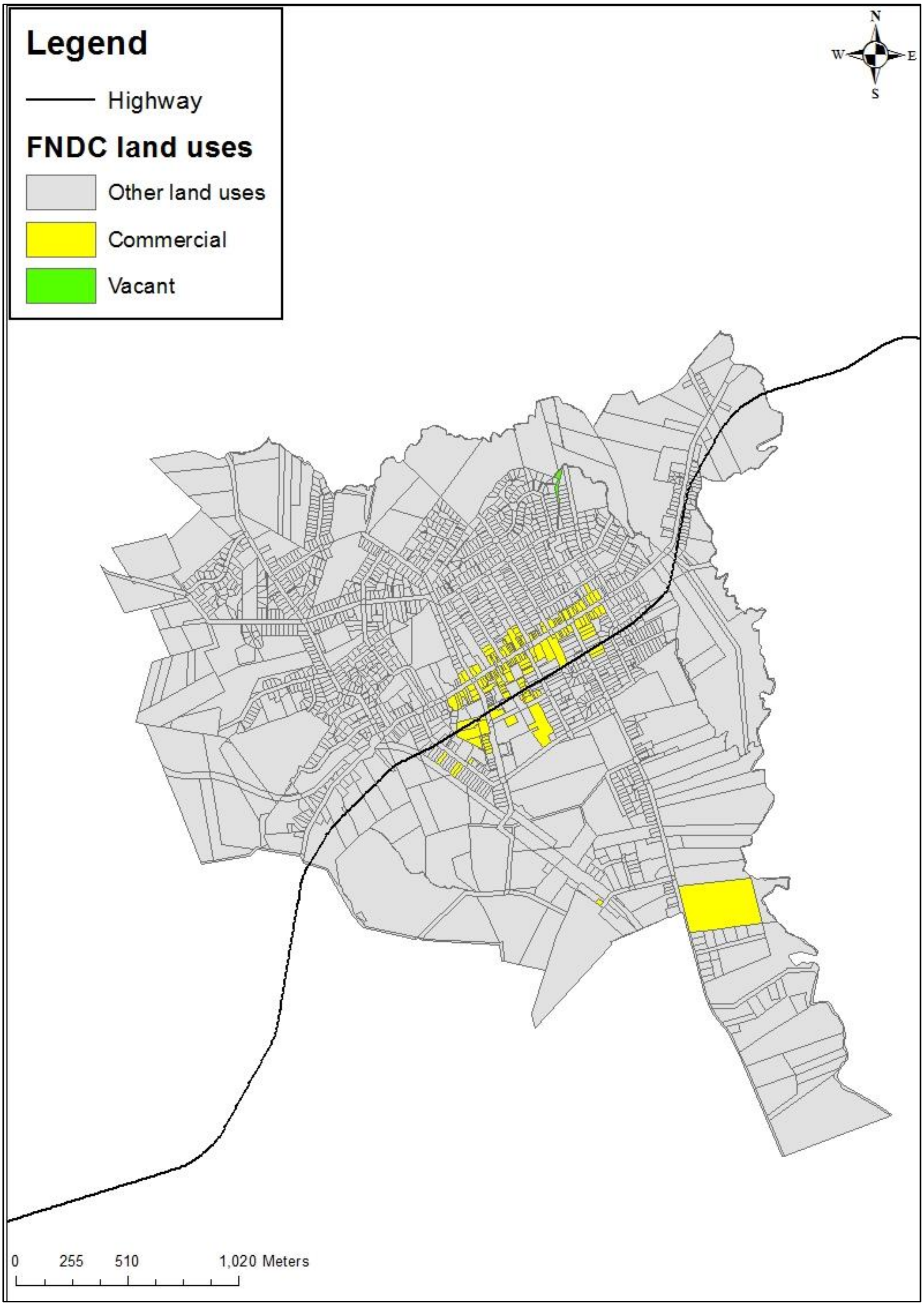

Figure 4-4 Commercial and vacant land uses in Opua-Paihia-Russell