

Drury Business Land Economic Impact Assessment

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Executive Summary

The Drury business land opportunity has the potential to become one of the largest Group 1 (defined as “Land Extensive Industrial Activities” (LEIA) in the Auckland Regional Policy Statement¹) business areas in the region. The area consists of approximately 361 ha adjacent to the Stevensons quarry and to the east of SH1, between the Drury interchange to the north and the Ramarama interchange to the south. This site area includes 201 ha designated for Group 1 industries and 22 hectares for supporting Group 2 activities (offices, food outlets and small scale retail premises).

The purpose of this report is to estimate the impact of the business land opportunity and how it will contribute to the regional economy. The study found that once fully operational, the land is expected to facilitate a \$780 million per annum direct contribution to regional GDP. Once the flow on effects are taken into consideration, the Drury site has the potential to help sustain total employment of 19,100 MECs across the region (with 6,900 MECs on site) and facilitate a \$2.3 billion per annum contribution to regional GDP.

It is clear that the Auckland Region has a significant shortage of suitably located and zoned Group 1 land. Failure to address that issue will see growth lost to other parts of the country or to other countries. In this light, the contribution to employment and regional GDP facilitated by the Drury opportunity can be seen as additional rather than displacing activity elsewhere and therefore does not threaten the viability of other business land developments locally or across the region. It is clear that due to the significant shortfall in supply of suitably located and zoned Group 1 land the Drury development will not generate adverse economic impacts on existing local business areas or those proposed for future development. The Drury development will in fact, stimulate activity in these business areas as Drury based businesses source suppliers locally to minimise costs.

Agricultural activities are considered the next best alternative use for the site. The contribution to employment and GDP this activity would generate has been estimated and compared to those generated under the business land use scenario. If the site was used for agricultural purposes it would only facilitate \$0.6 million direct contribution to regional GDP and \$1.9 million once the total flow on effects are taken into consideration.

¹ “Land Extensive Industrial Activities” are defined in the ARPS 6 to include “manufacturing, construction, wholesale trade and transport and storage and ancillary activities associated with these”. “Group 1 activities” have a similar definition.

In addition to the impacts generated by the site once it has been fully developed are the construction impacts. Although these are one off impacts they do make a considerable contribution and have been considered separately in this analysis.

If the development was not to go ahead it is likely that these impacts will be lost to the regional economy. This is because the shortage of Group 1 business land in the Auckland region and the specific locational requirements of these industries mean that if adequate land is not provided some businesses will be forced to locate outside the region.²

² The shortage of business land in Auckland and the Southern Sector in particular has been examined in *Industrial Land in the Southern Sector: A Strategic Assessment of Requirements and Opportunities*, Market Economics Ltd & OsborneHay Resource Management Practice (2010).

1 Introduction

Stevenson Group Ltd (SGL) is the sponsor of a project located in the Drury basin, to the east of SH1, between Drury interchange in the north, and Ramarama interchange in the south – adjoining the Drury quarry. It covers approximately 361 hectares of land of which SGL presently owns or controls approximately half of the estimated project area.

The project is about investigating the feasibility of establishing a new business area west of the Drury quarry and rationalising the quarry access routes to SH1. There is a shortage of business land in the Auckland region, particularly for industrial businesses including manufacturing, wholesale trade, construction, transport and storage.

This project creates an opportunity to consider better transport connections for the area. Regional and District plan changes and consents would be required for the project to proceed.

This report examines the economic impact that the proposed site will have on the Auckland economy.

1.1 Approach

In order to understand the impacts and implications of allowing the development of the Drury site, it is necessary to assess the development's expected contribution to the regional economy and to compare this with the opportunity cost of developing the site. This will allow a more informed decision on whether the development should proceed or not.

Contribution to the regional economy is measured through jobs sustained or facilitated by the development and in terms of gross output and most importantly, contribution to gross regional product (the regional equivalent of gross domestic product or value added). These are standard measures of economic activity and are compatible with the Council's assessment measures. This report presents the key economic measures associated with the Drury business land development and compares them with the impacts associated with using the land for agricultural purposes.

This assessment sits alongside the following report prepared for Stevensons Group and the Southern Sector Partners:

- *Industrial Land in the Southern Sector: A Strategic Assessment of Requirements and Opportunities*, Market Economics Ltd & OsborneHay Resource Management Practice (2011)

1.2 Report Structure

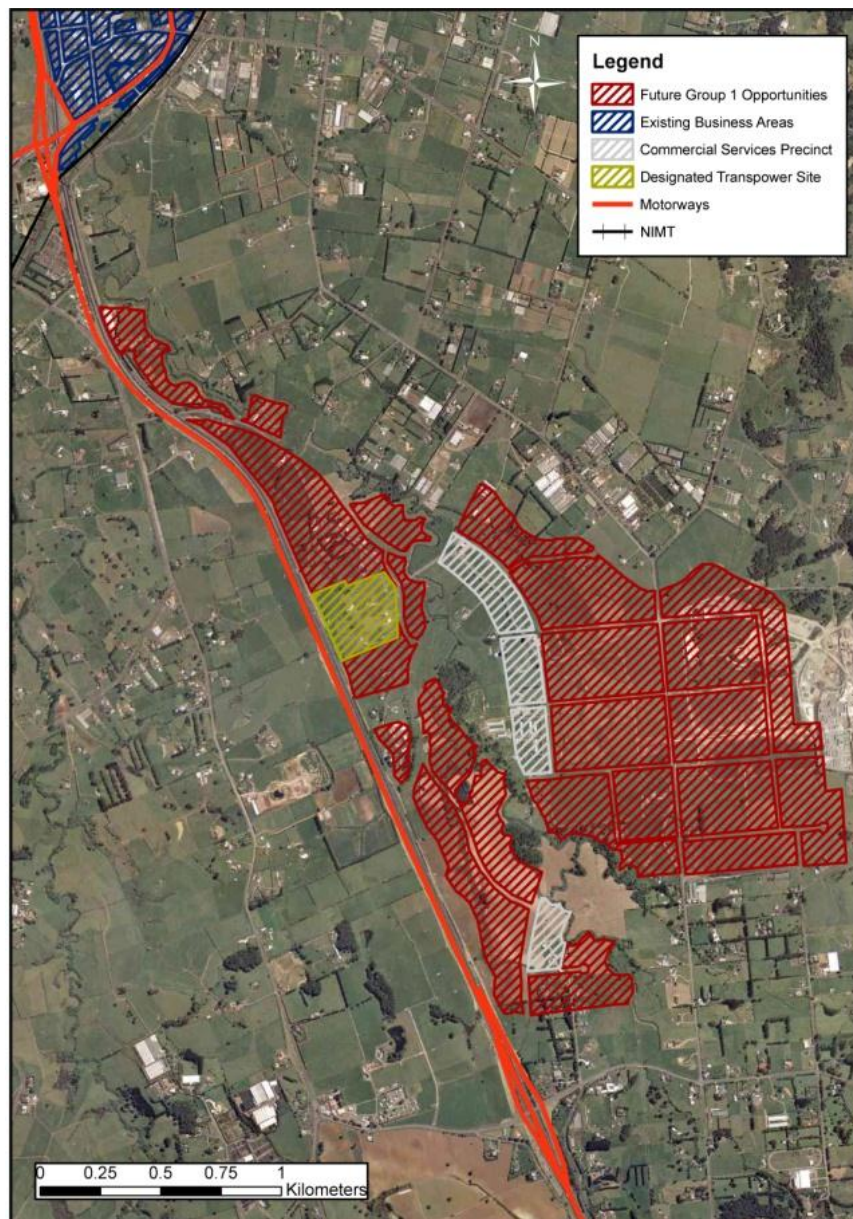
The approach taken allows for the examination of the development potential of the Drury Concept and compares this with the opportunity cost of using the project area for industrial purposes. The report is divided into the following sections:

- Section Two provides an overview of the proposed business land opportunity at Drury
- Section Three uses the information from previous assessments of employment capacity to estimate the numbers of workers that could locate on the Drury site.
- Section Four examines different possible industrial development scenarios and the mix of activities that could make the most of the Drury business land opportunity. There is no way of knowing exactly which businesses would choose to locate on the site, but having an idea of the types of industries that may locate there allows us to examine the potential impact of the development on the wider economy.
- In Section Five the potential impact of the business land development is examined in terms of employment, gross output and value added generated. The flow on impacts of the development to other businesses in the region is also examined.
- This is then compared with the impacts generated from using the land for agricultural purposes in Section Six.
- The overall net effect of the development and additional construction impacts are assessed in Section Seven.

2 The Drury Business Land Opportunity

The Drury business land opportunity consists of approximately 361 hectares (gross). Of this area, 201 ha has been designated for Group 1 activities and 22 ha for supporting Group 2 industries (Figure 2.1). The site is positioned between the Stevenson's Drury Quarry and State Highway 1 (SH1). It has access to SH 1 at both the Drury and Ramarama Interchanges. In common with many of the Auckland Region's peri-urban areas, there are Countryside Living Areas nearby but the proposed Drury LEIA area is well separated from existing or proposed urban residential zones.

Figure 2.1 Drury



The co-location of LEIA business activities with the existing Stevensons Quarry has mutual advantages as the quarry seeks to ensure it is protected from reverse sensitivity effects both in terms of its future extraction and processing operation (which has a 100 year life at high tonnage output) but also in terms of its aggregate haul routes to SH 1.

It is relatively near the labour force resident in the Manurewa-Papakura and the Franklin Wards of Auckland City. Additionally, the commuter rail services to Drury township is available with bus services possible from the Drury rail station and a planned park and ride facility at or near the station.

It is considered that the locational attributes of the site as well as the shortage of business land elsewhere in Auckland will mean that the Drury business land opportunity will not have problems attracting businesses to the location and that the site will be able to develop to its full potential.

3 Employment Capacity

In order to assess the total employment capacity of the Drury Business Land Opportunity this report draws on information from *Industrial Land in the Southern Sector: A Strategic Assessment of Requirements and Opportunities (2011)*. In this study, employment is measured in modified employment counts (MECs), a measure which combines employee count information (EC's) from Statistics New Zealand with number of people who are working proprietors and the self employed to give a more accurate estimate of the actual working population (for more information on MECs see Appendix 1).

The Southern Sector Industrial Land Assessment examined the employment density ratios in existing business areas with over 75% of employment in Group 1 industries and found there to be an average density ratio of 32.6 MECs per hectare and a Group 1 employment density of 26.8 MECs per hectare. These figures were calculated using the total hectares (net of roads) of each business area, as the areas located exclusively by Group 1 or Group 2 is unknown. This means that the Group 1 density ratio of 26.8 MEC/ha assumes that there are Group 2 industries located amongst the Group 1. It is not a measure of the actual density on any individual Group 1 site.

For the purposes of this report Group 1 employment density is factored down by 1.7% annually (base scenario) as anticipated high productivity gains in most of the Group 1 sectors are likely to result in fewer employees being required for each unit of output (workers/unit of output decreases). Nevertheless these productivity gains are unlikely to result in decreases in land requirements per unit of output, as machinery and inventory will still require considerable space (in other words, while the employment/unit of output declines, the unit of output/ha stays constant or increases at a lower rate, meaning the employment/ha is likely to fall). This means that as the economy grows and output increases, the land required also increases and although the number of workers also rises, it grows at a lower rate, resulting in a lower employment density.

In order to estimate the number of workers that will locate at the Drury site, an employment density 24.6 MECs per hectare has been used for Group 1 activity for 2011. This figure has been applied to the net total Drury business land area of 223 ha as per the discussion above. This area is made up of 201 ha of industrial zoned land as well as 22 ha of supporting business activities. The key difference between the Drury development and established Group 1 business areas is that in Drury the Group 2 activities are grouped into a single precinct rather than dispersed across the site. In the final analysis the total amount of land dedicated to ancillary Group 2 activities is entirely consistent with other industrial areas across the region.

In order to estimate the number of Group 2 workers that will locate on the Drury site an employment density of 64.6 MECs/ha has been applied. Again this is consistent with other comprehensively planned industrial/commercial developments across the Region (and has been applied in the Silverdale North business Park which will be developed along similar lines). Like Drury, the Silverdale development has approximately 10% of the site area devoted to supporting activities.

It is estimated that once the Drury Business Land Opportunity is developed to its full potential it could accommodate a total of 6,900 MECs with 5,500 MECs in Group 1 industries and 1,400 in Group 2.

4 Development Scenarios

It is not possible to determine the exact nature of business activity that will populate the proposed development once it is fully operational. It is however possible to gain some insight into the type and nature of activity in areas with similar characteristics to the Drury site, this can then form a template or a likely scenario for planning purposes.

To place the employment capacity of the Drury site in a wider context and establish if there is an existing business area that may prove helpful in designing a development plan for the Drury site, other business areas in the region have been examined. Wiri and East Tamaki were found to have similar characteristics to the Drury site and the structure of each of these areas is discussed in turn.

4.1 Wiri

The land areas of Drury and Wiri are similar, with Wiri being 221 ha and the Drury site being 223 ha (net). The location of both sites is the southern part of the city and historically, Wiri was developed as an industrial area on the urban fringe in much the same manner that the Drury land is on the current urban fringe. This means they share similar locational characteristics albeit separated by years of continuing development. In addition, the broad employment profile of Wiri is similar to that planned for Drury, with Group 1 activities predominating (80% of total employment, of which manufacturing accounts for over half).

The Wiri business area has employment densities of 30.6 MECs/ha for all workers and 24.5 for Group 1. In Drury it is anticipated the land will accommodate 31 MECs/ha of which 24.6 MECs/ha will be Group 1 (Table 4.1)

Table 4.1 Wiri and Drury Land and Employment Comparison

	Total Developed Business Zoned Land (Ha)	Emp Density (MEC/Ha)	GROUP 1 Emp Density (MEC/Ha)	TOTAL MECs	Employment Profile					
					Manu- facturing	Const- ruction	Wholesale Trade	Transport & Storage	Total Group 1	Total Other
Wiri	222	30.6	24.5	6,775	42%	6%	25%	8%	80%	20%
Drury	223	31.0	24.6	6,900	-	-	-	-	79%	21%

In 2006 the Wiri business zone employed 6,780 MECs of which 5,420 were in Group 1 activities. This compares to the projected employment for Drury of 6,900 MECs of which about 5,500 would be Group 1.

Wiri Economic Structure

As a guide to the final employment and activity mix likely at Drury, the Wiri business area provides a possible structure (Table 4.2: Wiri Economic Structure, 2006

In total the 5,420 Group 1 employees worked in 295 businesses at an average of 18.4 MECs/business.

In detail, the data shows;

- 25% of the employment activity is wholesaling (1,670 MECs in 114 businesses).
- Other Food Manufacturing accounts for 16% of the total workforce and when combined with Beverage and Tobacco mfg this accounts for more than 20% of employment.
- The Food Manufacturing businesses are large, almost 1,400 workers are employed in 16 companies at an average of 87 MECs/business, this compares with 14.4 MECs/business for the rest.
- The Construction sector makes up 6% of employment (the next largest Group 1 sector).
- Road Transport makes up 5%, although this has the potential to be significantly larger at Drury given its location and proximity to the Southern Motorway.
- The largest Manufacturing activity is Furniture Manufacturing followed by Textiles and Printing and Publishing. These three industries account for 10% of employment between them.
- Of the non Group 1 sectors, Business and Property Services is the largest followed by the Retail trade and Communications sectors.
- In general the non Group 1 businesses are small at an average of 7.5 MECs / business.

Table 4.2: Wiri Economic Structure, 2006

	Employment 2006	Employment Share 2006	Businesses 2006	Business Share 2006
Group One				
Meat and meat product Mfg.	-	0%	-	0%
Dairy product Mfg.	-	0%	-	0%
Other food Mfg.	1,090	16%	14	3%
Beverage, malt and tobacco Mfg.	310	5%	2	0%
Textile and apparel Mfg.	210	3%	6	1%
Wood product Mfg.	80	1%	13	3%
Paper and paper product Mfg.	10	0%	1	0%
Printing , publishing and recorded media	210	3%	11	2%
Petroleum and industrial chemical Mfg.	-	0%	-	0%
Rubber, plastic and other chemical product Mfg.	200	3%	7	1%
Non-metallic mineral product Mfg.	80	1%	9	2%
Basic metal Mfg.	-	0%	-	0%
Structural, sheet, and fabricated metal prod. Mfg.	210	3%	13	3%
Transport equipment Mfg.	50	1%	7	1%
Machinery and equipment Mfg.	150	2%	21	4%
Furniture and other Mfg.	220	3%	17	4%
Construction	430	6%	32	7%
Wholesale Trade	1,670	25%	114	24%
Road transport	360	5%	12	3%
Water and rail transport	10	0%	1	0%
Air transport, services to transport and storage	130	2%	15	3%
TOTAL GROUP ONE	5,420	80%	295	62%
Other Industries				
Agriculture	-	0%	1	0%
Mining	20	0%	1	0%
Electricity, Gas & Water Supply	-	0%	-	0%
Retail Trade	310	5%	57	12%
Accommodation, Cafes & Restaurants	-	0%	1	0%
Communications Services	240	4%	3	1%
Finance & Insurance	10	0%	20	4%
Property & Business Services	590	9%	81	17%
Government Administration & Defence	-	0%	-	0%
Education	40	1%	4	1%
Health & Community Services	40	1%	4	1%
Cultural & Recreational Services	-	0%	2	0%
Personal & Other Services	100	1%	7	1%
TOTAL OTHER INDUSTRIES	1,350	20%	181	38%
TOTAL	6,770	100%	476	100%

4.2 East Tamaki

East Tamaki is a more recent industrial/business park development than Wiri and provides clues as to likely newer businesses seeking Group 1 locations. It is also significantly larger than either the projected size of the Drury development or existing Wiri Industrial area.

East Tamaki Economic Structure

In 2006 East Tamaki had 1,810 businesses in total employing some 21,070 MECs, of which approx 14,640 were engaged by the 1,050 Group 1 activities. In detail;

- Wholesaling made up 19% of employment and 23% of businesses.
- Machinery and Equipment Manufacturing and Structural, Sheet and Fabricated Metal Product Manufacturing are the next largest Group 1 sectors with 9% and 8% of employment respectively.
- As with Wiri, the Food Manufacturing businesses (Meat and Meat products, Dairy products, other Food and Beverage, Malt and Tobacco Manufacturing) are the largest. In East Tamaki they average 30 MECs / business compared with 14 MECs/ business for the rest of Group 1.
- Significant numbers are also employed in Rubber, Plastic and other Chemical product Manufacturing (1,110 MECs).
- East Tamaki has a slightly less Group 1 focus than Wiri with 69% of employment engaged in Group 1 compared to 80%.
- This is primarily due to the large Property and Business services sector which employs some 4,100 MECs or 20% of the total. As East Tamaki is a large business area it has sub areas within it which focus on office and commercial activities.
- The next largest non Group 1 sector is retailing with 400 MECs or 2% of total employment activity.

Table 4.3: East Tamaki Economic Structure, 2006

	Employment 2006	Employment Share 2006	Businesses 2006	Business Share 2006
Group One				
Meat and meat product Mfg.	230	1%	7	0%
Dairy product Mfg.	40	0%	1	0%
Other food Mfg.	780	4%	27	1%
Beverage, malt and tobacco Mfg.	330	2%	3	0%
Textile and apparel Mfg.	220	1%	23	1%
Wood product Mfg.	320	2%	33	2%
Paper and paper product Mfg.	70	0%	4	0%
Printing , publishing and recorded media	520	2%	28	2%
Petroleum and industrial chemical Mfg.	110	1%	5	0%
Rubber, plastic and other chemical product Mfg.	1,110	5%	58	3%
Non-metallic mineral product Mfg.	540	3%	20	1%
Basic metal Mfg.	230	1%	12	1%
Structural, sheet, and fabricated metal prod. Mfg.	1,650	8%	100	6%
Transport equipment Mfg.	170	1%	13	1%
Machinery and equipment Mfg.	1,800	9%	87	5%
Furniture and other Mfg.	740	4%	46	3%
Construction	940	4%	114	6%
Wholesale Trade	4,070	19%	409	23%
Road transport	320	2%	28	2%
Water and rail transport	30	0%	6	0%
Air transport, services to transport and storage	420	2%	23	1%
TOTAL GROUP ONE	14,640	69%	1,047	58%
Other Industries				
Agriculture	10	0%	1	0%
Mining	20	0%	1	0%
Electricity, Gas & Water Supply	400	2%	3	0%
Retail Trade	840	4%	183	10%
Accommodation, Cafes & Restaurants	150	1%	18	1%
Communications Services	180	1%	4	0%
Finance & Insurance	150	1%	76	4%
Property & Business Services	4,100	19%	422	23%
Government Administration & Defence	-	0%	-	0%
Education	30	0%	2	0%
Health & Community Services	210	1%	11	1%
Cultural & Recreational Services	50	0%	11	1%
Personal & Other Services	290	1%	32	2%
TOTAL OTHER INDUSTRIES	6,430	31%	764	42%
TOTAL	21,070	100%	1,811	100%

5 Economic Impact of the Business Land Opportunity

The Drury project site does not, in and of itself generate output or contribute to GDP (other than the direct contribution generated through the construction process discussed below), rather it facilitates production. However, given the identified shortage of Group 1 business land both currently available and currently zoned for future development, the land at Drury represents a significant opportunity to accommodate future Group 1 activity growth. In the absence of Drury (and other potential locations of similar ilk), Auckland's economy will fail to reach its potential. Growth will be diverted to other regions, potentially other countries (simply due to lack of space) and industrial land prices will rise further reducing the competitiveness of established industry.

The potential contribution of businesses locating at the Drury development has been assessed by applying the mix of activities found in the Wiri business area to the employment capacity available at Drury. While the actual activities which would occur on the Drury site are unknown, the employment structure at Wiri has been used to serve as an indicator of a possible outcome. Wiri was chosen as it is an established area and has a high share of employment in Group 1 activities. This activity scenario has then been used to estimate the distribution of employment at Drury by sector then translated into output and contribution to GDP using regional multipliers and productivity ratios (note that all dollar values presented in this section are in 2008 terms).

The Auckland Councils revised version of the Economic Futures Model (EFM) has been used to generate medium growth projections of future employment, output and GDP for each of the 48 sectors of the regional economy. This model provides a projection of a Business as Usual future for the region without the influence of Councils strategic direction. To assess the potential overall contribution to the economy, regional average Gross Output and GDP per employee ratios have been developed from the EFM and applied to employment estimates for the Drury business land development.

Note that it is important to assess economic impacts in net terms, therefore an assessment of the principal land use alternative has been generated and outputs subtracted from the fully developed Drury future. The opportunity costs are assessed in Section 6, below.

5.1 Direct Impacts

Under the Wiri employment structure, direct gross output or direct turnover generated on the Drury site is expected to be \$1.9 billion per annum once fully developed (Table 5.1). To place this in context, in 2006 gross output for the whole Auckland Region was approximately

\$118.2 billion (\$2008). Therefore the likely gross output under this scenario is equivalent to approximately 1.6% of 2006 regional gross output.

Table 5.1: Drury Direct Economic Impacts (\$2008)

Direct Impact Measure	Impacts
Employment (MECs)	
Group 1 Employment	5,500
Other Employment	1,400
Total Direct Employment	6,900
Output (\$m)	
Group 1 Gross Output	1,630
Other Gross Output	250
Total Direct Gross Output	1,880
Value Added (\$m)	
Group 1 Value Added	620
Other Value Added	160
Total Direct Value Added	780

Rounded Numbers

The expected value added generated under the Wiri model is \$780 million per annum. Again, to place this in context, total value added for the Auckland Region in 2006 was \$62.4 billion (\$2008). Therefore projected value added under the Wiri scenario represents approximately 1.25% of total value added in the Auckland Region. This is lower than the turnover share as Group 1 activities have (in general) lower rates of value added per dollar of output than the economy average. This does not make them less important activities rather it reflects the mix of inputs required to produce the goods these activities generate.

5.2 Total Regional Impacts

It is also important to understand the likely flow on effects of the activity potentially housed within the Drury development. Flow on effects occur in a number of ways, firstly, businesses locating at Drury require inputs from other businesses in the region in order to produce their goods. In turn, Drury business suppliers purchase additional goods and services from *their* suppliers to meet the additional demands. At each step businesses add value, employ staff, pay wages take profits and generate turnover (gross output). These effects are termed the 'indirect effects' as they indirectly relate to the development of the Drury business land and the activity that occurs there. They are captured in input output terms by the Type 1 multiplier.

A second round of effects occurs as employees in businesses locating at Drury and in supplier businesses spend part of the wages and salaries generated by the additional Drury

land activity. Retail traders, wholesalers and the producers of retail goods and services must increase their production to meet this additional demand, which generates employment, value added and so on. This effect is termed the induced effect and is captured by the Type 2 multiplier.

In total, these multipliers capture all additional economic activity - output, employment and value added, generated by businesses located on the Drury land. Table 5.2 summarises the estimated direct, indirect and induced effects of the proposed Drury development under the Wiri development scenario.

Table 5.2: Detailed Drury Total Economic Impacts (\$2008)

Total Regional Impact Measure	Impacts
Employment (MECs)	
Group 1 Employment	16,200
Other Employment	2,900
Total Direct Employment	19,100
Output (\$m)	
Group 1 Gross Output	4,110
Other Gross Output	560
Total Direct Gross Output	4,670
Value Added (\$m)	
Group 1 Value Added	1,940
Other Value Added	330
Total Direct Value Added	2,270

Rounded Numbers

In summary, the proposed Drury business land development has the potential to sustain total regional output equivalent to around \$4.7 billion (once fully developed). It would support total regional employment of some 19,100 MECs and contribute around \$2.3 billion annually to regional GDP.

This assessment shows that the Drury site should facilitate a considerable contribution towards regional output and value added. An alternative way to consider this is, if this development does not proceed and other suitable land was not identified and developed, it is possible that this direct contribution would be lost to the region.

6 Opportunity Cost

In deciding whether or not to allow the Drury site to be used for industrial purposes, it is also important to examine the opportunity cost of the development.

6.1 Direct Impacts

In the report “*Drury South Land Use Classification Analysis*”, Perrin Ag Consultants Ltd have examined the soil quality of the project area and potential agricultural uses for the Drury site. They recognise that much of the project area is not used to its full economic potential due to the number of lifestyle properties, as well as there being the remnants of a native forest, riparian plantings and urban development. As such, they have assumed that only 70% of the project area could be used for agricultural production and have examined the gross margin of alternative activities. In particular, they have investigated the feasibility of growing brassicas, and maize as well as intensive dairying, drystock finishing and breeding ewe. Growing potatoes was also considered, as the crop is a predominant activity in the district, however due to the poor returns growers have received in recent years, this is considered unfeasible. From their analysis MEL have been able to estimate the potential revenue and employment generated by these activities (Table 6.1).

Table 6.1 Alternative Uses for Project Area

Land Use Category	Estimated Effective Area (Ha)*	Total Revenue/ Output	Gross Margin (Direct VA)*	Employment (MECs)
Fresh Brassicas	13.4	\$ 194,000	\$ 33,000	2
Fresh Potatoes	-	\$ -	\$ -	-
Maize Silage	27.1	\$ 106,000	\$ 31,000	1
Dairying	126.2	\$ 475,000	\$ 297,000	2
Drystock finishing	102.1	\$ 1,593,000	\$ 274,000	15
Breeding ewe flock	11.3	\$ 11,000	\$ 6,000	0
TOTAL	280.1	\$ 2,379,000	\$ 639,000	20

Numbers have been rounded

**Estimates from Drury South Land Use Classification Analysis, Perrin Ag Consultants Ltd, Oct 2009*

It is estimated that if the land were developed to its full agricultural potential it could generate \$2.4 million in output and \$0.6 million in gross margin. Perrin Ltd remind us that considerable capital investments in things such as farm equipment and infrastructure would be needed before it would be possible to make these returns. They warn that the cost of this, as well as the cost of obtaining necessary resource consents is not adequately reflected in their estimates of gross margin and that this is a generous estimate of the potential opportunity cost of the site.

6.2 Region-wide Impacts

In addition to the indirect and induced effects of production on the region, using the land for agriculture has wider impacts as agricultural goods are often used as inputs in the manufacture of other products, (e.g. fruit in beverage making). The production of additional inputs means that more of the secondary output can be produced; these are known as forward linkage effects.

In the case of the project area at Drury, it is thought that due to the prevalence of lifestyle blocks and the increasingly urbanised titles, it would be difficult to establish a large commercial property. Instead of being an input in further production, it is likely that horticultural products grown on the site would be sold at markets. The only potential land use that is likely to have considerable forward linkages is the dairy farming industry.

Using input-output modelling, the share of raw milk solids purchased by different industry sectors and consumers has been examined. From this model we estimate that 62% of the Auckland Region's milk solids are exported to other regions within New Zealand, much of this is likely to go to Waikato for further production. It is also estimated that 32% will go to the dairy product manufacturing sector with the remaining 8% going to other industries and consumers in the economy. If these shares are applied to the potential output figures in the Drury Project Area it is estimated that an additional \$146,100 worth of milk solids will be available to the dairy product manufacturing industry. If all other inputs required by that sector are also available to it, then the industry will be able to produce an additional \$2.02 million of output, \$0.22 million of value added and will require 3 extra workers (Table 6.2).

Table 6.2 Forward Linkage Effects

Land Use Category	Estimated Effective Area (Ha)	Total Revenue/ Output	Gross Margin (Direct VA)	Employment (MECs)
Dairying	126.2	2,022,000	218,000	3

The total region wide impacts of using the Drury site for agricultural production is shown in Table 6.3. This includes the direct, indirect and induced impacts of this alternative land use as well as the impacts of the forward linkage from dairying to dairy product manufacturing.

Table 6.3 Total Region Wide Impacts of Using the Project Area for Agricultural Production

Land Use Category	Estimated Effective Area (Ha)	Total Revenue/ Output	Gross Margin (Direct VA)	Employment (MECs)
Fresh Brassicas	13.4	\$ 398,700	\$ 66,300	3
Fresh Potatoes	-	\$ -	\$ -	-
Maize Silage	27.1	\$ 198,300	\$ 61,500	2
Dairying	126.2	\$ 3,818,200	\$ 1,125,900	11
Drystock finishing	102.1	\$ 3,364,200	\$ 684,700	21
Breeding ewe flock	11.3	\$ 23,200	\$ 4,700	0
TOTAL	280.1	\$ 7,802,600	\$ 1,943,100	37

Numbers have been rounded

If the Drury project area is developed to its full agricultural potential it could generate \$7.8 million in regional output, 1.9 million in value added and 37 jobs. This is just a fraction of what could be generated if the site was used for industrial purposes.

7 Net Impacts

The Drury Project Area has the potential to be used for industrial purposes or for agriculture – in an economic sense. The estimated impacts of the two alternative land uses, in terms of employment, gross output and value added have been placed alongside each other for easy comparison in Table 7.1.

Table 7.1 Net Impacts of Proposed Development

	Business Land	Agriculture	Net Impact
Employment			
Direct Impacts	6,900	20	6,880
Total Impacts	19,100	37	19,063
Gross Output (\$m)			
Direct Impacts	\$ 1,880	\$ 2.4	1,878
Total Impacts	\$ 4,670	\$ 7.8	4,662
Value Added (\$m)			
Direct Impacts	\$ 780	\$ 0.6	779
Total Impacts	\$ 2,270	\$ 1.9	2,268

If the project area is used for business land purposes it has the potential to sustain 6,900 jobs at the site and 19,100 in the region, whereas if the land was used for agriculture the direct and region wide impacts would be 20 and 37 respectively. For each measure it is clear that the business land use opportunity will make a significantly greater contribution towards economic growth in the region.

Furthermore, due to the shortage of business land Auckland runs the risk of these businesses locating elsewhere and the associated economic impacts and benefits being lost to the region.

7.1 Additional Construction Impacts

In addition to the impact of the businesses that will locate on the site, the construction of the area will also contribute to regional output, GDP and employment. Construction effects are treated differently from ongoing operational impacts as they are only relevant during the construction phase, for this reason they have been kept separate from the previous analysis. However, the effects are real and the construction sector is a very large sector of the economy, therefore it needs to be included in a comprehensive assessment of economic impacts.

Often it is assumed that construction would occur elsewhere in the region to accommodate a similar volume of businesses. However given the obvious shortage of Group 1 land available in the region the principal alternative to the Drury site is likely to be a site further down State Highway One in Pokeno or elsewhere in the Waikato Region. If the development happened here the construction effect and all other impacts will be lost to the Auckland economy.

7.1.1 Approach

The Drury Project area is 223 ha net of roads, it is assumed that building site coverage will be between 25% and 33%, that is construction occurs on between 55ha and 73ha, with the balance of land being yard, and parking. A floor area ratio of 1.0 has been used which reflects the assumption that the vast majority of buildings will only have one level. While it is likely that some buildings will have more than one storey, our estimates are conservative. Using these numbers it was possible to work out a range of the estimated gross floor area of buildings on the proposed development.

It was also assumed that on average the buildings would cost \$1,200/m² to develop. The approximate cost of the development has been calculated using this ratio and the estimates of the gross floor area, this is the direct contribution that construction of the development will make to regional gross output.

Estimates of value added and employment were calculated using the ratios of gross output to value added and gross output to employment for the construction sector. Multipliers were then used in order to estimate the total gross output, employment and contribution to regional GDP effects of the construction.

7.1.2 Construction Impacts

Using the assumptions above it is estimated that the gross floor area of buildings on the proposed Drury site would be between 558,300m² and 736,900m². The total cost of the buildings and the direct contribution that the construction will make to gross output is estimated to be between \$670 million and \$880 million over the development life of the Drury site. This translates to direct regional GDP or value added of between \$100 million and \$130 million. It is estimated that between 1,800 and 2,300 MECs will be directly employed to develop the site.

Table 7.2: Drury Site Construction Economic Effects (\$2008)

Direct Construction Impacts	25% Site Coverage	33% Site Coverage
<i>Estimated Gross Floor Area (m2)</i>	558,300	736,900
Direct Effects		
Cost/Gross Output (\$m)	670	880
Value Added/GDP (\$m)	100	130
Employment (MECs)	1,800	2,300
Total Construction Impacts		
Gross Output (\$m)	1,920	2,540
Value Added/GDP (\$m)	620	820
Employment (MECs)	8,700	11,500

Rounded Numbers

The construction sector generally has high multipliers at the regional level. This is because the sector is highly locational, in that it derives much of the materials and inputs from local markets rather than importing. Therefore, when the indirect and induced impacts of the development are included it is estimated that the development will make a total contribution of between \$620 million and \$820 million to regional GDP (or value added). Additionally, the development will support the employment equivalent of between 8,700 and 11,500 MECs working for a year in the region over the duration of the development.

8 Conclusions

The Drury business land opportunity has the potential to become one of the largest Group 1 developments in the region (5,500 Group 1 MECs and about 6,900 in total). While the final mix of potential tenants is not known, growth across all sectors of the economy and the large land shortfall mean that the development is unlikely to have a problem attracting tenants, rather decisions on the type and nature of the development wanted will determine the final mix.

Once fully operational, the land is expected to facilitate a \$780 million per annum direct contribution to regional GDP. Once the flow on effects are taken into consideration, the Drury site has the potential to help sustain total employment of 19,100 MECs across the region and facilitate a \$2.3 billion per annum contribution to regional GDP.

Agriculture is considered the next best alternative to using the land for industrial purposes, if the site was used for this purpose it has the potential to facilitate \$7.8 million in regional output \$1.9 million in regional value added and sustain 37 jobs. This is a significantly smaller contribution than that provided by the industrial option.

In addition, the construction effects of an industrial development will provide a one off impact that will generate between \$620 million and \$820 million in regional GDP (depending on the site coverage) and sustain employment equivalent to 8,700 to 11,500 MECs for the time of the development.

The proposed Drury business land opportunity of 223 ha presents a unique opportunity to help address the large Group 1 land shortfall in the Auckland Region. If adequate land is not found within the region it is likely that businesses will choose to locate elsewhere and the economic benefits that the site could facilitate would be lost to the region.

Appendix 1 Modified Employment Counts (MECs)

Since 2004, EC has been the key measure of employment for SNZ. It is a head count of all salary and wage earners for a particular month based on IRD tax data. This is mostly employees, but can include working proprietors who pay themselves a salary or wage (i.e. are also employees). However, those working proprietors who take drawings from their business but not wages or salary are not counted in the EC due to the data collection method. Many owners of small businesses are not employees (for example - dairy owners, builders, small fishing businesses, and service business owner-operators). Thus EC by its nature is an undercount of actual employment.

Recently, statistical information has become available from the SNZ LEED system, which provides counts of the numbers of working proprietors in each sector of the economy, and some detail on the numbers of working proprietors who are not also employees. That data suggests that working proprietors who are not employees account for around 15% of total employment.

This LEED data has been utilised by MEL to develop another measure of employment, the Modified Employment Count (MEC). This includes both the Employee Count and the estimated working proprietors, to provide a more comprehensive measure of total employment, for each sector and location.

The MEC estimates are developed from:

- Linked Employer-Employee Data (LEED): Annualised employment data by industry disaggregated as to employees (E) and self-employed people (WP). Self-employed people were disaggregated further into those who pay themselves a salary or wage (S) and those who do not (N). The WP(S) persons are most likely to be *included* in the Employee Count, while the WP(N) persons are most likely to be workers *additional* to the EC.
- Business Frame (BF) data: the annualised (as at February 2006) Employee Count (EC) data. Employees (E) and self-employed people who pay themselves a salary or wage (S) identified by LEED are essentially the same as Employment Count (EC) as measured by the BF (i.e. $E + S = EC$).
- The BF data has been used to estimate the ratio (E:S) of employees (E) to working proprietor employees (WP(S)) included in the BF, and then to estimate the number

of other working proprietors who are not counted by the BF (WP(N)). The ratio of total working proprietors to working proprietor employees was also calculated.

- SNZ Business Demography and LEED: The number of geographic units (business locations), by firm size³ by industry.
- LEED: total self-employed persons by firm size by industry.

This data provided the basis to estimate the numbers of non-employee working proprietors in each industry, for each year 2000-2006, for each firm size, for each industry. The BF data on the numbers of firms (geo units) of each size by industry in each location was used to estimate the numbers of non-employee working proprietors in each industry in each location, for 2000-2006.

The output from this process is an estimate of the number of non-employee WPs for each industry and location. These estimates are added to the BF data, to provide the Modified Employment Count (MEC).

³ Firm size groups are 0 employees, 1 to 5, 6 to 9, 10 to 19, 20 to 49, 50 to 99 and 100+ employees.