

The Economic Contributions of Three Queensland Defence Precincts

Executive Report

Australian Government Department of Defence

July 2010

This Executive Summary has been prepared for the:

Australian Government Department of Defence

This report has been prepared by:

SGS Economics and Planning Pty. Ltd.

ACN 007 437 729

Level 1, 55 Woolley Street

Or

PO Box 788

Dickson ACT 2602

phone: 61 2 6262 7603

fax: 61 2 6262 7564

email: sgsact@sgsep.com.au

web: www.sgsep.com.au



1 Introduction

1.1 Purpose

SGS Economics and Planning (SGS) was commissioned by the Department of Defence (Defence) to undertake a study on the economic contributions of three Queensland Defence precincts. The purpose of this study is to quantify and articulate the scale of economic contributions made by Defence precincts to their respective regional and state economies.

Though it is broadly understood that Defence precincts make economic contributions to regional and state economies, some precincts face threats to the scale of their activities from incompatible development of nearby land (urban encroachment). Urban encroachment can cause pressure on a Defence precinct to restrict or scale back its operations, potentially jeopardizing the capability of Defence to carry out those activities essential to the viability and sustainability of its ongoing mission to defend Australia.

This analysis therefore presents information about the economic value of three Defence precincts and their activities in Queensland, and in particular, their contributions to the economies of the regions in which they are located as well as their contribution to the Queensland state economy. The three Defence precincts included in this study are:

Cairns Defence Precinct, Queensland:

- HMAS Cairns; and
- Porton Barracks and Queerah Magazine.

Oakey Defence Precinct, Queensland:

- Borneo Barracks; and
- Oakey Army Aviation Centre.

Canungra Defence Precinct, Queensland:

- Canungra Military Area.

These three precincts were selected for closer study because they are good examples of where urban encroachment is seen as an immediate and future threat to the scale of Defence operations in those localities.

1.2 Methodology

The methodology for this study involved two stages of analysis. The first stage involved collection and collation of information and data about the socio-demographic and economic characteristics of each of the three precincts. The second stage involved the development of regional input-output models to enable the direct economic contributions to be quantified and to determine multipliers for estimating total contributions. The models are then applied to the economic catchment at the regional level and at the state level. In preparing the modelling, some limitations and assumptions were made and these are articulated in the full report.

1.3 Types of Economic Contributions of the Precincts

Defence precincts create economic value at several levels. They make direct contributions through the payment of wages to employees and a substantial proportion of this is spent in the local region. Defence precincts also increase the revenue available to federal, state and local governments because the precinct and many of its employees pay rates and taxes. An economy also benefits from the provision of infrastructure to a Defence precinct. Providing services such as roads, sewage, water and electricity to a precinct reduces the subsequent cost of other forms of development nearby.

Direct contributions also lead to indirect contributions through the additional payments a Defence precinct generates in an economy. For example, through retail spending of Defence employees supports the employment of additional people in the region, and through the precinct purchasing services from local providers. In turn, these local providers will also need to spend some of their money in the economy. An assessment of indirect contributions therefore traces this flow of money through the economy.

These can be measured in terms of overall economic activity (output), the value added (profits and wages component) of the overall economic activity and the employment generated to sustain the level of output.

Using key economic information about each Defence Precinct and a regional input-output model for each region, the economic modelling identifies economic interactions between the Defence Precinct and all industry sectors in the economic catchment region. The model estimates that the total contribution that a Defence Precinct makes to its regional economy is the sum of **direct contributions** in terms of the output, value added and employment that arises directly because of the precinct's activities; and the **indirect contributions**¹ which result from the additional output, value added and employment generated in the catchment region due to the presence of the precinct. Examples of indirect contributions include housing and retail expenditure in the catchment region that occur because of the presence of the precinct (that is, precinct employees spending their wages on home purchases, rentals and shopping).

A summary of the direct contributions for each Defence precinct are as follows:

The Cairns Defence Precinct:

- directly employs 1,144 Full Time Equivalent (FTE) staff (military and civilian);
- directly pays \$58.1 million in wages; and
- directly spends \$8.8 million on Defence housing and private rental assistance.

The Oakey Defence Precinct:

- directly employs 1,047 FTE staff;
- directly pays \$58.5 million in wages;
- directly spends \$16.6 million on maintenance; and
- directly spends \$8.9 million of a projected \$37.5 million on capital works projects.

¹ It is important to note that indirect contributions may not be realised immediately and refers to the generation of output, value added or employment in years to come. However, it is expected that it would primarily be realised in the earlier years and diminish after that.

The Canungra Defence Precinct:

- directly employs 297 FTE staff;
- directly pays \$14.8 million in wages; and
- directly spends \$11.2 million on maintenance.

The overall magnitude of these direct contributions are increased further when the economic flow on effects are considered. Direct contributions lead to indirect contributions through the additional payments the Defence precincts' direct expenditure generates in an economy. In summary:

The Cairns Defence Precinct:

- indirectly generates an additional \$189.6 million in overall economic activity (output) in the Queensland State economy;
- indirectly generates and additional \$84.4 million in profits and wages (value added) in the Queensland State economy; and
- indirectly generates an additional 748 FTE jobs in the Queensland State economy.

The Oakey Defence Precinct:

- indirectly generates an additional \$205.7 million in overall economic activity (output) in the Queensland State economy;
- indirectly generates and additional \$92.3 million in profits and wages (value added) in the Queensland State economy; and
- indirectly generates an additional 812 FTE jobs in the Queensland State economy.

The Canungra Defence Precinct:

- indirectly generates an additional \$60 million in overall economic activity (output) in the Queensland State economy;
- indirectly generates and additional \$27.2 million in profits and wages (value added) in the Queensland State economy; and
- indirectly generates an additional 237 FTE jobs in the Queensland State economy.

Defence employees and their families also bring other less tangible benefits to community life. While this is beyond the scope of this study, it is important to note that in previous studies of other Defence precincts, we found a wide range of contributions to what might be termed 'social capital' that would be lost without the presence of a Defence precinct. Additionally, if a Defence precinct closes or is significantly scaled back, not only are these benefits reduced, but additional costs can be imposed on the community through infrastructure mismatch. For example, a significant fall in school enrolments can lead to pressure to close schools, or push up the cost of education per student. Similar effects can also occur in the health sector.

The following synopsis provides an overview of the economic contributions of the three precincts.

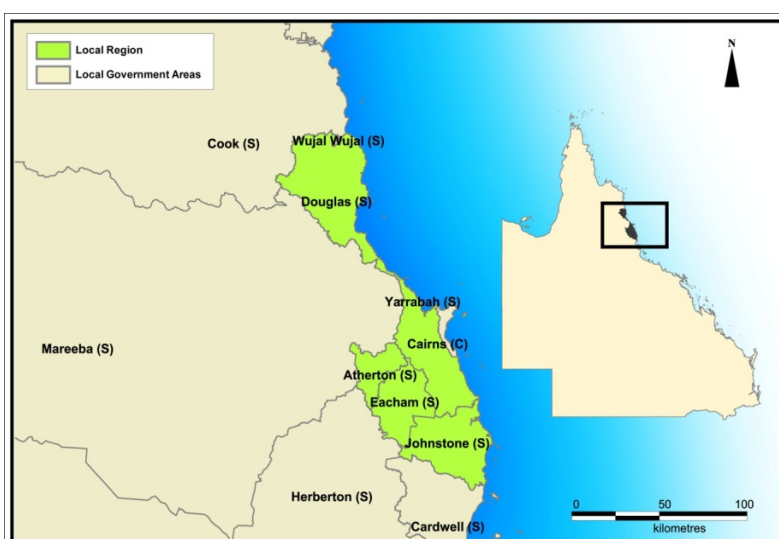
2 Cairns Defence Precinct, Queensland

HMAS Cairns is located in the City of Cairns, on the northern shore of Trinity Inlet and close to the central business district of Cairns, and Porton Barracks is located approximately 10km south of the Cairns CBD in a developing industrial estate at Edmonton. Both these facilities support a number of Defence personnel and activities.

Figure 1 illustrates the Cairns Defence Precinct economic catchment region. For ease of data collection and economic modelling purposes, the Cairns Defence Precinct economic catchment region (herein after referred to as the *Cairns Region*) has been defined by 2006 ABS Census local government areas and includes the following (former) local government areas²:

- Atherton (S) Local Government Area;
- Cairns (C) Local Government Area;
- Douglas (S) Local Government Area;
- Eacham (S) Local Government Area;
- Johnstone (S) Local Government Area; and
- Yarrabah (S) Local Government Area.

Figure 1. The Cairns Defence Precinct: location and economic catchment region



2.1 The Economic Contributions of the Cairns Defence Precinct

Figure 2 summarises the contributions made by the Cairns Defence Precinct to the Cairns region economy and the Queensland State economy. The economic multiplier for the Cairns Defence Precinct is 2.25. That is, for every \$1 spent, a further \$1.25 of overall economic value (output) is indirectly generated in the Cairns Region economy. When the indirect contributions at the state level are modelled this multiplier increases to 2.92.













Of the overall economic value (output) that is created, the total contribution (direct plus indirect) to the value added component (profits and wages) of the Cairns Region economy is estimated to be \$112.9 million, and the total value added contribution to the Queensland state economy is estimated to be \$138 million.

² The Queensland Government implemented new Local Government boundaries in 2007 with effect from March 2008. These reforms affected almost all local government areas in Queensland.

In terms of employment, for every two Defence full-time equivalent (FTE) jobs in the Region, approximately one extra FTE job is created elsewhere in Cairns region economy. This increases to approximately two extra FTE jobs for every three Defence FTE jobs that are created elsewhere when the Precinct's relationship with the Queensland economy is modelled.

Figure 2 also shows that in terms of output/turnover and employment, 35 per cent of the total indirect contributions generated by the presence of the Cairns Defence Precinct are generated beyond the Cairns Region Economy and into to the wider Queensland economy. While in terms of value added, approximately 29 per cent of the total indirect contributions flowed beyond the Region and into the wider Queensland economy.

Figure 2. The Cairns Defence Precinct - Summary of the Economic Contributions to the Cairns Region and Queensland State Economy³

	Direct Contribution	Indirect Contribution to the Cairns Region	Indirect Contribution to the Wider QLD Economy	Total Contribution
OUTPUT/ TURNOVER	 \$98.6m	 \$123.0m	 \$66.6m	 \$288.2m
VALUE ADDED	 \$52.9m	 \$60.0m	 \$25.1m	 \$138.0m
EMPLOYMENT	 1,144	 523	 226	 1,893

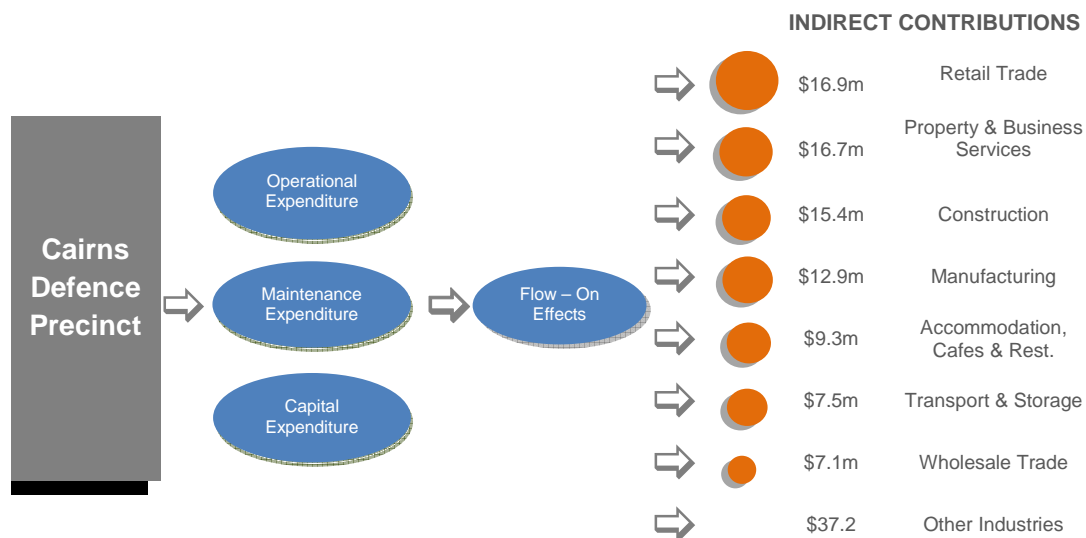
Source: Department of Defence and ABS Australian National Accounts - Input Output Tables with calculations and interpretations by SGS Economics and Planning, 2010

³ Figures in this table may differ slightly from estimates presented elsewhere in this report, which used an econometric model based upon state level data that does not distinguish smaller regions.

2.2 Summary of Indirect Contributions to the Cairns Region

Figure 3 summarises how the indirect contributions generated in the Cairns Region as a result of the presence of the Defence precinct are distributed across other industries within the region. In other words, it highlights the industries with key supply chain linkages to the Defence Precinct⁴.

Figure 3. The Cairns Defence Precinct – The Distribution by Industry Sector of Indirect Contributions to the Cairns Region Economy, 2008



Source: Department of Defence and ABS Australian National Accounts - Input Output Tables with calculations and interpretations by SGS Economics and Planning, 2010

The most significant indirect contribution made by the Cairns Defence Precinct is to the retail trade sector (\$16.9 million). This indirect linkage between a Defence precinct and the retail trade sector is not uncommon. This is largely because Defence employees spend some of their wages on retail trade, which includes store-based retailing, such as food and fuel retailing, hardware, building and garden supplies, and supermarkets and department stores.

The second most significant indirect contribution is \$16.7 million, which is made to the property and business services sector. This indirect linkage between the Precinct and the property and business services sector occurs on two levels. The first is the indirect flow to the Business Services component of the sector, which occurs because the companies that *directly* service the Precinct's supply requirements later spend some of their revenue on Business Services such as accounting and legal services, technical and computer services and marketing and business management services. The second is the indirect contribution to the Property Services component, which occurs

⁴ Due to rounding, the sum of the indirect contributions by industry sector may not equal the total indirect contributions reported in the previous section.

because of payments made by Defence employees to real estate agents for renting or leasing properties and homes.

The construction industry received an indirect contribution of \$15.4 million. This indirect relationship occurs mainly as a result of the extra property development, both commercial and residential that is required to support the additional economic activity that is generated in the Cairns Region economy as a result of the presence of the Cairns Defence Precinct.

It is therefore evident that a large proportion of the operating and maintenance expenditure of the Cairns Defence Precinct flows into the Cairns region economy.

3 Oakey Defence Precinct

The Army Aviation Centre, Oakey (AACO) is an Australian Army operated airfield located approximately two kilometres north-east of the township of Oakey in a predominantly rural area of South-East Queensland and occupies an area of approximately 850 hectares. Borneo Barracks is located at Cabarlah, approximately 20 kilometres north of Toowoomba on the New England Highway. Both these facilities provide important logistical support to a range of Defence activities.

Figure 4. The Oakey Defence Precinct: location and economic catchment region

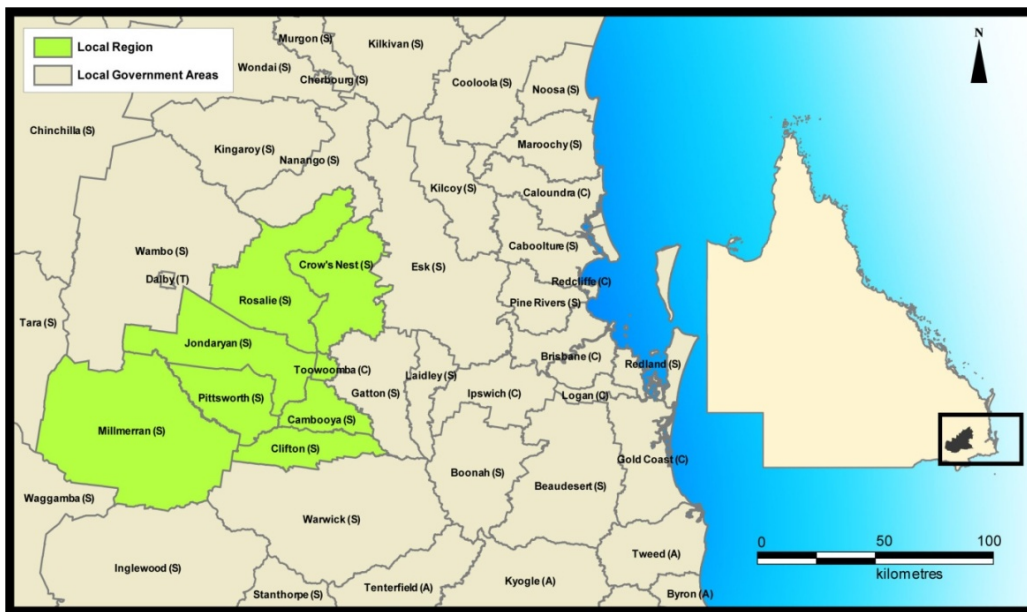


Figure 4 illustrates the Oakey Defence Precinct economic catchment region. For ease of data collection and economic modelling purposes, the Oakey Defence Precinct economic catchment region (herein referred to as the *Toowoomba Region*) has been defined by 2006 ABS Census local government areas and includes the following (former) local government areas:

- Cambooya (S) Local Government Area;
- Clifton (S) Local Government Area;
- Crow's Nest (S) Local Government Area;
- Jondaryan (S) Local Government Area;
- Millmerran (S) Local Government Area;

- Pittsworth (S) Local Government Area;
- Rosalie (S) Local Government Area; and
- Toowoomba (C) Local Government Area.

3.1 The Economic Contributions of the Oakey Defence Precinct













Figure 5 summarises the contributions made by the Oakey Defence Precinct to the Toowoomba region economy and the Queensland State economy. The economic multiplier for the Oakey Defence Precinct is 2.05. That is, for every \$1 spent, a further \$1.05 of overall economic value (output) is indirectly generated in the Toowoomba Region economy. When the indirect contributions at the state level are modelled this multiplier increases to 2.94.

Of the overall economic value (output) that is created, the total contribution (direct plus indirect) to the value added component (profits and wages) of the Toowoomba Region economy is estimated to be \$98.4 million, and the total value added contribution to the Queensland state economy is estimated to be \$145.8 million.

In terms of employment, for every two Defence FTE jobs in the Region, approximately one extra FTE job is created elsewhere in the Toowoomba region economy. This increases to approximately one and a half extra jobs for every two Defence jobs that are created elsewhere when the Precinct's relationship with the Queensland economy is modelled.

Figure 5 shows that in terms of output/turnover, value added and employment, approximately 46 per cent of the total indirect contributions generated by the presence of the Oakey Defence Precinct flows beyond the Toowoomba Region into the remainder of the Queensland State economy.

Figure 5. The Oakey Defence Precinct - Summary of the Economic Contributions to the Toowoomba Region and Queensland State Economy⁵

	Direct Contribution	Indirect Contribution to the Toowoomba Region	Indirect Contribution to the Wider QLD Economy	Total Contribution
OUTPUT/ TURNOVER	 \$106.1m	 \$111.0m	 \$94.7m	 \$311.8m
VALUE ADDED	 \$47.1m	 \$51.4m	 \$47.3m	 \$145.8m
EMPLOYMENT	 1,047	 469	 343	 1,859

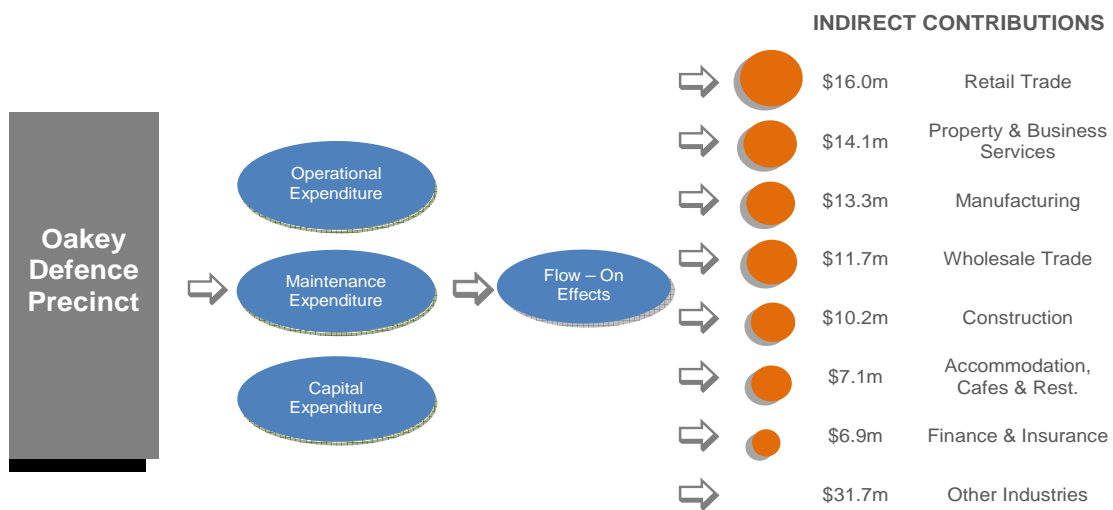
Source: Department of Defence and ABS Australian National Accounts - Input Output Tables with calculations and interpretations by SGS Economics and Planning, 2010

⁵ Figures in this table may differ slightly from estimates presented elsewhere in this report, which used an econometric model based upon state level data that does not distinguish smaller regions.

3.2 Summary of the Indirect Contributions to the Toowoomba Region

Figure 6 summarises how the indirect contributions generated in the Toowoomba Region as a result of the presence of the Defence precinct are distributed across other industries within the region. In other words, it highlights the industries with key supply chain linkages to the Defence Precinct⁶.

Figure 6. The Oakey Defence Precinct – The Distribution by Industry Sector of Indirect Contributions to the Toowoomba Region Economy, 2008



Source: Department of Defence and ABS Australian National Accounts - Input Output Tables with calculations and interpretations by SGS Economics and Planning, 2010

The most significant indirect contribution made by the Oakey Defence Precinct to industries in the Toowoomba Region was \$16.0 million to the retail trade sector. As previously stated, this indirect linkage between a Defence precinct and the retail trade sector is not uncommon, largely because Defence employees spend some of their wages on retail trade, which includes store-based retailing such as, food and fuel retailing, hardware, building and garden supplies, and supermarkets and department stores.

Another significant indirect contribution was made to the property and business services sector (\$14.1 million). As previously stated, this indirect linkage between the Precinct and the property and business services sector occurs on two levels. The first is the indirect flow to the Business Services component of the sector, which occurs because the companies that *directly* service the Precinct's supply requirements later spend some of their revenue on Business Services such as accounting and legal services, technical and computer services and marketing and business

⁶ Due to rounding, the sum of the indirect contributions by industry sector may not equal the total indirect contributions reported in the previous section.

management services. The second is the indirect contribution to the Property Services component, which occurs because of payments made by Defence employees to real estate agents for renting or leasing properties and homes.

The manufacturing industry also received a large indirect contribution of \$13.3 million. This indirect relationship occurs mainly as a result of the extra manufacturing (both agricultural related and non-agricultural related) that is required in the Cairns Region economy to support the extra economic activity generated by the Cairns Defence Precinct.

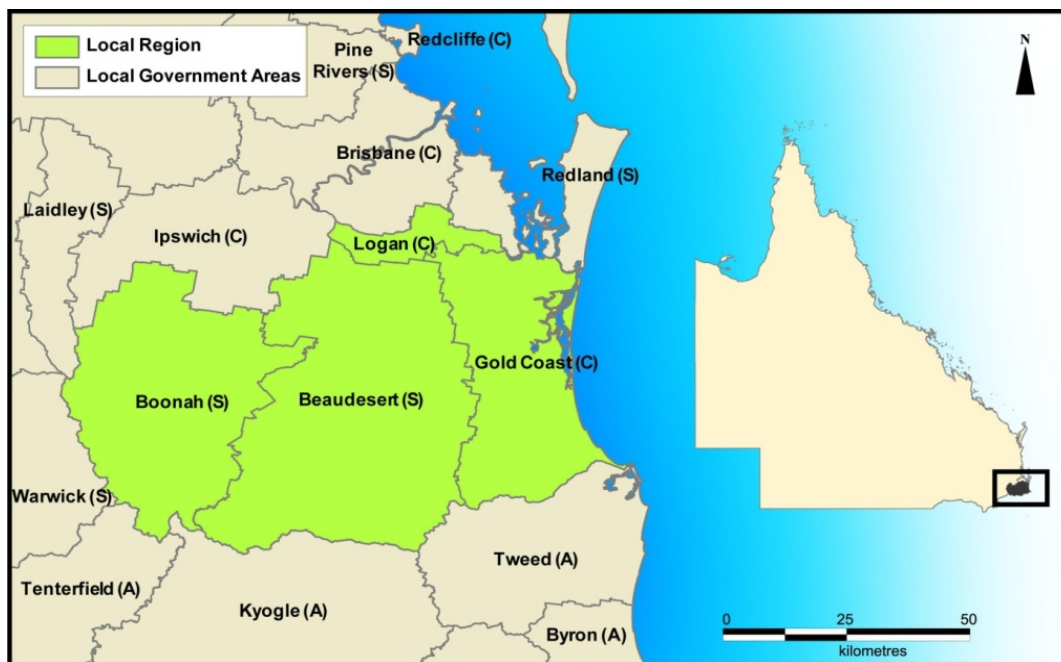
4 Canungra Defence Precinct

The Canungra Military Area (CMA) is located within the Gold Coast hinterland approximately 90km south of Brisbane and covers a total area of approximately 6,000 hectares. The CMA dates back to World War II when the base was established to train soldiers in jungle warfare and comprises the Kokoda Barracks and the Canungra Training Area. Kokoda Barracks is sited across three ridges and includes the main training, administrative and accommodation facilities.

Figure 7 illustrates the Canungra Defence Precinct economic catchment region. For ease of data collection and economic modelling purposes, the Canungra Defence Precinct economic catchment region (herein referred to as the *Canungra Region*) has been defined by 2006 ABS Census local government areas and includes the following (former) local government areas:

- Beaudesert (S) Local Government Area;
- Boonah (S) Local Government Areal;
- Gold Coast (C) Local Government Area; and
- Logan (C) Local Government Area.

Figure 7. The Canungra Defence Precinct: location and economic catchment region



4.1 The Economic Contributions of the Canungra Defence Precinct

Figure 8 summarises the contributions made by the Canungra Defence Precinct to the Canungra Region Economy and the Queensland State Economy.













The economic multiplier for the Canungra Defence Precinct is 2.09. That is, for every \$1 spent, a further \$1.0 of overall economic value (output) is indirectly generated in the Canungra Region economy. When the indirect contributions at the state level are modelled this multiplier increases to 2.94.

Of the overall economic value (output) that is created, the total contribution (direct plus indirect) to the value added component (profits and wages) of the Canungra Region economy is estimated to be \$30.2 million, and the total value added contribution to the Queensland state economy is estimated to be \$41.8 million.

In terms of employment, for every two Defence FTE jobs in the Region, approximately one extra FTE job is created elsewhere in Canungra region economy. This increases to approximately two and a half extra FTE jobs for every three Defence FTE jobs that are created elsewhere when the Precinct's relationship with the Queensland economy is modelled.

Figure 8 also shows that in terms of output/turnover and employment, 43 per cent of the total indirect contributions generated by the presence of the Canungra Defence Precinct are generated beyond the Cairns Region Economy and in the remainder of the Queensland economy. While in terms of value added, approximately 38 per cent of the total indirect contributions flow beyond the Region and into the remainder of the Queensland economy.

Figure 8. The Canungra Defence Precinct - Summary of the Economic Contributions to the Canungra Region and Queensland State Economy⁷

	Direct Contribution	Indirect Contribution to the Canungra Region	Indirect Contribution to the Wider QLD Economy	Total Contribution
OUTPUT/ TURNOVER	 \$30.9m	 \$33.8m	 \$26.2m	 \$90.9m
VALUE ADDED	 \$14.5m	 \$16.8m	 \$10.5m	 \$41.8m
EMPLOYMENT	 297	 135	 102	 534

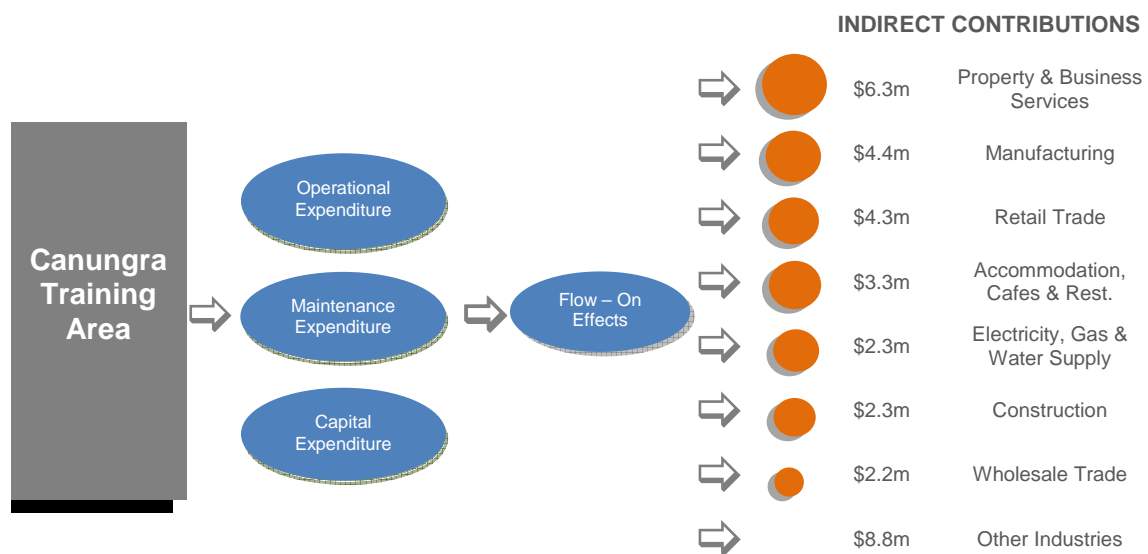
Source: Department of Defence and ABS Australian National Accounts - Input Output Tables with calculations and interpretations by SGS Economics and Planning, 2010

⁷ Figures in this table may differ slightly from estimates presented elsewhere in this report, which used an econometric model based upon state level data that does not distinguish smaller regions.

4.2 Summary of the Indirect Contributions to the Canungra Region

Figure 9 summarises how the indirect contributions generated in the Canungra Region as a result of the presence of the Defence precinct are distributed across other industries within the region. In other words, it highlights the industries with key supply chain linkages to the Defence Precinct⁸.

Figure 9. The Canungra Defence Precinct– Distribution by Industry Sector of Indirect Contributions to the Canungra Region Economy, 2008



Source: Department of Defence and ABS Australian National Accounts - Input Output Tables with calculations and interpretations by SGS Economics and Planning, 2010

The most significant indirect contribution made by the Canungra Defence Precinct to the Canungra Region economy was \$6.3 million to the property and business services sector. Again, as previously stated, this linkage is not uncommon for Defence precincts. This indirect linkage occurs on two levels. The first is the indirect flow to the Business Services component of the sector, which occurs because the companies that *directly* service the Precinct's supply requirements later spend some of their revenue on Business Services such as accounting and legal services, technical and computer services and marketing and business management services. The second is the indirect contribution to the Property Services component, which occurs because of payments made by Defence employees to real estate agents for renting or leasing properties and homes.

⁸ Due to rounding, the sum of the indirect contributions by industry sector may not equal the total indirect contributions reported in the previous section.

5 Conclusions

The size of both the direct and indirect contributions made by each Defence precinct to their respective economic catchment regions varies significantly between the precincts. This reflects both the relative size of the Defence precincts, and the scale and intensity of the regional and state economy in which they are located.

Compared to the other two Defence precincts, the Canungra Defence Precinct makes the smallest contributions at the state level. This is not a function of the scale or intensity of the linkages between the Precinct and the broader economy, but more a function of the size of the Precinct's direct expenses compared to the other Precincts. In other words, at the regional and state level, the multipliers were similar between all three Defence precincts; however, it is the size of the direct contributions that varies significantly.

On the other hand, the Cairns Defence Precinct and the Oakey Defence Precinct are the biggest drivers of State and Regional economic activity in terms of both value added and employment.

Again, it follows that increases or decreases in a precinct's activities could impact on regional and state economies. As always, the scale of the impact would depend on the nature of the increase or decrease in the type of Defence activities within a particular Defence precinct.

It is clear that increases or decreases in the activities of Defence precincts could have a significant impact on the regional economy in which the precinct is located. Furthermore, for regional economies, the size of residential and/or working populations are directly and indirectly linked to increases or decreases in the scale of Defence activities within the region.