

SOCIO-ECONOMIC IMPACT REPORT

For temporary accomodation village in Singleton



Prepared for The MAC services group

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Photo source: The MAC Services Group

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EXECUTIVE SUMMARY

The MAC is proposing to develop a site on Putty Road Glenridding as a temporary accommodation village to service mining, engineering and construction workforces. The site is approximately 2.5 kilometres from Singleton town centre. The accommodation would be built in stages to meet ongoing demand. Currently in the master planning stage, the 43 hectare site could accommodate a resort-style village with a likely initial stage of 300 to 400 rooms with potential to a maximum of 1,500 rooms.

Overall Conclusion

Support exists for the proposed MAC development within the Singleton community. There is negativity mostly around the high numbers of mining and mine related employees in the region. There is also some negative perceptions about the proposed temporary accommodation village, mostly from small businesses who anticipate some impact on their operations.

In summary:

- Mining is a crucial part of the Singleton LGA economy. Mining is the largest contributor to industry value added in Singleton LGA representing 40 percent of FTE employment and 45 percent of industry value added.
- The economic impact is reasonable and rational for the first stage 400 room development, whilst being larger for the 1,500 room facility
- The Impact On Local Businesses shows varying degrees of negative and positive benefits to business. However, there may be slightly higher negative impacts on the accommodation sector and real estate sector during the current mining downturn.

Socio-Economic Profile

The socio-economic profile shows that:

- With a population of 22,694 persons, Singleton LGA's population growth has exceeded that of both Hunter Statistical Division and Regional NSW (ABS Cat No 3218.0).
- The population of Singleton LGA increased by 10.5 percent between the years 2001 and 2011 and is projected to steadily increase beyond the average for Hunter Statistical Division and Regional NSW out to 2036.

- Singleton LGA has a younger profile when compared to Hunter Statistical Area Level 4 and Regional NSW, with the median age of residents 35 years.
- In 2011-12 the Gross Regional Product (GRP) of Singleton LGA was \$1,706 million, representing approximately \$132,000 per full time equivalent (FTE) job in the region. Mining is the dominant sector.
- The largest occupation by employment for Singleton LGA is Machinery and Stationary Plant Operators representing 9 percent of the workforce. This is significantly higher than in Hunter Statistical Division and Regional NSW
- Median weekly rental as a percentage of average taxable income is only marginally higher for Singleton LGA compared to Hunter Statistical Division Balance, Regional NSW (excluding Sydney) and overall New South Wales. The findings for Singleton LGA need to be treated cautiously, as they created as a proportion of the average taxable incomes reported for the Local Government Area and this may obscure important differences in those employed in mining and related industries and those who are in other sectors of the economy with lower average incomes.
- Singleton LGA has eight hotels, motels and serviced apartments with 15 or more rooms. Hunter Tourism Region consists of 15 LGA's which in turn consists of 100 establishments with 15 rooms or more.

Economic Impacts

Both the construction phase and operational phase of the proposed MAC development will have an impact on Singleton LGA.

In the 400 room development stage the construction phase will contribute:

- An additional \$6.0 million in gross regional product;
- An additional \$3.9 million in household income; and
- An additional 61 full time equivalent (FTE) jobs. Other than the construction sector, the sectors estimated to benefit most in terms of FTE are administrative services, hospitality and retail trade.

In the 400 room stage, the operational phase will contribute:

- An additional \$3.9 million in gross regional product
- An additional \$2.6 million in household income
- An additional 64 FTE jobs. The sectors that will benefit

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most are the hospitality, food and beverage and retail sectors.

For the 1,500 room development stage, construction would contribute:

- An additional \$19 million in gross regional product;
- An additional \$12.5 million in household income; and
- An additional 195 full time equivalent jobs. Again, other than the construction sector, the sectors estimated to benefit most in terms of FTE are administrative services, hospitality and retail trade.

For the 1,500 room development stage the operational phase would contribute:

- An additional \$10.8 million in gross regional product
- An additional \$7.1 million in household income and
- An additional 177 full time equivalent (FTE) jobs.

It should be noted that the estimates for the 1,500 room facility are measured in total and not additional to the 400 room facility.

Impact on Local Businesses

Face to face and telephone interviews were conducted with 17 businesses within the Local Government Area of Singleton to determine the likely economic impact of the establishment of the proposed Mac facility on the Singleton business community. The key competitors included those that offer similar services to the proposed MAC facility, including real estate operators, accommodation providers and cafes/restaurants. Additionally, interviews with Singleton Shire Council and with the Singleton Chamber of Commerce were also conducted.

The views expressed by respondents from local business included:

- Real Estate sector concerns appear to have been influenced to a large degree by a recent downturn in mining. In times of regular production however, The MAC facility will be needed to meet demand that outstrips the supply of properties for sale and for rent in Singleton.
- Licenced premises in Singleton may be affected if their customers are attracted to the dining facilities available at The MAC. However, businesses may also benefit from a potential increase in visitors to the area.

- Cafes/restaurants may also benefit from increased visitor numbers. However, The MAC could put further strain on the limited staff pool in Singleton.
- Accommodation providers maintain that The MAC facility may have some negative impact on the local accommodation sector, particularly during the current mining downturn. However, increased competition could be beneficial for consumers.
- Fitness centres are likely to be unaffected, and acknowledged the potential to grow their business if they could engage with the new residents.
- Singleton Shire Council and the Chamber of Commerce were concerned about the impacts on labour supply and support for the local economy through local sourcing of goods. Both acknowledged the need to work with The MAC to address these issues.

Wider Community and Social Issues

A broad assessment of the wider community and social issues relating to the development of The MAC facility was based on face to face and telephone interviews along with a literature review of the social impact of mining on rural and regional communities.

The social issues raised in the interviews were:

- Impact on roads
- Impact on infrastructure and critical services
- Insufficient accommodation in the LGA
- The impact of a concentration of single men
- The impact on immediate neighbours
- Impact on the Singleton community
- Impact on agricultural land

Impact on roads

An increase in the volume of traffic on the roads in Singleton is expected with expansion in the mining sector in the region. The MAC facility may reduce the impact on roads if employees are encouraged to travel to and from work by bus; and/or if being accommodated at the facility reduces the length of the journey to and from their place of work.

Impact on infrastructure and critical services

The MAC facility will provide "fit for purpose" accommodation for the mining workforce, whereas currently mine workers are

accommodated in diverse and ad-hoc arrangements. From a planning perspective, The MAC Services Group will be able to provide Council with accurate data about additional volumes expected in the associated systems such as town water and sewerage, as well as for critical services such as health and policing. This will inform the development of sound and adequate infrastructure, whereas current housing arrangements are less readily quantifiable.

Potential benefits from the development of facilities that could be available to the wider community as well as the opportunity to utilise legacy infrastructure are substantial and could benefit future developments in the region.

Insufficient accommodation in the LGA

A very recent downturn in mining had been linked to improved availability of accommodation in Singleton. However, mining, engineering and construction have a strong ongoing presence in the region, and it is most likely that additional accommodation will be needed. The development of The MAC facility has the potential to decrease demand for accommodation in Singleton, creating greater opportunities for tourist visits, greater affordability in the rental market and vacancies for emergency housing.

Concentration of single men

Recorded crime statistics, indicate that aside from Break and Enter into cars, crime has remained stable in Singleton. It is unlikely that a concentration of single men at The MAC facility would result in a significant increase in anti-social behaviour. The location of the facility away from the town centre may help alleviate resident concerns of the fear of crime. Facility management could work to overcome the anxieties of existing Singleton residents by developing links and dialogue with the Singleton community.

Impact on Immediate Neighbours

The development of the facility, if it proceeds, is likely to change the character and value of the surrounding properties, though the impact on agriculture should be negligible. The MAC has indicated that the facility will have landscaped gardens to minimise noise which may mitigate the impact on immediate neighbours.

Impact on the Singleton community

Singleton has grown faster than regional NSW generally over the past decade. The often criticised presence of workers and contractors to the region will continue independently of where workers are accommodated. The MAC facility will decrease the impact of increased worker numbers due to the facility's location some distance from the township and the inclusion of a dining room. Whilst it is hoped that the miners will still patronise local businesses, their large presence in the township may be reduced to some degree. In addition to this, efforts to better integrate residents of The MAC facility into the Singleton community could also reduce the "us and them" divide and reduce tensions between locals and the facility residents.

Impact on agricultural land

In order to house a large number of mine workers, housing development is likely and this may encroach upon agricultural land on the periphery of the township. By centralising accommodation for the mining workforce, the development of The MAC may reduce the need for growth into agricultural areas closer to the township. Furthermore, there is potential for The MAC facility to eventually provide higher density housing for the mine workforce, than provided by standard residential developments. This means that less land may need to be diverted in order to accommodate the same number of workers.

1. INTRODUCTION

1.1 Background

Established in 1998, the MAC Services Group Pty Ltd (The MAC) specialises in the provision and management of accommodation facilities for the resources industry.

The MAC is proposing to develop a site on Putty Road Glenridding as a temporary accommodation village to service mining industry workforces as well as workforces for engineering, construction and infrastructure projects. The site is approximately 2.5 kilometres from Singleton town centre. The accommodation would be built in stages to meet ongoing demand. Currently in the master planning stage, the 43 hectare site could accommodate a resort-style village with an initial 300 to 400 rooms with potential to a maximum of 1,500 rooms.

The development will include the following facilities for its residents:

- Gym and fitness facilities
- Lap pool
- Tennis court
- Outdoor recreational areas and a central park/lawn
- Communal dining facilities
- Convenience shop

Other proposed features of the development are:

- A community meeting hall or community centre.
- Demand will influence a staged development, with Stage 1 consisting of 400 rooms. The master plan provides for a capacity of up to 1,500 rooms.
- Potential to expand to defence and infrastructure project workforce dimensions.
- Potential for a small portion of rooms to be available to the general public.
- Preservation of agricultural land due to reduction in residential sprawl.
- Bus transport to and from the mine.

The Western Research Institute (WRI) has prepared this report for The MAC in support of a Development Application pertaining to the above development. The report assesses the economic, social and competitive impacts of the development on the Singleton community.

The report provides a broad assessment of the likely impacts and identifies and discusses some key issues pertinent to the development that were identified by members of the Singleton community and in the relevant literature.

1.2 Methodology

The approach taken to complete the assessment included:

- Singleton LGA profile development using Australian Bureau of Statistics (ABS) and other government agency data, with comparisons to the Hunter Region and Regional NSW. Metropolitan Sydney was excluded from comparisons as it is not a regional area.
- Community consultation involving both individual and small group interviews. Businesses and key stakeholders were selected from key sectors and organisations most likely to be impacted.
- A Literature review of research on the social and economic impact of mining, mining accommodation and fly-in/fly-out or drive-in/drive-out workforce patterns on regional communities. (See Appendix 1 for the Literature Review)
- Economic Impact analysis using the Simulating Impacts on Regional Economies (SIRE) input-output model of the Singleton Local Government Area developed by WRI. (See Appendix 2 for a description of the SIRE input-output model)

1.3 Report Outline

This report is structured as follows.

Section 2 provides a socio-economic profile of the Singleton LGA. The material includes summary information about a range of social and economic characteristics for Singleton. Where appropriate comparisons are drawn between Singleton LGA and the comparison regions of Hunter Statistical Division, Hunter Statistical Division Balance, Hunter Statistical Area 4 or Hunter Tourism Region, along with Regional New South Wales (excluding Sydney).

Section 3 estimates the economic contribution of The MAC development in terms of full-time equivalent jobs, household income and gross regional product, in both the construction phase and ongoing operational phase.

Section 4 seeks to determine whether the performance of any businesses in Singleton LGA is likely to be adversely affected by The MAC development. This section reports the results of interviews with business owners or managers in industries that may compete with services provided by The MAC facility, for example hotels, motels and rental accommodation. Singleton Shire Council and Chamber of Commerce were also interviewed. An assessment of the likely impact of The MAC facility for each industry group is included, as are concerns, raised in the interviews.

Section 5 explores the possible community impacts/benefits of The MAC development on Singleton LGA, assessing social issues associated with The MAC development. Further interviews were conducted with Hunter Local Area Command and the Hunter New England Local Health District. Each identified social issue is examined with reference to interview results and relevant elements of the literature review, with an overall assessment provided.

A conclusion to the report is provided in Section 6.

2. SOCIO-ECONOMIC PROFILE

Singleton LGA: The Facts

Singleton Local Government Area is located 80 kilometres north-west of Newcastle. The 2011 Census recorded the following key characteristics:

Population

- The population of Singleton LGA was 22,694 persons
- 51% of the population were male
- 49% of the population were female
- 22% of the population were under the age of 15 years and 10% over 65 years

Education

- 30% of the population were attending an educational institution

Employment

- 3.3% of the population were unemployed on census night, compared to 5.9% for New South Wales

Singleton is in the centre of the Hunter Valley Region of New South Wales, approximately 200 kilometres north-west of Sydney. A profile of the key demographic and socio-economic characteristics of Singleton was undertaken as part of the overall socio-economic assessment of the proposed development.

A comparison was provided wherever possible with:

- Hunter Statistical Division
- Hunter Statistical Division Balance
- Hunter Statistical Area 4 (SAL4)
- Hunter Tourism Region
- Regional New South Wales (NSW excluding Sydney).

Multiple data sources have been utilised by WRI for the profile including the Australian Bureau of Statistics (ABS), the New South Wales Department of Planning and Infrastructure (DPI), the Department of Education, Employment and Workplace Relations (DEEWR), the Australian Taxation Office (ATO) and the Bureau of Crime Statistics and Research (BOSCAR).

2.1 Population

With a population of 22,694 persons, Singleton LGA's population growth has exceeded that of both Hunter Statistical Division and Regional NSW (ABS Cat No 3218.0).

The population of Singleton LGA increased by 10.5 percent between the years 2001 and 2011, with an average rate of increase of 1.0 percent per annum. However, the rate of increase has not been consistent each year. The Index of Population (see Figure 2.1) shows that population levels increased by 2.0 percent in 2005 before slowing to 0.1 percent in 2007.

Over the same period of time, the Hunter Statistical Division experienced a population increase of 9 percent between 2001 and 2011. The Index of Population clearly highlights that the population of the Hunter Statistical Division has steadily increased over this time. The population levels of Regional NSW increased by 6.48 percent between 2001 and 2011 (an annual growth rate of 0.63 percent per year).

2.2 Population projections

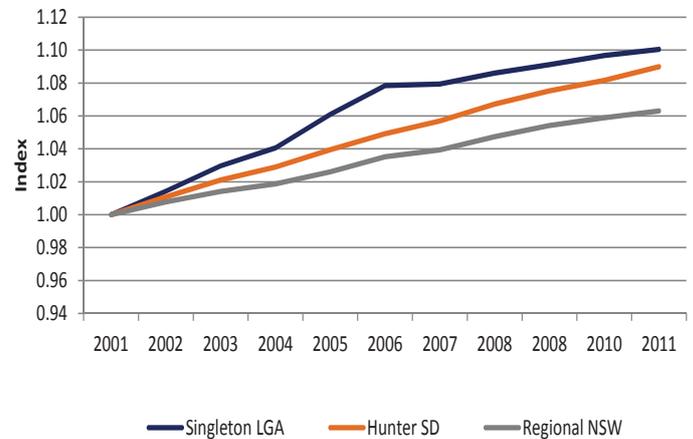
New South Wales Department of Planning and Infrastructure population projections at a local area level appeared in April 2010.

The population of Singleton LGA is expected to increase from 22,900 persons in 2006 to 31,800 persons in 2036. This is a projected increase of 38.86 percent between 2006 and 2036.

As indicated by the Index of Population (see Figure 2.2), the population of Singleton LGA is projected to steadily increase beyond the average for Hunter Statistical Division and Regional NSW.

The Hunter Statistical Division Balance is projected to increase between 2006 and 2036 by 28.40 percent. The Index of Population indicates that the population of this statistical division will increase steadily over this time period. Regional NSW is also expected to grow 21.70 percent between 2006 and 2036, and at a steady rate.

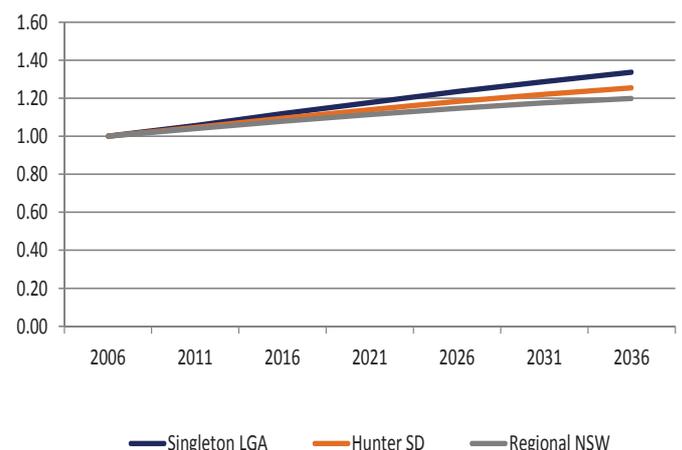
Figure 2.1 Index of Population – base year 2001



Source: ABS 3218.0 Regional Population Growth, Australia

Note: Estimated Resident Population data is only available at Statistical Division Level

Figure 2.2: Index of population projections – base year 2006



Source: Department of Planning and Infrastructure, NSW Statistical Local Area Population Projections, April 2010

Note: Population projection data is only available for Hunter Statistical Division Balance

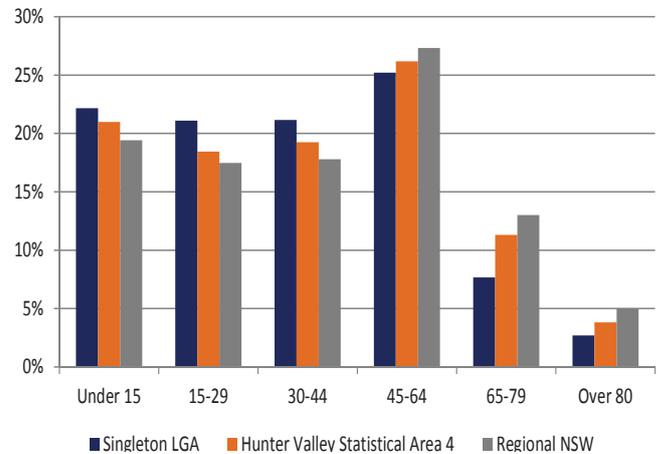
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2.3 Age structure

Singleton LGA has a younger profile when compared to Hunter Statistical Area Level 4 and Regional NSW, with the median age of residents 35 years.

The three areas, Singleton LGA, Hunter Statistical Area Level 4 and Regional NSW, have the highest proportions of their populations in the 45 to 64 years bracket. Singleton LGA did however report the lowest proportion within this age bracket in comparison to the other two areas. Singleton LGA has a higher proportion of its population in the Under 15 to 44 year bracket compared to Hunter statistical Area Level 4 and Regional NSW. The proportion of the population above the age of 65 significantly drops for all three areas of investigation, with Singleton LGA recording only 2.7 percent of the population above the age of 80.

Figure 2.3 Age Structure



Source: ABS 2011 Census

Note: Age data is available at Statistical Area Level 4. Hunter SAL4 does not include Newcastle.

2.4 Education qualifications

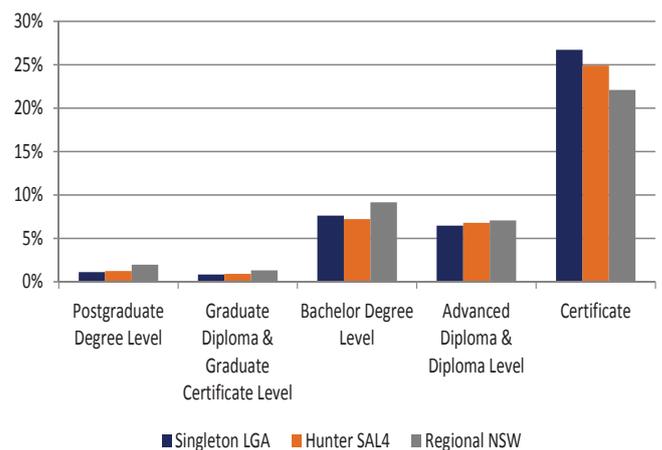
Singleton LGA has a higher proportion of people with certificate (including trade) qualifications.

Singleton LGA has a greater proportion of the population aged 15 years and over with post school qualifications compared to Hunter Statistical Area Level 4 and Regional NSW (excluding Sydney). In Singleton LGA, 43 percent of the population has post school qualifications, compared to 41 percent in Hunter SAL4 and 42 percent in Regional NSW.

For Singleton LGA and Hunter SAL4, the proportion of the population over 15 years with a certificate level qualification is higher than that for Regional NSW (27 percent and 25 percent compared to 22 percent). For all three comparison areas, the proportion of the population over 15 years with a Diploma or Advanced Diploma is similar (between 6 percent and 7 percent).

However, both Singleton LGA and Hunter SAL4 have a lower proportion of the population over 15 years with a Postgraduate Degree, Graduate Diploma or Bachelor Degree than Regional NSW.

Figure: 2.4 Proportion of the population over 15 years of age with post school qualifications



Note: Education data is available at Statistical Area Level 4. Hunter SAL4 does not include Newcastle.

2.5 Industry structure

The dominance of mining in the Singleton area is clear in Figure 2.5.

In 2011-12 the Gross Regional Product (GRP) of Singleton LGA was \$1,706 million, representing approximately \$132,000 per full time equivalent (FTE) job in the region.

In 2011-12, the top five contributions to FTE employment in Singleton LGA were:

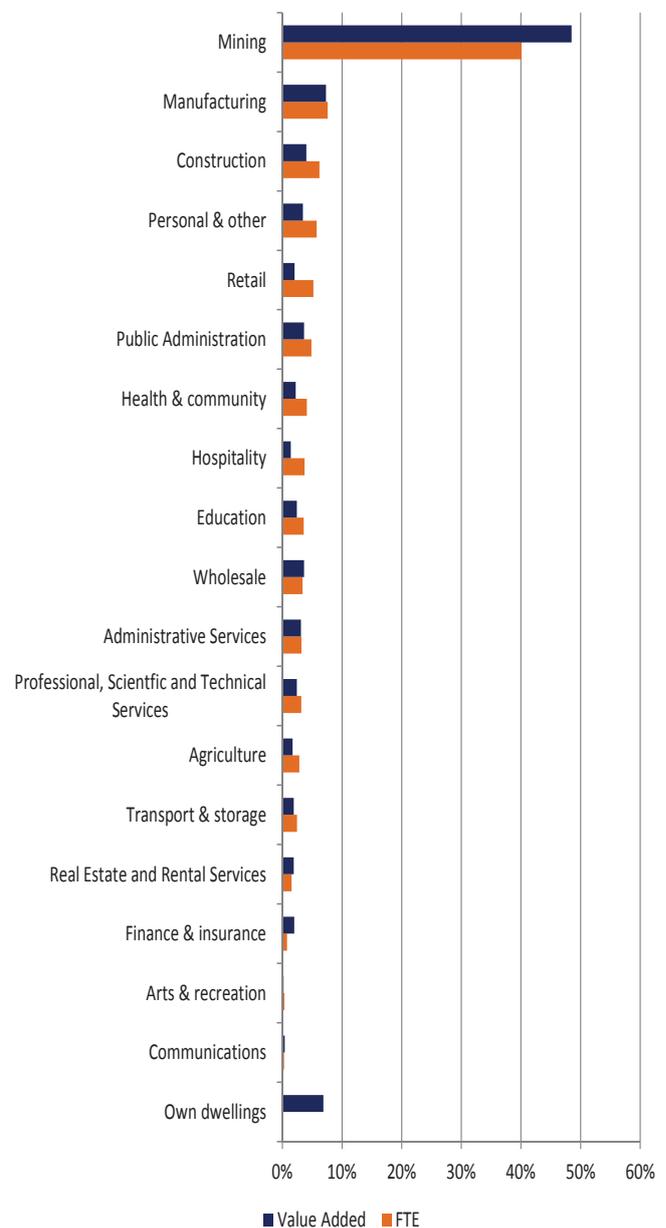
- Mining
- Manufacturing
- Construction
- Personal and Other Services
- Retail

Together, these sectors contributed 65 percent of FTE employment. However, there are considerable variations in the contribution to employment and value added as shown in figure 2.5.

Mining is the largest contributor to industry value added in Singleton LGA representing 40 percent of FTE employment and 48 percent of industry value added. This sector is dominated by coal mining which represents almost 38 percent of FTE employment and almost 45 percent of industry value added in Singleton LGA.

Manufacturing is the second largest contributor to industry value added in Singleton LGA representing 7 percent of industry value added and 8 percent of FTE employment in 2011-2012. Within this sector, the largest contributors are food and beverage manufacturing, machinery and equipment manufacturing and chemical products manufacturing.

Figure 2.5 Percentage contributions to GRP and FTE employment by industry



Source: ABS and WRI SIRE Input-Output Model

Note: WRI SIRE input-Output model uses employment figures that are based on place of employment and full time equivalent employment.

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2.6 Occupation

The largest occupation by employment for Singleton LGA is Machinery and Stationary Plant Operators representing 9 percent of the workforce. This is significantly higher than Hunter Statistical Division and Regional NSW (see table 2.1).

This employment category also attracts high average incomes, being ranked second behind Design, Engineering, Science and Transport Professionals for the Singleton LGA.

The average income in Singleton LGA for Design, Engineering, Science and Transport Professionals is significantly higher than Hunter Statistical Division and Regional NSW (see table 2.2).

The second largest occupation by employment in Singleton LGA is Automotive and Engineering Trade Workers. This

type of employment accounts for 8 percent of Singleton LGA compared to 5 percent in Hunter Statistical Division and 4 percent in Regional NSW. This occupation classification reported the eighth highest average income in Singleton LGA.

Sixteen of the twenty highest average income occupation classifications in Singleton LGA report higher average incomes when compared to the same occupation groups in Hunter Statistical Division and Regional NSW overall. The four occupations that recorded lower average incomes in Singleton LGA compared to Hunter Statistical Division and Regional NSW overall were Protective Service Workers, Health Professionals, Education Professionals and Construction Trade Workers (see table 2.2).

Of the top 20 occupations by average income, Singleton LGA recorded the highest at \$71,678. Hunter Statistical Division and Regional NSW both recorded much lower average incomes in these categories recording \$59,194 and \$54,886 respectively.

Table 2.1 Top 20 Occupations by employment

	Singleton LGA	Hunter SD	Regional NSW
Machine and Stationary Plant Operators	9%	3%	2%
Automotive and Engineering Trades Workers	8%	5%	4%
Mobile Plant Operators	5%	1%	1%
General Clerical Workers	4%	4%	4%
Design, Engineering, Science and Transport Professionals	4%	3%	3%
Sales Assistants and Salespersons	4%	5%	5%
Specialist Managers	3%	4%	4%
Road and Rail Drivers	3%	3%	3%
Other Clerical and Administrative Workers	3%	4%	4%
Education Professionals	3%	5%	6%
Engineering, ICT and Science Technicians	3%	2%	2%
Health Professionals	3%	5%	5%
Carers and Aides	3%	4%	4%
Chief Executives, General Managers and Legislators	2%	3%	3%
Electro technology and Telecommunications Trades Workers	2%	2%	2%
Hospitality Workers	2%	3%	3%
Office Managers and Program Administrators	2%	2%	3%
Cleaners and Laundry Workers	2%	2%	2%
Other Labourers	2%	2%	2%
Hospitality, Retail and Service Managers	2%	3%	3%

Source: ABS 5673055003_8A Wage and Salary Earner Statistics for Small Areas, Time Series, 2008-2009

Table 2.2 Top 20 Occupations by average income

	Singleton LGA	Hunter SD	Regional NSW
Design, Engineering, Science and Transport Professionals	\$103,363	\$78,402	\$71,720
Machine and Stationary Plant Operators	\$101,364	\$85,431	\$74,984
Engineering, ICT and Science Technicians	\$98,499	\$66,004	\$59,643
Specialist Managers	\$95,492	\$75,359	\$70,268
Mobile Plant Operators	\$91,830	\$68,124	\$52,651
Electro technology and Telecommunications Trades Workers	\$87,961	\$71,060	\$64,777
Chief Executives, General Managers and Legislators	\$85,832	\$70,142	\$65,484
Automotive and Engineering Trades Workers	\$80,776	\$63,683	\$55,456
ICT Professionals	\$79,511	\$66,993	\$68,035
Business, Human Resource and Marketing Professionals	\$75,096	\$59,020	\$55,701
Other Technicians and Trades Workers	\$74,545	\$44,499	\$36,935
Road and Rail Drivers	\$60,851	\$50,746	\$47,427
Office Managers and Program Administrators	\$54,581	\$51,251	\$50,226
Protective Service Workers	\$54,412	\$57,637	\$59,932
Construction and Mining Labourers	\$54,108	\$45,299	\$42,245
Health Professionals	\$50,543	\$57,337	\$54,929
Education Professionals	\$49,306	\$52,740	\$52,211
Construction Trades Workers	\$48,688	\$42,649	\$40,142
Other Labourers	\$43,528	\$37,651	\$33,268
Health and Welfare Support Workers	\$43,274	\$39,853	\$41,686
Total	\$71,678	\$59,194	\$54,886

Source: ABS 5673055003_8A Wage and Salary Earner Statistics for Small Areas, Time Series, 2008-2009

2.7 Unemployment

Singleton LGA has recorded significantly lower unemployment rates over the last five quarters compared to Hunter Statistical Division and Regional NSW (see figure 2.6).

The unemployment rate for Singleton LGA in the June Quarter 2012 was 1.6 percent. In comparison, Hunter Statistical Division recorded 4.3 percent while Regional NSW recorded 5.4 percent over the same time period.

However, Singleton LGA has experienced an increase in the unemployment rate between the June Quarter 2011 and the June Quarter 2012. In contrast, unemployment levels in Regional NSW have remained steady over the same period of time.

2.8 Housing affordability

The affordability of housing in Singleton LGA was examined using a ratio of median house prices to average taxable income and median weekly rental as a percentage of average weekly taxable income.

Figure 2.7 highlights that, on average, Singleton LGA is more affordable compared to Hunter Statistical Division Balance, Sydney Statistical Division and overall New South Wales. Singleton LGA is only slightly more affordable than Regional NSW.

Median weekly rental as a percentage of average taxable income is only marginally higher for Singleton LGA compared to Hunter Statistical Division Balance, Regional NSW (excluding Sydney) and overall New South Wales. Only the region of Sydney Statistical Division has a higher median weekly rental as a percentage of average taxable income compared to Singleton LGA (see figure 2.8). Sydney Statistical Division rental was much higher at 44 percent.

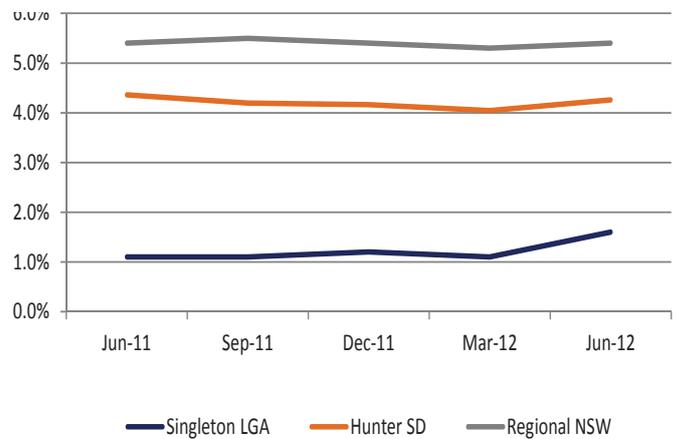
The findings for Singleton LGA are, to a large degree, being driven by the high average taxable incomes reported for the Local Government Area.

Source: NSW Department of Housing December 2011 Quarter and ATO 2009/10

Source: NSW Department of Housing March 2012 Quarter and ATO 2009/10

Note: Statistical Division data is being used

Figure 2.6 Unemployment Rates June Quarter 2011 – June Quarter 2012



Source: DEEWR Small Area Labour Markets

Figure 2.7 Ratio of median house price to average taxable income

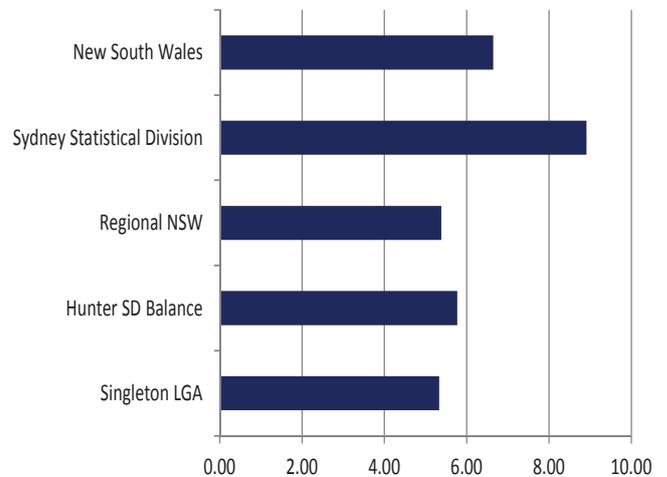
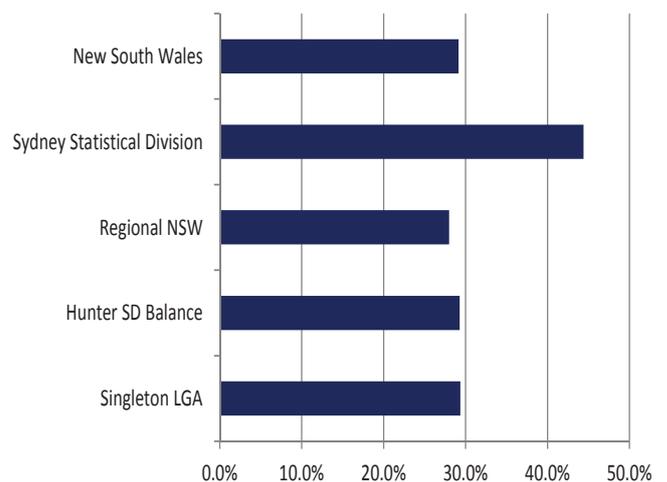


Figure 2.8 Median weekly rentals as percentage of average weekly taxable income



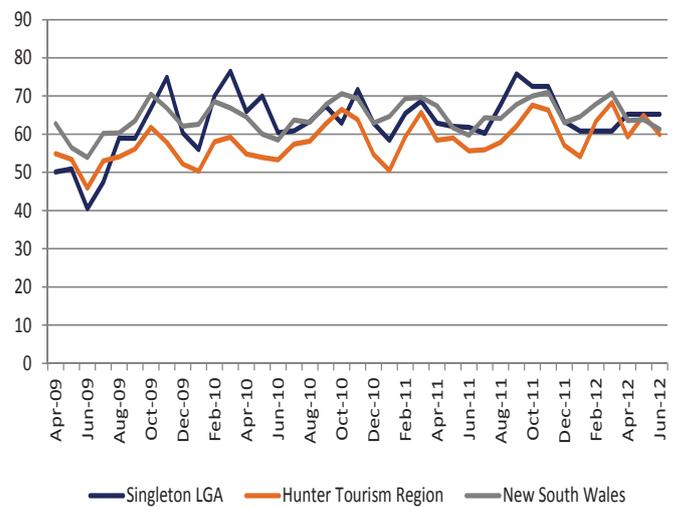
2.9 Occupancy rates

Singleton LGA has eight hotels, motels and serviced apartments with 15 or more rooms. Hunter Tourism Region consists of 15 LGAs which in turn consists of 100 establishments with 15 rooms or more.

Since April 2012 Singleton LGA has recorded a greater rate of occupancy compared to the Hunter Tourism Region and overall New South Wales. However, this was not the case between the months December 2011 and March 2012 when Singleton LGA recorded a much lower rate of occupancy in comparison to Hunter Tourism Region and New South Wales overall.

The occupancy rate for the first half of 2012 was generally higher than for the same period in 2009. The highest occupancy rates appear to occur in March, September or November.

Figure 2.9 Room occupancy rate April 2009 - June 2012



Source: ABS Tourist Accommodation, Small Area Data, NSW

Please Note: data is not provided for Hunter Statistical Division so Hunter Tourism Region has been used as a comparison. Some months had no recorded data for the occupancy rates. For these months, an average was used based on the same month in past years.

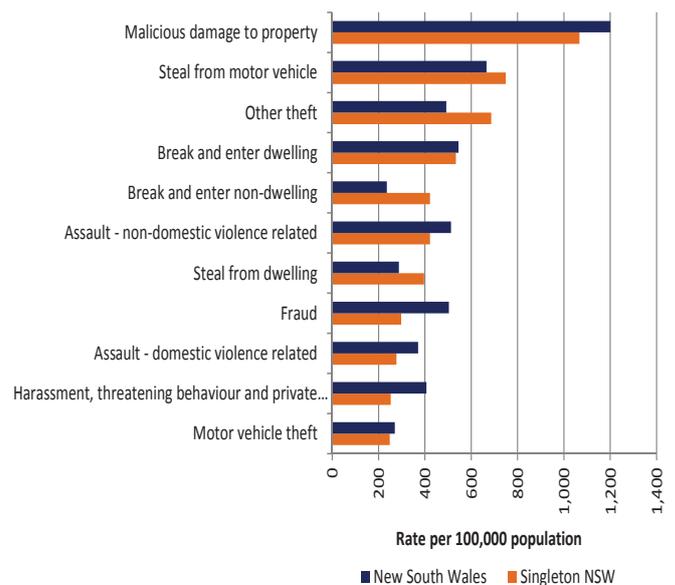
2.10 Crime statistics

The most prevalent offence recorded in Singleton LGA between 2007 and 2011 was malicious damage to property. However, the number of incidences of this offence has declined over this period by 17.3 percent between 2007 and 2011. According to the rate of crime incidences per 100,000 population, malicious damage to property was also the highest in Singleton LGA. This offence did record a lower rate compared to New South Wales overall and has been declining since 2009.

The most notable increase in an offence was stealing from motor vehicles. This increased by 115.5 percent between 2006 and 2011. The number of instances of fraud in Singleton LGA has also significantly grown between the years 2007 to 2011, with an increase of 80 percent over this time.

According to the rate of crime incidences per 100,000 population, only four of the top ten recorded a higher rate than New South Wales overall (see figure 2.10). Theft was also substantially higher for Singleton LGA compared to New South Wales overall. In comparison, theft ranked third of the top ten incidences of crime however had declined by 0.6 percent between 2007 and 2011.

Figure 2.10 Rate of crime incidences per 100,000 populations



Source: Bureau of Crime Statistics and Research

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Table 2.3 Incidents of crime – Top 10 – Singleton LGA 2007 – 2011

Singleton LGA	2007	2008	2009	2010	2011	% Change
Malicious damage to property	312	333	368	338	258	-17.3%
Steal from motor vehicle	84	138	152	113	181	115.5%
Other theft	167	174	151	113	166	-0.6%
Break and enter dwelling	87	90	126	140	129	48.3%
Assault - non-domestic violence related	66	113	106	105	102	54.5%
Break and enter non-dwelling	71	85	109	129	102	43.7%
Steal from dwelling	104	99	97	120	96	-7.7%
Fraud	40	52	51	52	72	80.0%
Assault - domestic violence related	60	71	63	59	67	11.7%
Harassment, threatening behaviour and private nuisance	79	73	54	65	61	-22.8%
Motor vehicle theft	45	74	113	106	60	33.3%

Source: Bureau of Crime Statistics and Research

3. ECONOMIC IMPACT

Both the construction phase and operational phase of the proposed MAC development will have an economic impact on Singleton LGA. The approaches used to derive the economic impacts of each phase are detailed below.

Construction phase

Assessing the economic impact of the construction phase is relatively straightforward as the construction phase would not occur in Singleton LGA if The MAC facility were not built. In order to derive the economic impact of this phase, WRI obtained estimates of direct expenditure on construction from The MAC.

Operational phase

In estimating the economic impact of The MAC facility's operational phase, it is acknowledged that some of this expenditure would possibly occur even in the absence of The MAC development. The assumptions made in deriving the economic impact of this phase are detailed below:

- The Singleton hospitality sector was chosen as a proxy for the new development and sector flows were calculated by pro rating the total sector's flows according to the number of FTE staff estimated to be employed by The MAC.
- Extra expenditure in the region by the additional mining employees able to stay in the area as a result of The MAC facility was also modelled. It has been assumed that, of the miners residing at the new facility, 20% are additional mining employees in the Singleton area, that is, 80% would have found accommodation elsewhere in Singleton had the facility not existed.

Further detail on the assumptions used in the derivation of economic impacts is included in Appendix 2.

The impacts have been derived for the construction and operation of both the 400 and 1500 room facility, and these are presented individually in the following sections.

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3.1 Four hundred room facility

Economic impact of the construction phase

WRI has been advised by The MAC that direct expenditure in Singleton LGA is likely to be approximately \$10 million dollars. This figure has been applied to an input-output table constructed for Singleton LGA to estimate the overall impact of the construction phase on the local economy when flow-on effects are taken into account. The results are outlined below.

It is estimated that the construction phase of The MAC facility, when flow on effects are taken into account, will contribute the following to the Singleton LGA:

- An additional \$6.0 million in gross regional product;
- An additional \$3.9 million in household income; and
- An additional 61 full time equivalent (FTE) jobs. Other than the construction sector, the sectors estimated to benefit most in terms of FTE employment are administrative services, hospitality and retail trade.

Economic impact of the operational phase

The assumptions used in deriving operational phase impacts have already been detailed (above). The overall impacts of the operations phase when flow-on effects are taken into account are outlined below.

When flow-on effects are taken into account, it is estimated that construction of The MAC facility will contribute the following to the economy of Singleton LGA:

- An additional \$3.9 million in gross regional product
- An additional \$2.6 million in household income
- An additional 64 FTE jobs. The sectors that will benefit most are the hospitality, food and beverage manufacturing and retail sectors.

Table 1: Economic impact of the construction phase of a 400 room facility on Singleton LGA

	Value added \$m	Household Income \$m	Employment FTE
Impact	6.0	3.9	61
% of region	0.4%	0.4%	0.5%

Table 2: Economic impact of the operational phase of a 400 room facility on Singleton LGA

	Value added \$m	Household Income \$m	Employment FTE
Impact	3.9	2.6	64
% of region	0.2%	0.2%	0.5%

3.2 Fifteen hundred room facility

Economic impact of construction phase

The MAC has advised WRI that direct expenditure in the Singleton LGA on construction for a 1,500 room facility would be approximately \$32 million. The impact of the construction of a 1,500 room facility on the Singleton LGA economy, when flow on effects are taken into account is outlined below.

It should be noted that these results are for a total of 1,500 rooms and are not additional to the results of the 400 rooms outlined above.

It is estimated that the construction phase of The MAC facility at 1,500 rooms, when flow on effects are taken into account, will contribute the following to the Singleton LGA:

- An additional \$19 million in gross regional product;
- An additional \$12.5 million in household income; and
- An additional 195 full time equivalent jobs. Again, other than the construction sector, the sectors estimated to benefit most in terms of FTE employment are administrative services, hospitality and retail trade.

Economic impact of the operational phase

The overall impact of the operations phase of a 1,500 room facility when flow-on effects are taken into account is outlined below. Once again, it should be noted that these results are for a total of 1,500 rooms and are not additional to the results for the 400 outlined above.

When flow-on effects are taken into account, it is estimated that the operations of The MAC facility at 1,500 rooms will contribute the following to the Singleton LGA economy:

- An additional \$10.8 million in gross regional product
- An additional \$7.1 million in household income and
- An additional 177 full time equivalent (FTE) jobs.

Table 3: Economic impact of the construction phase of a 1,500 room facility on Singleton LGA

	Value added \$m	Household Income \$m	Employment FTE
Impact	19.0	12.5	195
% of region	1.2%	1.2%	1.5%

Table 3: Economic impact of the operational phase of a 1,500 room facility on Singleton LGA

	Value added \$m	Household Income \$m	Employment FTE
Impact	10.8	7.1	177
% of region	0.7%	0.7%	1.4%

4. IMPACT ON LOCAL BUSINESSES

This section sought to understand the likely economic impact of the establishment of the proposed Mac facility on the Singleton business community. To carry out this analysis, WRI conducted face to face and telephone interviews with owners / operators of 17 businesses within Singleton LGA¹. Additionally, WRI gathered opinion about the likely impacts on the business community through interviews with Singleton Shire Council and with the Singleton Chamber of Commerce.

Interview questions addressed current business performance and the likely impact of the proposed MAC Facility on the business as well as the wider business community. Respondents were also asked to indicate if they believed there were any other community wide and social issues that could arise from the development. This section will focus on business impacts, whilst the wider community and social issues are discussed in the Section 5 of the report.

The MAC specialises in the provision and management of accommodation facilities. The accommodation facility to be developed at Putty Road Glenridding has been sited in order to service mine construction and operational workforces as well as workforces for engineering, construction and infrastructure projects. The style of facility, in terms of the clientele it serves and the services offered, would be unique in the Singleton Area and is unlikely to compete directly with other local businesses. However, businesses that offer a similar service, such as hospitality and accommodation providers, may be impacted, especially if The MAC facility were to service clientele outside the mining industry in the future. Additionally, The MAC facility could have indirect impacts on other services within Singleton, including complementary services or related businesses such as real estate agents, licenced premises, cafés and restaurants. A number of businesses from the Singleton community were interviewed in order to gauge expectations about the potential impact of the facility.

Several interviewees commented on “a recent downturn in mining” that had seen a reduction in the mining workforce in Singleton over the last few months. An article in The Australian in September 2012 provides some support for this perception, reporting that increasing costs and declining prices have resulted in “more than 3500 mining job losses in the past six months”². However, the outlook for coal is gradually improving as China’s consumption continues to grow. In line with this, the Bureau of Resources and Energy Economics stated in the December 2012 issue of Resources and Energy Quarterly that Australia’s 2013 export forecast of thermal coal will increase by 11%, relative to 2012.³ The article suggested that this “will be supported by production from soon-to-be-commissioned mines that include the Hunter Valley Operations Expansion (6 million tonnes).”⁴

1 WRI attempted to contact approximately 70 businesses with the LGA, however, only 17 were available for comment.

2 Chambers, M (2012). Job Losses Mount to 3500 as Coal Outlook Dims. In The Australian. Retrieved from <http://www.theaustralian.com.au/business/mining-energy/job-losses-mount-to-3500-as-coal-outlook-dims/story-e6frg9e6-1226471389527>

3 Bureau of Resources and Energy Economics (2012). Resources and Energy Quarterly. Retrieved from <http://www.bree.gov.au/publications/aep.html>

4 Bureau of Resources and Energy Economics (2012). Resources and Energy Quarterly. Retrieved from <http://www.bree.gov.au/publications/aep.html>

Local businesses were asked to indicate if they believed there were any other community wide and social issues that could arise from the development.

The style of facility, in terms of the clientele it serves and the services offered, would be unique in the Singleton Area and is unlikely to compete directly with other local businesses. However, businesses that offer a similar service, such as hospitality and accommodation providers, may be impacted.

Despite a perceived downturn in mining, the outlook for coal is gradually improving as China’s consumption continues to grow.

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Other concerns raised by agents included:

The MAC development may not result in greater tourist numbers in Singleton, only contractors

The MAC supplying to contractors or single men, could displace future expenditure from Singleton CBD

Other comments from the operators of the licenced premises' included:

The MAC facility may have a positive impact on the town of Singleton as customers may purchase goods and services from the town. This may improve employment prospects within the town of Singleton.

The MAC will not be appealing to holiday makers as it is located too far out of town.

4.1 Real Estate

Three real estate agents were interviewed, which represents an estimated 27 percent of the real estate sector in Singleton. Real Estate agent 1 was uncertain about the impact of The MAC development. The effects on business were seen to be minimal, however it was acknowledged that there is currently less need to free up rental and holiday accommodation as vacancies are currently high due to a recent downturn in the mining industry.

In comparison, real estate agent 2 firmly believed that The MAC facility would be a competitor for business and would cause an oversupply of rental properties in the region. The agent cited a recent downturn in the mining industry and the fact that there are already vacancies that cannot be filled as the main reasons for concern. Additionally, the agent believed that the proposed facility would not be suitable for a town the size of Singleton, suggesting that there may be a need for a smaller scale development but not one servicing 1,500 clients.

The concerns expressed by the Real Estate sector appear to have been influenced to a large degree by the recent downturn in mining. Mining sector production is dictated by exchange rates, commodity prices and international demand, however, mining's presence in the region is strong. In times of regular production, The MAC facility will be needed to meet demand that outstrips the supply of properties for sale and for rent in Singleton.

4.2 Licensed Premises

The operators of two licenced premises in Singleton were interviewed.

One of the operators believed that the positives from The MAC facility would outweigh the negatives. Specifically, he believed that The MAC would relieve some of the pressure on accommodation in the township. The operator was concerned that demand has been preventing tourists and other visitors dining at his premises. He also expected that some hotels located closer to the new facility may benefit from the development.

One operator argued that The MAC could potentially be a minor threat, if their customers chose to stay at the new facility rather than at their premises. The operator stated if there was a shortage of accommodation, then The MAC facility would be warranted, however, in the last six months there has been less capital works at the mines resulting in less demand for accommodation. Both operators were concerned that the dining facility at The MAC may attract customers away from them.

The owners of the licenced premises are concerned about the impact that The MAC may have on their dining facilities, however, there were mixed opinions about the impact the facility would have on accommodation. Impacts will be dependent on the state of the mining industry, which at the time of reporting, was experiencing a minor downturn.

4.3 Cafes/Restaurants

Operators of two cafes/restaurants in Singleton were interviewed. One operator believed that The MAC facility would have little negative impact on their business stating that “their local customers are older and loyal”. A second operator believed that there could be a slight positive impact on their business as it was expected that the facility would bring a greater number of people to the area.

Local employment prospects at The MAC were raised with the belief that labour was in short supply in Singleton. The operator raised concerns that The MAC facility could potentially compete for staff with local businesses, making it more difficult to recruit staff.

Both operators interviewed believed that The MAC facility would ease pressure on the available accommodation in Singleton, which was said to be “at a premium at the moment”.

Both operators indicated that they are more concerned with the development of a new shopping centre more so than The MAC facility.

Overall the development of The MAC facility was seen to potentially increase customers in the town and to reduce housing costs. The main drawbacks were the inclusion of a dining facility which may reduce custom in the town and the potential for The MAC to put further strain on the limited labour pool in Singleton.

4.4 Fitness / Sports Centres

Representatives of two fitness/sports centres (the majority of centres) were interviewed in Singleton. Both centres drew the large majority of their clientele from the permanent Singleton community. Both coordinators believed that The MAC presented a positive opportunity for Singleton and that a gym in the proposed MAC facility may not impact on their business significantly. One coordinator hoped to build a relationship with the new facility and, in particular, was keen to offer some of his services and facilities depending on the style of gym being offered at The MAC. For instance, he suggested that his centre's personal trainers could provide service to The MAC. On the other hand, he indicated that his business could be impacted if the gym facilities at The MAC were made available to the general public.

The other coordinator believed that The MAC is a “double edge sword”. He suggested that The MAC would enable the mining workforce to reside in the LGA, and that this in turn may result in more people spending in the Singleton community. He acknowledged however that miners may not spend much time in Singleton before or after their shifts.

Both coordinators stressed the need for greater community awareness about the development. One coordinator suggested that The MAC needs to provide an open line of communication and be transparent with the Singleton community.

Other comments and questions from the operators of the cafes/restaurants included:

Housing costs are high and The MAC facility may help reduce costs which may mean that locals have more dollars to spend in town.

The presence of contract miners in the town may boost the local economy.

Other comments made by the fitness/sports centres include:

Mining plays a substantial role in the local economy.

The FIFO/DIDO workforce is important to the LGA and ensuring their needs are adequately met is important.

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Other comments made by the food retailers included:

The MAC will benefit Singleton as it will free up rental housing, which is difficult to find.

The facilities at The MAC can only be a positive; it will be beneficial to the town.

With the arrival of the mining and related workforces in Singleton, there is a potential for some displacement of local people.

Sectors other than mining could benefit from The MAC facility. For instance, vineyards could benefit from the greater availability of accommodation.

There was more concern, regarding impact on business, about the establishment of a new shopping centre than The MAC facility.

The overall assessment is that fitness/sports centres would be largely unaffected by the MAC development due to their client base. Additionally, there could be potential for the fitness centres to grow their businesses if they could engage with residents of The MAC.

4.5 Food and Retail Sector

Operators from the food retail sector generally saw the development of The MAC facility as an opportunity to bring more people to the area, and an opportunity to increase business in turn. It was suggested that The MAC may provide more jobs for locals and contractors, which will improve the local employment situation.

One food retailer was hopeful that the facility's food supplies could be sourced from local businesses, resulting in positive impacts on the local economy. One of the retailers was also aware of plans for the facility to house a convenience store. He suggested that if the convenience store were closer to a supermarket, then this could potentially divert business from the town, however, if only a convenience store, Singleton food retailers could still benefit.

On balance, the food and retail sector expected that the arrival of The MAC facility will be a benefit to other businesses in the Singleton community as it will result in an increase in the number of people in the area which could facilitate a boost in the economy.

4.6 Financial Services Sector

Two financial service providers were interviewed in Singleton. Both believed that there would be little impact on their business from the operations of The MAC facility, with one not expecting an increase in clientele because the facility will be located too far out of Singleton. Both operators stressed the need for greater community awareness and consultation about the proposed facility.

4.7 Accommodation

Operators of four accommodation businesses in Singleton were interviewed, which represents an estimated 27% of the accommodation sector. There were varying opinions as to the degree to which The MAC facility will impact their businesses.

Two of the operators believed that there would be little effect on their business, indicating that their operations catered for different markets. One operator suggested that the impacts will depend on the quality of The MAC facility. Comments included:

- If the new MAC Facility brings in contractors to build the facility, then there would be an increase in demand for accommodation.
- If the clients of The MAC use the local shops and services, this will benefit the Singleton community.
- In peak times, the MAC facility should alleviate accommodation shortages.
- The MAC may be positive for small business with more people visiting the region.
- The MAC facility will provide different amenities or facilities to those required by their clientele, and it will be located too far away from town.
- The impact on pubs that provide accommodation could be considerable as they tend to service the same type of clientele as that of The MAC facility.

There was also a view that The MAC facility may enhance Singleton's profile as a centre of business.

One operator interviewed did perceive The MAC facility as direct competition for his business. Comments included:

- Workers may prefer to be accommodated closer to the township as they may want to interact with the community. If residents of The MAC facility are less able to visit the town because of the location, there could be an adverse effect on the local economy.
- Singleton currently provides in the order of 300 to 400 beds. Introducing a facility the size of The MAC will have a significant impact on accommodation providers.
- Shifts in clientele to the new MAC facility are expected.
- There was concern that the size of the facility (if similar to that in Narrabri) would attract all mine workers and the smaller accommodation providers would suffer.

It was noted by the majority of the operators that the demand for accommodation in Singleton was already being impacted by the current downturn in mining. Comments included:

- Houses for rent and for sale have increased in recent times because of job losses at the mines.

Overall, accommodation providers maintain that The MAC facility may have some negative impact on the local accommodation sector.

Beyond the accommodation sector, their concerns that a shift in mine workers from the township will result in less mine worker expenditure within the local economy may be valid. However, the expectation is that expenditure from other industry sectors may grow in place of mining employee expenditure.

In order for Singleton to capitalize on the new facility, Council and the business community will need to be proactive in engaging with The MAC. Council, the Chamber of Commerce and some business operators interviewed offered the following suggestions:

The MAC to work alongside Council in sourcing goods and services locally.

Encourage The MAC facility to engage with local businesses to develop incentives for facility residents to spend locally. Both Council and the Chamber of Commerce suggested the use of loyalty programs which could be targeted to all non-resident mining employees, not just those residing at The MAC.

- There is a concern that if there is no demand for accommodation, then The MAC facility will feel the impact like the rest of town does in quiet times.
- Contractors building the freeway are currently staying in motels in Singleton. The construction is nearly finished therefore more accommodation will be freed up in the near future.

Overall, accommodation providers maintain that The MAC facility may have some negative impact on the local accommodation sector. Beyond the accommodation sector, their concerns that a shift in mine workers from the township will result in less mine worker expenditure within the local economy may be valid. However, the expectation is that expenditure from other industry sectors may grow in place of mining employee expenditure.

4.8 Singleton Shire Council and Chamber of Commerce

The main concerns raised by Singleton Shire Council and the Chamber of Commerce were related to labour supply and support for the local economy through local sourcing of goods.

With regard to labour supply, concern was raised that The MAC facility would increase the demand for local labour and, as a result, put further strain on the limited labour supply. According to Singleton Shire Council, local businesses are finding it difficult to recruit employees and this concern was echoed by some of the business operators interviewed.

Concerns were also raised as to whether or not The MAC facility would purchase its goods and services locally in Singleton LGA or source them externally. Many interviewees saw the potential for local sourcing of goods and services as very beneficial for the local economy. The literature validates the labor supply concerns, suggesting that:

- FIFO/DIDO workforces are making it difficult to effectively plan and price the provision of infrastructure and services (Morris, 2012); and that
- Local communities are being drained of skills as a result of mining companies and the FIFO/DIDO workforce. This is resulting in difficulties for local businesses to retain and recruit local employees. (Morris, 2012).

However, accommodation facilities enable planning and ensure employment in the construction and operational phase.

5. WIDER COMMUNITY AND SOCIAL ISSUES

A broad assessment of the wider community and social issues relating to the development of The MAC facility was based on face to face and telephone interviews along with a literature review of the social impact of mining on rural and regional communities. Interviews were conducted with representatives of local government, the local Chamber of Commerce, the police and the local health service. Additionally, comments on these issues were drawn from key competitor/related industry interviews.

The social issues raised in the interviews were:

- Impact on roads
- Impact on infrastructure and critical services
- Insufficient accommodation in the LGA
- The impact of a concentration of single men
- The impact on immediate neighbours
- Impact on the Singleton community
- Impact on agricultural land

5.1 Impact on roads

Interviews

The potential for an increase in the number of vehicles on the road as a result of the proposed MAC development was a concern for some interviewees. Echoing these concerns, the Hunter Local Area Command believed that mining vehicles have already had a significant impact on the roads, in general slowing traffic and increasing congestion. Interviewees were concerned that this congestion will only worsen with the expected additional workforce in the area that would likely result from the development of the facility.

Singleton Shire Council was hopeful that development of The MAC facility would alleviate traffic issues. Council suggested that fatigue associated with shift work and the long journeys to and from work sites contribute to many accidents. In line with this, some interviewees reported that many mine workers currently travel to and from Muswellbrook or Newcastle daily to work at the mines.

Literature Review

Problems with shift work associated with fly-in fly-out operations have been identified in a number of studies in relation to sleep disorders, fatigue and irritability. The study conducted by Carrington and Pereira (2011) found links between fly-in fly-out operations and injuries, OH&S complications and motor vehicle accidents. The Inquiry into the use of 'fly-in, fly-out' (FIFO) workforce practices in regional Australia (Parliamentary Inquiry, House of Representatives, 2013) found evidence that DIDO workers completing 12 hour shifts and driving several hours to get home contribute to high accident and mortality rates on regional roads. Whilst many employers were encouraging their employees to take buses to and from work, this service was patronised less by those not living at accommodation specifically designated for mining employees or "camps".

Assessment

There will be an increase in the volume of traffic on the roads in Singleton if The MAC facility results in an increase in mine workers in and visitors to the region. However, there is a potential for The MAC facility to reduce the impact on roads:

- if mine employees are encouraged to travel to and from work by bus; and/or
- if being accommodated at the facility reduces the length of the journey to and from the mines.

The logistics of bus transport to and from the site is being considered as part of the development application. No matter whether or not bus transport becomes a feasible option, certain roads on the journey from The MAC facility to worksites will undoubtedly carry extra traffic. The potential impact on specific roads could be assessed and monitored.

5.2 Impact on infrastructure and critical services

Interviews

Questions were raised by one of the interviewees about the impact that The MAC facility will have on local water supplies. These questions were raised in respect to the last substantial drought which caused the town water supply to diminish significantly. The Chamber of Commerce also echoed these concerns, indicating that there is no connection to town water and sewer at the proposed development site.

In addition, Council indicated that the proposed development site is in a high velocity flood zone. Some business operators interviewed questioned the proposal to develop in a flood zone, which it was felt was largely off-limits for regular development.

Some interviewees referred to the potential for the facility to be used by the business community more broadly. It was anticipated that the availability of the facilities at The MAC could attract and enable other regional business and lead to further economic development in the region.

Furthermore, the Chamber of Commerce suggested that once The MAC facility is no longer needed, the remaining (legacy) infrastructure could be used as the basis for a retirement village. The Chamber noted that there is currently a shortage of retirement facilities in Singleton.

The Hunter New England Local Health District (HNE Health) was contacted for comment about local health services. HNE Health indicated that health services in Singleton are currently meeting the needs of the local population. The representative suggested that timely and local access to General Practitioners is a critical issue, and suggested that access is dependent on whether the current GPs are willing and able to accept new patients. In addition, HNE Health advised that if access to GPs in the Singleton area is not possible, that this will impact on the emergency care services of Singleton Hospital. With regard to allied health, HNE Health indicated that all public allied health services currently have waiting lists. No local GPs were available for comment about the impact of the development.

Literature Review

The literature suggested that, in general, rural and regional communities do not have the hard and soft infrastructure to cope with a rapid increase in population. Of particular note is the burden on counselling services, emergency services and physical infrastructure such as water, sewerage, waste, housing, roads and transportation. Furthermore, FIFO/DIDO workforces are making it difficult to effectively plan and price the provision of infrastructure and services.

In addition, literature suggests that FIFO workers are impacting on the provision of adequate medical services in mining based communities. In particular, the Parliamentary Inquiry (House of Representatives, 2013) found strong evidence that FIFO workers are impacting on medical services, through longer waiting times and additional workloads on medical staff.

Assessment

A large and rapid influx of resident population will impact on current services and infrastructure no matter where the new residents are housed. Furthermore, the demand for rental and serviced accommodation may well outstrip supply in the town. The MAC facility will provide "fit for purpose" accommodation for the mining workforce, whereas currently mine workers are accommodated in diverse and ad-hoc arrangements. From a planning perspective and as a result of the facility's development, The MAC will be able to provide Council with accurate data about additional volumes expected in the associated systems such as town water and sewerage, as well as for critical services such as health and policing. This will inform the development of sound and adequate infrastructure, whereas current housing arrangements do not afford such planning. As an example, given likely large increases in the population, whether temporary or permanent, the capacity of local health services to meet increased demand will be able to be monitored.

Finally, potential benefits from the development of facilities that could be available to the wider community as well as the opportunity to utilise legacy infrastructure are substantial and could benefit future developments in the region.

5.3 Insufficient accommodation in the LGA

Interviews

Rental / permanent housing

Several interviewees expressed concerns about the lack of accommodation available in the Singleton LGA. Specifically, there were concerns that:

- an insufficient supply of affordable accommodation is resulting in soaring accommodation costs; and that
- people in lower socio-economic areas are being squeezed out of the rental market as a result of the high demand for homes by mining employees and contractors.

Singleton Shire Council confirmed that this is having a considerable impact on non-mine worker residents, giving the example of retail employees being forced to live further out of Singleton as living costs in the township are pushed higher. Furthermore, both Council and the Chamber of Commerce pointed to a critical shortage of emergency housing, often impacting families in distress.

Other comments made in relation to rental accommodation were:

- Council suggested that mining employees were not bringing their families to Singleton because of a lack of suitable housing.
- The Chamber of Commerce suggested that many mining employees and contractors were being forced to participate in undesirable living arrangements such as “Bed Hopping” where sleeping quarters are shared according to shifts.

The evidence presented through interviews is in contrast to housing affordability data presented in the socio-economic profile for the LGA. As indicated beforehand, affordability results are being driven by the high average taxable incomes reported for the LGA. This, in turn, may be a result of many mining employees nominating their place of residence as Singleton LGA. Interviewees suggested that it was a common practice for mining employees to rent a Post Office box in Singleton in order to comply with work travel regulations.

Accommodation providers

The Chamber of Commerce was hopeful that the development of The MAC facility would facilitate greater competition amongst accommodation providers in the Singleton area. There was a suggestion that many of the existing accommodation providers had been free to charge relatively high rates in the past. Of particular concern was the lack of available beds mid-week, and the associated high premiums charged. According to one interviewee, this was forcing some visitors to drive elsewhere in the district to find a room at an affordable price. Competition from the new facility could compel existing providers to review their charges and services.

Literature Review

Impacts on the accommodation sector are found to have led to hardship for low income earners, difficulties in attracting and retaining employees and existing residents being forced to relocate elsewhere. Furthermore, the literature notes that mining employment typically polarises income levels and can cause tension between the permanent residents and the new arrivals. The Parliamentary Inquiry (House of Representatives, 2013) suggests that housing affordability can be addressed through “a staged, planned, process of land release” and has recommended that strategies be put in place to support mining communities in this regard.

Assessment

At the time of writing, a recent downturn in mining had been linked to a better than usual availability of accommodation in Singleton. If this downturn was to be protracted, then the development of a facility such as The MAC would likely exacerbate business conditions for local accommodation providers. However, mining has a strong presence in the region, and it is most likely that additional accommodation will be needed at some time.

The development of The MAC facility has the potential to free up accommodation in the town of Singleton for tourists and for emergency housing by absorbing some of the demand of mining employees and contractors. In the future, The MAC facility could also provide accommodation for the nearby army base, further improving the supply of accommodation available in the town centre.

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Finally, the potential for The MAC facility to be developed as flexible housing, servicing the wider community, is being considered. If this were to eventuate, the facility may be able to alleviate temporary shortages in affordable accommodation that have troubled the community in recent times.

5.4 Concentration of single men

Interviews

Concern was raised about the number of single men likely to be resident at The MAC facility. Specifically, there was concern that their presence in Singleton may result in an increase in anti-social behaviour. Associated with this, an interviewee raised concerns about the lack of police presence in Singleton, given that the Local Area Command is located in Muswellbrook.

Hunter Local Area Command was contacted for comment. The Local Area Commander was not concerned with police numbers, indicating that they were currently fully staffed. He also reported that Singleton had experienced an influx of mine workers over the last five to ten years and that there had been no real increase in crime attributed to mine workers over this time. Reinforcing this view, the Chamber of Commerce suggested that the zero tolerance of alcohol and drugs on mine sites suggests that miners are unlikely to be a problem.

Literature Review

According to the literature, police report that any increase in crime is proportional to the increase in population growth and is not linked directly to mining employees who are typically subject to surveillance and sanctions against anti-social behaviour. Nevertheless, the literature does refer extensively to negative perceptions concerning non-resident workers, "a them and us" attitude and tensions between non-resident workers and the community. The literature also indicates that mine workers are blamed for a disproportionate share of crime and anti-social behaviour.

The Parliamentary Inquiry (House of Representatives, 2013) found that social isolation can be a problem for FIFO workforces. The report found that some accommodation providers are trying to address the problem of social isolation by providing recreational areas that aim to increase the social interaction between mining employees. The report also suggested that social isolation may also be reduced by increasing interaction between FIFO workers and the local community.

Assessment

It is unlikely that a concentration of single men at The MAC facility would result in a significant increase in anti-social behaviour. The location of the facility away from the town centre may help alleviate resident concerns, however, some residents may still feel uncomfortable about their presence. Facility management could work to overcome the anxieties of existing Singleton residents by developing links and dialogue with the Singleton community. This could be achieved by hosting open days where local residents can inspect the facility and by encouraging occupants of The MAC to support and participate in Singleton's cultural and sporting events. Additionally, facility management could work with Singleton Shire Council to develop an induction program, for new MAC facility residents, about Singleton and what the local businesses have to offer.

5.5 Impact on immediate neighbours

Reporting in the Singleton Argus

The immediate neighbours of the proposed MAC development were not interviewed. However, reporting in the Singleton Argus⁵ has aired the concerns of some of the residents in the vicinity of the development site. The Argus reports that much of the area surrounding the proposed site is dedicated to lucerne and dairy farms. Additionally, a local resident interviewed by the Argus characterised the area as mostly farming and hobby farming, and the lane where the proposed development will occur as "a quiet country road where people can jog and ride horses". Concerns were raised in this article that the increase in traffic along Heuston Lane that will result from the development, will reduce opportunities for these recreational activities and could change the character of the area quite significantly.

Assessment

The development of the facility, if it proceeds, is likely to change the character and value of the surrounding properties, though the impact on agriculture should be negligible. The MAC has indicated that the facility will have landscaped gardens to minimise noise which may mitigate, to some extent, the impact on immediate neighbours.

5 Andrews, C. (2013). Donga plans for Heuston Lane. In Singleton Argus. Retrieved from <http://www.singletonargus.com.au/story/1241670/donga-plan-for-heuston-lane/>

5.6 Impact on the Singleton community

Interviews

Several interviewees were concerned that Singleton was changing from a large country town with a close knit community to an interchange for an itinerant workforce. It was felt that mine workers had little or no connection to the community and did not readily participate in local activities. Furthermore, the presence of the miners was believed to be discouraging locals and visitors from visiting local restaurants.

Literature Review

It is evident in the literature that social problems could arise in mining based communities from insufficient integration of FIFO/DIDO workers into the local communities (Morris, 2012). Research also suggests that an increasing number of new residents and population turnover can undermine community stability, and that an increased proportion of employees who work but do not live in the community make it difficult to build and maintain social fabric. At the core of this are findings that mine workers have little time for anything other than work-eat-sleep, returning to their permanent home (outside the region) during their leave, thus reducing participation in any community sport or leisure activities locally.

The recent Parliamentary Inquiry also noted the impacts of the social isolation of FIFO workforces as discussed in the section related to the concentration of single men.

Assessment

The nature of Singleton has been evolving for some time in response to the influx of mine workers and contractors to the region and these changes will continue independently of where miners are accommodated. The MAC facility will enable a large and rapid influx of mine workers, however, the impact of this large influx may be reduced due to the facility's location some distance from the township and the inclusion of a dining room. Whilst it is hoped that the miners will still patronise local businesses, their large presence in the township may be reduced to some degree. In addition to this, efforts to better integrate residents of The MAC facility into the Singleton community could also reduce the "us and them" divide and reduce tensions between locals and the facility residents.

An additional benefit of The MAC facility will be the freeing

up of accommodation in the township for other visitors to the region. By relocating the mining presence away from the township, there is potential for the re-invigoration of other sectors and markets including the tourism sector. Greater diversification of the economic base will undoubtedly influence the look and feel of the township.

5.7 Impact on agricultural land

Interviews

Concern was expressed about the loss of agricultural land due to the development of The MAC facility. According to two interviewees, much of the area surrounding Singleton has already been lost to mining companies and the development of The MAC would result in the further loss of grazing land. One interviewee did recognise, however, that there is not enough housing in Singleton and that agricultural land would need to be developed in order to meet demand.

Assessment

In order to house a large number of mining and related industry workforces, housing development is likely and this may encroach upon agricultural land on the periphery of the township. By centralising accommodation for the such workforces, the development of The MAC may reduce the need for growth into agricultural areas closer to the township. Furthermore, there is potential for The MAC facility to eventually provide higher density housing for the mine workforce, than provided by standard residential developments. This means that less land may need to be diverted in order to accommodate the same number of workers.

6. CONCLUSION

A strong mining presence has characterised the Singleton LGA, and the Hunter Valley for many years. It is the largest contributor to the Singleton economy with flows through to other sectors through relatively high average taxable incomes. The maturity and significance of the industry is reflected in opinions gathered about the proposed MAC facility development, which on the whole, tended to be more balanced than negative. Some concerns were raised by residents and business owners, however most of those related to the high numbers of mining employees in Singleton.

Over the past 10 years Singleton LGA has experienced higher population growth than the Hunter Statistical Division and Regional NSW generally. It also has a younger population with a relatively high proportion of people with certificate level (including trade) qualifications. These characteristics of strong population growth coupled with young people with trade qualifications have put pressure on the Singleton accommodation. This pressure has led to challenges in terms of affordability and the amount of accommodation stock. Adverse impacts are particularly acute in marginalised sections of the community, the poor, the unemployed and those in domestic crisis. The development of The MAC facility may affect accommodation businesses in Singleton, especially in the context of the current mining downturn. However, the longer term outlook for mining in the region is positive with sustained operations planned for decades into the future. The availability of additional accommodation in Singleton would ease pressure on the resident community and provide vacancies for tourists and other sectors of the economy.

The economic impact analysis estimates the possible outcomes of the development of The MAC facility on the Singleton LGA, both in the construction phase and ongoing operational phase in terms of gross regional product, household income and full time equivalent employment. The opportunities that the development affords however are more wide reaching. Firstly, the Singleton business community and Singleton Shire Council could work with The MAC to engage with the new residents and encourage participation within the community. Secondly, the opportunity to utilise legacy infrastructure is substantial and could benefit future developments in the region. Finally, the development of The MAC facility provides visibility to expected impacts on infrastructure in the LGA and this will inform planning. Economic and social benefits from the establishment of a temporary accommodation village would create increased employment and income both over the short and long term. Additionally it will increase the net accommodation capacity of Singleton, decreasing demand and increasing the stock of housing for the constrained Singleton accommodation market.

Mining is the largest contributor to the Singleton economy with flow throughs to other sectors through relatively high average taxable incomes.

Growth in Singleton's population has put pressure on accommodation in terms of availability and cost with adverse impacts for some sections of the community.

Economic and social benefits from the establishment of a temporary accommodation village would create increased employment and income both over the short and long term. Additionally it will increase the net accommodation capacity of Singleton, decreasing demand and increasing the stock of housing for the constrained Singleton accommodation market.

APPENDIX 1: LITERATURE REVIEW

Introduction

The economic literature on social impacts of mining has not addressed non-residents staying in accommodation villages and changes to affordability, house prices and rentals. This review provides an overview of recent studies into the social impacts of a non-resident workforce on rural and regional communities. It also discusses some of the general impacts associated with a rapid increase in population. Caution should be taken in the interpretation of these findings as most studies are based on “community perception” rather than “statistical evidence” and therefore impacts tend to be overstated.

The non-resident workforce

The significant mining boom occurring in Australia has generated problems in attracting sufficient workers to the rural and remote regions where mines are being developed (Storey, 2001). “Finding sufficient skilled and experienced local labour, or finding labour which is willing to relocate on a permanent basis to the regions, has proved extremely difficult” (Storey, 2001). Fly-in-fly-out and drive-in-drive-out operations allow mining companies to attract employees who do not want to live in the region due to better employment, educational and recreational opportunities for their families elsewhere (Lockie et al, 2009).

In a survey of workers in temporary accommodation in 2007, 58% indicated that they would prefer to live outside the area (Lockie, 2009). An earlier study by Rolfe et al (2007a) found that substantial wage premiums would be required to persuade non-resident workers to relocate to a mining town. Their study of non-resident workers found that 89% are not interested in relocating to a community closer to the mine site (Rolfe et al, 2007a). Of those who were interested in moving to the town, lack of available housing for rent was the most significant factor impeding them (69.2%) (Rolfe et al, 2007a). Petkova et al (2009) reported that “work camp surveys indicated that 11% of Moranbah and 12% of Nebo work camp residents were interested in moving permanently to these towns. While that leaves a much larger group who would prefer to maintain their permanent residence elsewhere, it remained the case that accommodating these workers and their families would lead to significant population growth, particularly in Nebo.”

To address the pressing need for large increases in the mining workforce, there has been a significant shift towards long-distance commuting across Australia and internationally. The industry has become “increasingly reliant on non-resident workers accommodated in work camps positioned in close proximity to existing rural towns and regional centres” (Carrington and Pereira, 2011). A study of Australia’s publicly listed mining companies in 1999 revealed that 37% were utilising long-distance commuting (Hogan & Berry, 2000). Furthermore, it is estimated that 15 – 20% of the direct mining workforce in Western Australia are FIFO (Storey, 2001) with many more supplying services to the mines through contracting companies.

Despite the significant benefits of this system at a regional and national level, the resulting decrease in the resident workforce is undermining the sustainable development of rural towns (Carrington and Pereira, 2011) (Ivanova and Rolfe, 2011). These towns are seen to bear a disproportionate level of the social costs of mining development (Carrington and Hogg, 2011) and are generally more susceptible to the negative impacts of development (Ruddell, 2011). It is this inequality in the distribution of benefits and costs (RSDC, 2011) that has led to tensions between non-resident workers and the community.

Impacts on rural and regional communities

While the economic impacts of mining are significant and far reaching, the social impacts are most strongly experienced at the local level (Carrington and Pereira, 2011). Factors which indicate the relative impact a community can expect include (Lockie et al, 2009):

- Economic diversity
- Rates of unemployment
- Rate of employment in mining
- Level of education and qualifications
- Income
- Housing ownership, purchasing and rental
- Age

Research into the impacts of non-resident workers on rural and regional communities has highlighted both positive and negative effects. This research did not take into account non-residents staying in mining accommodation. In a survey of those who live or work in Queensland's mining regions, Carrington and Pereira (2011) found:

- An overwhelmingly negative perception of the impact on the local economy, services and infrastructure
- A negative perception of the impact on housing and rental availability (75%) and affordability (79%)
- An adverse impact on overall community wellbeing (75%)
- 61% support new mining developments with a non-resident workforce less than 25%

However, not all community members were negative. Carrington and Pereira (2011) also noted:

- Enormous opportunities for regional Australia
- A boost to local business and contracting companies

The following provides a review of recent findings.

Population

A number of impacts on population size and composition have been noted. These include positive impacts such as population growth and increased diversity (Petkova et al, 2009) and negative impacts such as population turnover (RSDC, 2011) (Petkova et al, 2009) and decline (Lockie et al, 2009) (Storey, 2001) (Rolfe et al, 2007a) and a shift from families to young, single men (RSDC, 2011). For example, in the Bowen Basin of Queensland "it is projected that the region will experience a substantial decline in families with children, and an increase in lone person households over the next 20 years, due to the mining industry's increasing reliance on a non resident workforce" (Carrington and Pereira, 2011).

The establishment of temporary work camps is seen to impact on the liveability and lifestyle factors of a region (Rolfe et al, 2007). Mining communities typically have difficulty attracting new residents, while existing residents more likely to leave (Lockie et al, 2009) (Storey, 2001). A study by Ivanova and Rolfe (2011) found the number of people housed in work camps to have a significant impact on the length of time people would choose to live in a mining community.

Economy

Evidence (Rolfe et al, 2007) points out that fly-in-fly-out workers normally associated with the "fly-over" phenomenon, actually provide income to the town. This describes the lack of economic stimulus generated by non-resident workers who live elsewhere do not spend money in the town (Rolfe et al, 2007). The fly-in-fly-out system generally results in mining communities losing the benefits of the activity in their region (Storey, 2001) which threatens the economic stability of these towns and creates tension between residents and non-residents (Carrington and Hogg, 2011) (Lozeva and Marinova, 2010). The limited ability of rural and regional towns to capture the benefits of mining activity has been attributed to a lack of secondary industry, with any business expansion concentrated in the mining services sector (Lockie et al, 2009).

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While non-resident workers time spent in regional communities is small, it can have a positive impact. A study of non-residents in Moranbah, found that only 16% spent any of their free time in the community, at an average of 12% of their time off shift (Carrington and Pereira, 2011). However, non-residents do spend money in the community, an average of \$161.49 per week, their main expenditures were alcohol (33%), fuel (21%), food (16%) and entertainment (10%) (Rolfe et al, 2007a). As a result, businesses in Moranbah reported increased profitability (68%) and increased staff numbers (Rolfe et al, 2007a).

Income, Education and Employment

Lockie et al (2009) found a range of impacts on income, education and employment in mining regions, including low education levels, highly polarised income levels, dependence on mining for employment, dominance of unskilled and semi-skilled positions and difficulty recruiting in non-mining businesses. These findings have been supported by Rolfe et al (2007), Carrington and Pereira (2011) and Petkova et al (2009). Rolfe et al (2007) also identified skills shortages as a problem in mining towns.

Accommodation costs

Studies on the impact of the mining boom in Australia generally agree that a shortage in permanent housing leads to significant inflation in purchase and rental costs (RSDC, 2011) (Carrington and Pereira, 2011) (Lockie et al, 2009) (Rolfe et al, 2007) (Rolfe et al, 2007a). These impacts have led to hardship for low income earners, difficulties in attracting and retaining employees and existing residents being forced to relocate elsewhere (RSDC, 2011) (Lockie et al, 2009) (Carrington and Pereira, 2011) (Rolfe et al, 2007) (Rolfe et al, 2007a) (Petkova et al, 2009).

Impacts on local services

Rural and regional communities do not typically have the hard or soft infrastructure to cope with a rapid increase in population. This places considerable burden on local services (Carrington and Hogg, 2011) (Carrington and Pereira, 2011) including:

- counselling services – to manage the emotional impact on workers of being away from family and friends (Rolfe et al, 2007a)
- emergency services - to respond to increased traffic accidents (Lockie et al, 2009) (Rolfe et al, 2007a), and
- physical infrastructure such as water, sewerage, waste, housing, roads and transportation (Ruddell, 2011).

Further complicating this problem is these communities difficulty in attracting and retaining qualified professionals in health, education and community services (Rolfe et al, 2007),

Impacts on social capital

A number of themes emerge in impacts on social capital. Generally, a high level of new residents and population turnover can undermine community stability (Ruddell, 2011). In addition, an increased proportion of employees who work but do not live in the community make it difficult to build and maintain social fabric (Ivanova and Rolfe, 2011).

At the centre of most arguments, is non-residents limited community participation and lack of community pride and ownership (RSDC, 2011). Research indicates mine workers have little time for anything other than work-eat-sleep, their rosters do not correspond with weekly or monthly schedules and when their shift is over, they return home (RSDC, 2011) (Lockie et al, 2009) (Lozeva and Marinova, 2010) (Storey, 2001) (Carrington and Pereira, 2011). The very nature of their employment makes it difficult for them to participate in any community, sport or leisure activities.

Studies have also indicated that mine workers are blamed for a disproportionate share of crime and anti-social behaviour as a result of an us (residents) v them (miners) mentality (RSDC, 2011). Police report any increase is proportional to population growth and is not linked to mining employees who are typically subject to surveillance and sanctions against anti-social behaviour (Lockie et al, 2009). Carrington and Pereira (2011) supported this finding and noted low-level intra-male violence is managed informally by private security at the accommodation complex. Nonetheless, there remains an unsubstantiated community perception that a non-resident workforce brings with it a higher level of physical and social disorder - increased accidents, traffic density and enforcement and crime (RSDC, 2011) (Petkova et al, 2009) (Ruddell, 2011) as well as increased alcohol and substance abuse (Rolfe et al, 2007a) (Storey, 2001).

Fatigue and motor vehicle accidents

A number of studies have highlighted problems with shiftwork associated with fly-in-fly-out or drive-in-drive-out operations including sleep disorders, fatigue and irritability (Lockie et al, 2009). In research conducted by Di Milia and Bowden, 13% of mine workers reported falling asleep on their way to their shift and 23% when driving home (Petkova et al, 2009). Fly-in-fly-out operations have been related to injuries, accidents and OH&S implications (Carrington and Pereira, 2011).

Gender imbalance

Mining boom towns have an increasingly atypical demographic structure (Petkova et al, 2009) characterised by a net loss of women, children and low-income workers as families move out of the region (Lockie et al, 2009) and are replaced by single men (Carrington and Pereira, 2011). Hogan and Berry (2000) report gender bias in new mining towns to have created social problems. Further, Carrington and Pereira (2011) reported increased fears about community safety due to the large number of young males away from home and family commitments, with no ties to the community (RSDC, 2011).

How to moderate negative impacts

In a study of resident and non-residents in Moranbah, 81% of respondents indicated that building more work camps made the community less attractive (Rolfe et al, 2007a). However, results also indicated that residents would be more likely to stay longer in the community and non-residents would be more likely to relocate if there were (Rolfe et al, 2007a):

- More and cheaper housing
- Better shopping and other services
- Better employment opportunities for women and children
- More activities for women and children
- Better entertainment
- Better medical and educational facilities

Ruddell (2011) has also suggested some actions community leaders can take to counter the negative impacts of population change:

- Increase community engagement through groups membership/involvement
- Host community workshops to provide residents with more information
- Involve the mining company in community activities
- Mining companies partnering with the community to improve infrastructure and services

Mining developments represent a significant opportunity for local businesses, therefore communities should evaluate and promote themselves in order to capture a greater proportion of the benefits of mining developments (Storey, 2001). For

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example, the Goldfields Esperance Development Commission developed an Industry Capability Directory (a register of all companies in the region) to promote and maximise the use of local suppliers in mining developments (Storey, 2001). However, these businesses will have to be capable and cost-effective to capture additional business (Storey, 2001).

Conclusion

Despite a general negative community perception, the high incomes of mine employees and contractors servicing mines has had a universally positive impact on mining communities (Petkova et al, 2009). Lockie et al (2009) conclude that traditional social impact assessments can easily overstate the impacts of rapid growth on small communities and that many of the impacts recorded were as a result of the communities failing to capture the positive benefits brought about by mining expansion.

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ADDITIONAL LITERATURE REVIEW

The previous literature review was conducted for The MAC Services Group Ltd in another report. The following is an addition to the previous literature review.

The literature in the previous review focuses on the broader issues surrounding FIFO/DIDO, many of which have impacts on the community. This update also identifies the impacts that a mining accommodation development may have on a community for which FIFO/DIDO is a given.

Scoping Study: Impact of Fly-in Fly-out/Drive-in Drive-out Work Practices on Local Government, Australian Centre of Excellence for Local Government

A more recent report: Australian Centre of Excellence for Local Government's (ACELG) Scoping Study on the Impact of Fly-in Fly-out/Drive-in Drive-out Work Practices on Local Government identified issues that were consistent with the literature reviewed above (Morris, 2012). The study provides an overview of the Local Government and Regional Council submissions received by the Standing Committee on Regional Australia. The issues highlighted in the Scoping Study included:

- 91% of the local government submissions to the Standing Committee on Regional Australia raised some negative impacts of the work arrangement of FIFO workforces.
- There are implications on revenue for mining based local governments, as the ABS does not count the FIFO workforce as official residents
- Increased accommodation demands lead to housing shortages and higher rents, impacting on housing availability and affordability
- Social problems could arise in the mining based communities from insufficient integration of FIFO workers into the local community
- FIFO workforces are making it difficult to effectively plan and price the provision of infrastructure and services
- Local communities are being drained of skills as a result of mining companies and the FIFO workforce. This is resulting in difficulties for local businesses to retain and recruit local employees.
- Increased air traffic is contributing to increased carbon emissions which is a concern for many local governments

Local Governments and Councils also contributed to the submission, regarding the benefits of FIFO on mining based communities; however, it should be noted that the comments were primarily provided by the Regional Centre for Home Communities. These benefits included:

- There is an economic opportunity for mining based communities to create a more diverse workforce
- FIFO work practices, by shifting development to regional areas, can reduce pressure on metropolitan infrastructure
- Social benefits also arise from FIFO work practices including the developments of improved infrastructure including airports and increased air services in rural and regional centres, which in turn improves the connectivity between rural towns and regional centres.

The scoping study highlighted that FIFO work practices are perceived to be a double edge sword, with FIFO Impacts being varied and relying on a variety of factors including (Morris, 2012, p.15):

- "Whether the town or region is a supplier of FIFO employees"
- "Whether the Community needs and is demanding a skilled workforce"

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A literature review was also conducted as part of the Scoping Study. This included a review of the KPMG study undertaken for Isaac Regional Council in 2001. Many of the findings of this study supported the evidence documented in the first part of this report's literature review. The KPMG study revealed that FIFO workers may have minimal impact on community services; that there is likely to be a larger impact on other services including road infrastructure, health and police services (Morris, 2012). The KPMG study concluded that as a result of growth in mining sector operations and practices, there was expected growth in the FIFO workforces. Furthermore, this growth would create a shortage of infrastructure and services within mining based communities where FIFO is substantial. The areas that will most likely be impacted on are health and allied services.

Many new issues were also identified. This included:

- Firstly, within the literature review of the Scoping Study, it has been proposed that "the Financial Assistant Grants (FAGs) are being calculated on the basis of resident population estimates with only a small allowance for effective or serviced population" (Morris, 2012, p.10). As a result of this, there has been a shortfall in revenue from the Financial Assistant Grants for mining based communities. The Scoping Study highlighted that pressure is being placed on infrastructure and services in mining based communities from resident and non-resident populations. Local Governments are being forced to respond to the growing needs of infrastructure and services which are heavily being relied on by mining companies and the FIFO workforces.
- Secondly, the Scoping Study highlights that the relocation of FIFO workers to mining based communities is discouraged by the current taxation system, favouring the use of FIFO work practices by mining operations.
- Thirdly, many submissions to the Standing Committee suggested strategies that could provide benefits to areas affected by mining operations. One such strategy was the proposal that in areas of mining "hotspots", population created by FIFO work practices needs to be captured by the Australian Bureau of Statistics (Morris, 2012). At present, many communities hosting these FIFO workforces are being over looked by the ABS.

Inquiry into the use of 'fly-in, fly-out' (FIFO) workforce practices in regional Australia: Cancer of the bush or salvation of our cities, Parliament of Australia

In 2011 the Minister for Regional Australia, Regional Development and Local Government, The Hon Simon Crean MP requested that the House of Representatives Committee report on the "use of 'fly-in, fly-out' (FIFO) and 'drive-in, drive-out' (DIDO) workforce practices in regional Australia" (Parliament of Australia, 2012). The report was released on the 13th February 2013.

The report, Cancer of the Bush or Salvation of our Cities, examined many matters relating to FIFO/DIDO including (House of Representatives, 2013):

- Determining the degree and expected growth in FIFO/DIDO work practices;
- What the opportunities and costs are for individuals and companies choosing to participate in FIFO/DIDO workforce as a substitute to resident workforce; and
- Determining what impact FIFO/DIDO workforces will have on communities that are established.

Several issues raised within the report were in tune with the literature reviewed above.

Fatigue and motor vehicle accidents

The report presented evidence that DIDO workers completing 12 hour shifts and driving several hours to get home contribute to high accident and mortality rates on regional roads. Isaac Regional Council indicated that the number of highway accidents and deaths resulting from these accidents was due to an increased number of DIDO workers suffering from fatigue and vehicle congestion. Whilst many employers were encouraging their employees to take buses to and from work, this service was patronised less by those not living at accommodation specifically designated for mining employees or "camps".

Impacts on local services

The report found that many local councils were being inadequately compensated for costs associated with infrastructure and services associated with FIFO. Furthermore, these councils were unable to plan for the future, not knowing the infrastructure needs of the local community. This was due to “the lack of planning, control and forward projection of FIFO numbers and a complete absence of any robust, independent research about the real cost impact of FIFO workforces on host communities” (House of Representatives, 2013, p. 58).

Population estimates produced by the Australian Bureau of Statistics are currently inadequate, not capturing data related to FIFO workers in a region. As a consequence of this, many local councils and community organisations indicated that the number of people using services in mining based communities is being underestimated, which in turn can result in the “underfunding of services in resource communities” (House of Representatives, 2013, p. 30). In response to these concerns, the Committee made a recommendation that:

“The Commonwealth Government fund the Australian Bureau of Statistics to establish a cross-jurisdictional working group to develop and implement a method for the accurate measurement of:

- *The extent of fly-in, fly-out/drive-in, drive-out workforce practices in the resource sector; and*
- *Service populations of resource communities”.* (House of Representatives, 2013, p. 40)

There is strong evidence that FIFO workers are impacting on medical services, through longer waiting times and additional workloads on medical staff. In response to the health issues presented in mining based communities the Committee proposed the following recommendation (House of Representatives, 2013, p. 63):

“That the Commonwealth Government commission a study of the impact of non-resident workers in regional resource towns on the provision of medical services and as a result of this study develop a health policy response that supports the sustainability of regional medical services”.

Housing affordability

The Report drew a link between FIFO and the inadequate supply and affordability of housing. The literature highlighted that the “current accommodation crises” in mining based communities is primarily a result of “a lack of adequate planning and appropriate land release” (House of Representatives, 2013, p. 79).

The report examined the consequences of high housing costs, including:

- The discouragement of FIFO workers (and their families) to permanently relocate to mining based communities;
- The encouragement of permanent residents in mining based communities to “cash out”, whereby a resident sells a property for a higher price and moves elsewhere where housing prices are less expensive and the cost of living is lower; and
- Individuals participating in the rental market being forced to decide between paying high rental costs or leaving town.

The report also suggested that many workers in the services industry are being compelled to move due to an inadequate supply of accommodation that is affordable in mining based communities. Consequently, small business owners are finding that the inadequate supply of affordable accommodation is making staff recruitment difficult. Finally, the report indicates that the high cost of accommodation is having an effect on members of the community that are “financially vulnerable” (House of Representatives, 2013, p. 81).

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In order to address these issues, the report calls for the development of new housing, through “a staged, planned, process of land release” (House of Representatives, 2013, p. 81). The recommendation is that:

“The Commonwealth Government task the National Housing Supply Council to urgently develop and implement a strategy to address the supply of affordable housing in resource communities and report to the House of Representatives by 27 June 2013 on the progress of this strategy” (House of Representatives, 2013, p. 87).

Social impacts

A submission to the report from the Australian Manufacturing Workers Union highlighted problems related to social isolation for FIFO workers, particularly in relation to alcohol and violence within mining based communities. The report found that some accommodation providers are trying to address the problem of social isolation by providing recreational areas that aim to increase the social interaction between mining employees. Social isolation could also be reduced by increasing interaction between FIFO workers and the local community.

The report also highlighted a declining number of volunteers in mining based communities, suggesting reasons for the “decline in community engagement including 12-hour shifts, ageing population and less willingness in young people to actively volunteer. However, the primary concern raised was a declining permanent population through the move to a FIFO workforce” (House of Representatives, 2013, p. 87).

Business impacts

The report found that “the co-location of work camps containing mini-supermarkets, bars and other services”, that are in close vicinity of mining based communities, can “erode what little benefits the camps could provide” (House of Representatives, 2013, p. 69). On the other hand, the report indicated that through “capacity development” there is an opportunity for many local businesses to be able to deliver goods and services to the FIFO workforce (House of Representatives, 2013, p. 71). As a result of this, the Committee recommended that:

“The Commonwealth Government charge the Australian Small Business Commissioner to enhance the capacity of small businesses in resource communities to participate in servicing the demands of the resource sector” (House of Representatives, 2013, p. 72)

In conclusion, the more recent studies into the impacts of FIFO / DIDO on Local Governments and Communities support the views gathered in the previous literature review. However, many new issues were highlighted by the recent ACELG Scoping Study including the appropriateness of calculating grants based only on population estimates and not on the population that is being serviced; relocation of FIFO workers to mining based communities being discouraged by the current taxation system; and the need for updated processes in capturing the movement of population arising from FIFO workforces. The report *Cancer of the bush or salvation of our cities* by the House of Representatives Standing Committee of Regional Australia further examined the growth and impacts of FIFO or DIDO on mining communities in Regional Australia. The outcomes of this inquiry have outlined strategies and opportunities for mining based communities, in terms of capturing the benefits of FIFO workforces.

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APPENDIX 2: MODELLING METHODOLOGY

In this project the Western Research Institute (WRI) has used SIRE analysis to estimate the economic impact of the MAC facility on the economy of Singleton Local Government Area (LGA).

The impacts are measured in terms of Gross Regional Product, household income and full-time equivalent jobs. All impacts are measured in either dollar terms or full-time equivalent employment terms and as a percentage of the regional economy.

Inter-industry models can be used for economic impact analysis, to estimate the benefits or costs generated by new initiatives on each and every sector of an economy. For example, if there is a change in the purchasing or sales pattern of any industry, the flow-on or multiplier effects on upstream industries can be calculated. Further details about SIRE analysis are provided at the conclusion of this Appendix.

Constructing the Tables

The table for this for this project has been constructed using the GRIT technique developed by Professor Guy West and Professor Rod Jensen of the University of Queensland. The GRIT technique, which uses both national Australian Bureau of Statistics data and local superior data concerning the industry in question, is the most reputable method of input-output table construction in the Australia and indeed elsewhere in the world.

GRIT uses a series of non-survey steps to produce a prototype regional table from the national table, but provides the opportunity at various stages for the insertion of superior data. The system is “variable interference” in that the analyst is able to determine the extent to which they interfere with the mechanical processes by introducing primary or other superior data.

The GRIT system is designed to produce regional tables that are:

- Consistent in accounting terms with each other and with the national table;
- Capable of calculations to a reasonable degree of holistic accuracy; and
- Capable of being updated with minimum effort as new data becomes available.

The GRIT technique is basically a hybrid method of deriving state and regional input-output tables from the national input-output table while at the same time allowing for the insertion of superior data at various stages in the construction of the tables.

The use of SIRE analysis in the tables will result in a more accurate estimate of the significance of the MAC value chain than would be possible with traditional input-output analysis.

Simulating Impacts on Regional Economies: The SIRE Model

Economic modelling at the regional and small area level is restricted by model and data availability. Often, resource and time limitations preclude the construction of complex models such as computable general equilibrium (CGE) models, and in fact there are arguments to suggest that building a CGE model for a small region, while not invalid, may not be a very efficient use of resources in the context of the trade-off between increased complexity and increased data ‘fuzziness’.

Input output modelling is usually used in such cases since it really provides the only practical option to planners. The assumptions of the input output model are concerned almost entirely with the nature of production. Inter-industry models are based on the premise that it is possible to divide all productive activities in an economy into sectors or industries whose inter-relations can be meaningfully expressed as a set of equations. The crucial assumption in the input output model¹ is that the money value of goods and services delivered by an industry to other producing sectors is a linear and homogeneous function of the output level of the purchasing industry with supply being infinitely elastic.

This linearity assumption clearly lays simple IO models open to valid criticism. It implies a strict proportional relationship between input coefficients and output; for example, income coefficients are average propensities and employment coefficients reflect average labor productivity rates. In impact studies, this property can lead to an overestimation of the flow-on (multiplier) effects, particularly if the initial impacts are relatively modest. For example, many industries can increase output in the short term without corresponding proportional increases in wage costs and employment, particularly if there is slack capacity.

In the following section, a more general structural form of a model for simulating impacts on regional economies (SIRE) is suggested which provides for non-linearities in production in both primary and intermediate inputs.

The SIRE model shares much of the structure of the conventional input output model. Total inputs are equal to intermediate inputs plus primary inputs (labour and capital). In the conventional input-output model, the inputs purchased by each sector are a function only of the level of output of that sector. The input function is assumed linear and homogeneous of degree one, which implies constant returns to scale and no substitution between inputs.

The SIRE model departs here from the conventional input-output model by a number of steps that a) replace sets of average propensities with corresponding marginal propensities (elasticities) within the model's major linkages, and b) provide for changes in intermediate input coefficients as a function of relative price changes. There is room for variation between models and applications in the implementation and specifications of these linkages.

Primary Inputs

The first step is to allow for non-constant returns to scale and substitution between primary input factors. Value added at factor cost is calculated based on marginal changes in output by industry. The value added elasticities are estimated econometrically for industry i using time-series data assuming a long-run equilibrium relationship between real value added at factor cost and total production.

The shares of wage (compensation of employees) and non-wage (gross operating surplus and mixed income) contributions to factor costs are assumed to be based on the same long-run relationship as that for total value added. The change in wage cost is then calculated from the marginal change in the share of wage costs in total factor costs. Gross operating surplus plus mixed income is calculated as the residual. The change in employment is calculated based on the average wage rate in each industry times the change in wages.

Household Consumption Expenditure

In a similar manner to primary inputs, total household consumption expenditure is assumed to follow long-run equilibrium relationship between real consumption and income. Ideally, consumption expenditure should be a function of disposable income and the function should also include variables such as wealth, etc. In this simplified version of the model, income is taken as wage income.

¹ Input-output is a special case of inter-industry analysis. Inter-industry economics encompasses any methodology which takes into account the interdependence among the productive units of the economy. Input-output is only one of several methods for analysing these interdependencies.

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To ensure consistency between the long-run and short-run relationships, the constraint should be satisfied which gives a long-run elasticity equal to unity. The estimated short-run elasticity of consumption with respect to wage income is 0.926. Individual commodity expenditures are expressed in terms of total expenditure and are assumed to be based on the same long-run relationship as that for total expenditure. The budget shares for each commodity should remain constant in the long-run but that the short-term fluctuations are possible as income changes. Industry sourced non-wage household income is included in the other value added component of primary inputs.

Intermediate Inputs

Intermediate input coefficients can vary because of substitution effects caused by relative price changes, or through changes in technology. Technology change is generally regarded as a long run phenomenon. Hence, in short run impact situations, price effects will be the major source of change.

The regional technology coefficient is the sum of the regional purchase coefficient and the regional import coefficient and industry output prices are a weighted average of industry local and import prices. Note that the regional direct requirements coefficients can change, even when industry technology is fixed, as a result of relative price changes.

Import Substitution

The price model can also be used to adjust the regional purchase coefficients by calculating the substitution effect between locally produced and imported purchases. In most impact situations at the regional level, it can be assumed that changes in local production will have no or negligible effect on import prices. The Trade Weighted Index provides the base level differential between the local and import price levels. In addition, when adjusting the regional purchase coefficients, a penalty function is applied as a surrogate for capacity limitations in the case where the local price decreases relative to the import price thus resulting in increased demand for the local product.

Model Solution

The structural equations in this type of model cannot be solved analytically, because the input coefficients vary with the endogenous variables and thus also become endogenous. Hence, the solution procedure requires the use of an iterative recursive algorithm, such as the Gauss-Seidel method.

The operational performance of the model, compared to the conventional input-output model, is determined in part by the productivity gains, both labour and capital, experienced by industries as they expand. This results in reduced unit factor costs and local product prices. If import prices are assumed to be unaffected by local production, then the reduction in local prices relative to import prices will see a shift towards locally produced inputs, thus further stimulating local production. The extent of these additional flow-on effects will not only depend on the relative shifts in local and import prices, but also the elasticity of substitution between local and imported inputs.

This has implications for the results of this type of model, particularly if compared with those from the conventional input-output model. If price effects are ignored, then we would expect that, while the output multipliers and impacts may not be significantly different, income and employment impacts should be smaller because of the marginal coefficients associated with labour productivity. This is because many industries, especially those that are more capital intensive and can implement further productivity gains, can increase output, particularly in the short run, without corresponding proportional increases in employment and hence income payments. However, when price effects are incorporated into the model, the direction of change becomes less clear, since these potentially can generate compounding or offsetting changes. If the import substitution elasticities are inelastic, then this will reinforce the downward effects on multipliers, but if the elasticities are large (elastic) then the price effects offset the productivity gains and the multipliers and impacts could exceed those from the conventional input-output model.

Operational Phase: Assumptions

The assumptions made in deriving the economic impact of the Operational Phase are detailed below:

The Singleton hospitality sector was chosen as a proxy for the new development and sector flows were calculated by pro-rating the total sector's flows according to the number of FTE staff estimated to be employed by The MAC. For the 400 room facility, there was an assumption made by WRI that 50 FTE staff were required by The MAC. This figure takes into account the expected 20 FTE staff that are directly employed by The MAC plus an additional 30 FTE subcontractors to The MAC. For the 1,500 room facility, WRI assumed that 135 FTE staff were required by The MAC. This takes into account the expected 75 FTE staff that are directly employed by The MAC plus an additional 60 FTE subcontractors. Only an additional 60 FTE staff were assumed to be required by The MAC as a result of economies of scale and reduced occupancy rate due to a larger scale.

Extra expenditure in the region by additional mining employees able to stay in the area as a result of The MAC facility was also modelled. It has been assumed that, of the miners residing at the new facility, 20% are additional mining employees in the Singleton area, that is, 80% would have found accommodation elsewhere in Singleton had the facility not existed. At full capacity, WRI has assumed that there would be 80 additional mining employees to the area for a 400 room facility and 300 additional mining employees for a 1,500 room facility. It has been assumed that the mining employees living in the facility have a similar expenditure pattern locally as found by Rolfe et al (2007a). Data from that study has been inflated to current values

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WRI is a regional development research organisation located in Bathurst, New South Wales. WRI holds a wealth of knowledge on employment, business development and investment issues affecting regional Australia. It has worked with Commonwealth, State and Local Governments and industry groups on numerous investment and development programs in regional areas. WRI has strong credentials in business and commercial market consulting and applied economic modelling including input-output analysis, shift-share, agribusiness and regional socio-economic surveys and analysis.

Dr. Andrew Johnson - Chief Executive Officer

BA(Hons I) Newcastle, PHD (UWS)

Andrew Johnson has over 20 years' experience in research leadership with a strong focus on the resources and not for profit spheres.

Andrew has recently held the position of Director of Research Development at the University of Newcastle (UoN), Australia. During his 12 years, Andrew achieved a number of substantial outcomes including raising in excess of \$30 million in research funds to support a number of collaborative research partnerships with industry and government. He led the establishment of the Research Development office at UoN and built a team of 4 Research Development staff. He was Interim CEO of the CRC for Social Inclusion bid which was shortlisted in 2010. Andrew also played a key role in the highly successful energy strategy led by Research Division UoN which included a successful \$30 million EIF application for the Newcastle Institute for Energy and Resources.

Andrew's skills are best suited to building capacity, sustaining collaborations, managing research programs and building networks and spheres of influence, both in the public sector and industry. Attracting new business and partnerships and ensuring their longevity by establishing appropriate governance mechanisms drives his approach to work.

Ms Danielle Ranshaw – Research Manager

BEc&Fin NSW

Danielle's experience in project management in the information technology sector combined with qualifications in economics and finance provides a solid background for WRI projects. With skills in systems design and development, Danielle has been able to extend WRI's capability in developing robust and increasingly complex systems to support research fieldwork. Additionally, Danielle has extensive experience in business process analysis, performance planning and review, report writing and project planning.

Dr. Ivan Trofimov - Research Officer

PHD (Macquarie) MEcSt (UNE) MA (Auckland)

Ivan is an economic and public policy analyst and brings experience in macroeconomics, corporate governance and international trade to WRI projects. Prior to joining WRI, he worked in corporate advisory firms, focusing on economic research and evaluation of corporate governance practices, and in a peak industry body, responsible for pharmaceutical policy formulation in Australia. He was also involved in consulting projects for the Commonwealth Secretariat, APEC Research Centre (New Zealand) and Pacific Islands Trade and Investment Commission. Ivan holds a PhD in Applied Economics from Macquarie University, and master degrees in agricultural and development economics from the University of New England and University of Auckland. He has published several papers in international economic journals.

Ms Rebecca Hood - Research Officer

BBus (Fin/Acc) With Distinction CSU

After working in the Financial Services Industry for several years coupled with a degree in Finance and Accounting from Charles Sturt University, Rebecca brings strong skills in finance, economics, business and accounting to WRI projects. Rebecca's extensive experience in the finance field and her high level understanding of current market knowledge gives Rebecca a solid understanding of the financial needs of regional and rural Australia. Having prior experience with local councils and retail, Rebecca also brings a robust understanding of the needs of regional businesses in our local economy to her role at WRI

Ms Dale Curran – Executive Officer

BA ANU

Dale is responsible for all administrative processes at WRI including executive support, finance, management of the Board of Directors and maintenance of policies. She has worked in a variety of roles at WRI, including Fieldwork Supervisor and Research Assistant, and has worked on several community and business surveys. Dale brings a high level of organisational skill to her role as Executive Officer.

WRI ASSOCIATES

Mr Tom Murphy – Associate

B.Ec. (Hons I) M.Sc. (Econ) Lancaster

Tom Murphy was WRI's founding CEO and held this position from 1999 until his retirement in December 2012. Under Tom's leadership WRI completed over 300 projects for all levels of government and government departments, industry groups, businesses, financial institutions, regional development boards and community groups, and educational institutions including universities, TAFE and schools in NSW, Victoria and Queensland.

Tom previously held academic positions as senior lecturer in Economics and Director of the Regional Economics Research Unit in the Faculty of Commerce, Charles Sturt University, Bathurst and positions at the University of New England and Macquarie University. He has also held the positions of Economic Analyst with the Office of National Assessments in Canberra, with responsibility for the ASEAN economies and Senior Consultant with KPMG Peat Marwick Management Consultants.

Tom's particular expertise is in regional economics and labour markets, and he has published in a wide range of economic subject areas in refereed and non-refereed articles, books and textbooks. Tom has a high local media profile in Western NSW for economic and social commentary and also features regularly on national radio particularly in connection to the quarterly agribusiness survey conducted for Westpac Australia wide.

Dr Guy West - Associate

Professor Guy West is experienced in regional economics with specialisation in applied quantitative economics. Current research interests include the theory and application of inter-industry models particularly in an integrated spatial econometric framework, the nature of economic structure at the regional and national levels, and regional economic projection, planning and growth. This revolves primarily around the study and identification of economic structure, involving concepts such as fundamental economic structure, structural change and evolution.

Dr. West has published extensively in international journals at both theoretical and empirical levels. He is an accomplished computer programmer and has developed a number of specialised economic models for analysing structural change, as well as more generalised software for inter-industry analysis. Some of this software is used extensively in universities in Australia, US, UK and Europe. He has been actively involved in consulting and advisory work in the area of economic impact analysis, planning, development and economic policy for federal, state and local government and the private sector.

