ECONISIS

KEY WORKER HOUSING INVESTMENT FOR NEWROC:

COST BENEFIT ANALYSIS

Client: North Eastern Wheatbelt Regional Organisation of Councils (NEWROC)

Title: NEWROC Key Worker Housing

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APPROVAL FOR ISSUE

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EXECUTIVE SUMMARY

Introduction

- The North Eastern Wheatbelt Regional Organisation of Councils (NEWROC) Inc, in partnership with the Wheatbelt Development Commission, engaged Econisis to prepare a cost benefit analysis and preliminary business case for key worker housing initiatives in the NEWROC region.
- NEWROC is the North Eastern Wheatbelt Regional Organisation of Councils. NEWROC is a collaboration of local governments that work to coordinate regional planning and deliver programs that support economic development and liveability across the north eastern Wheatbelt. The project area is the NEWROC membership, comprising the shires of Dowerin, Koorda, Mukinbudin, Mount Marshall, Nungarin, Trayning and Wyalkatchem. The Shire of Wongan Ballidu has also been included in the project, although it is not a member of NEWROC.
- The NEWROCK WORKFORCE HOUSING INVESTIGATION 2025 (NWHI) for the region presents evidence to confirm the extent of the key housing need across the Shires.
- The purpose of this report is to assess the benefits and impacts of Key Worker Housing investment in the NEWROC Region.

Project Context

- The North Eastern Wheatbelt Regional Organisation of Councils, NEWROC, is a voluntary partnership of seven local government areas, namely Dowerin, Koorda, Mount Marshall, Mukinbudin, Nungarin, Trayning and Wyalkatchem. The organisation was formed to strengthen inter-council cooperation and coordinate region-level planning and advocacy; it is governed by councillors from member shires and supported by administrative arrangements that include an executive officer and shared governance documents. NEWROC covers roughly 22,000 square kilometres in the north-eastern Wheatbelt. The organisation functions as a delivery vehicle for regionally scaled economic development.
- The total population of the catchment area is 4,581 people according to 2024 ABS data. It has been slowly declining since 2001 and WA Tomorrow forecasts expect it to decline to 4,270 people by 2036. Population growth within the region is constrained by the availability of housing to meet the needs of new workers and their families.
- The project is defined as a shortlist of development-ready sites that have been identified to provide key worker housing in the NEWROC region. The shortlisted sites provide a maximum of 26 key worker modular long-term residential dwellings. A further 9 dwellings across two sites were also identified as “shovel ready” in Tammin and Bruce Rock and have been assessed using unit value estimates.

Cost Benefit Analysis

- A cost benefit analysis (CBA) is the most commonly used, and most comprehensive, of the economic evaluation techniques.
- Econisis has identified numerous key benefits for consideration in the Benefit Statement including:
    - Construction Supply Chain Benefits
    - Economic Contribution of Key Workers
    - Household Expenditure-Based Economic Impacts
    - Social Benefit of Housing Access
    - Housing Market Normalisation
    - Residual Asset Value
- The project has a strong economic and social benefit breakdown with a majority split for economic benefits.

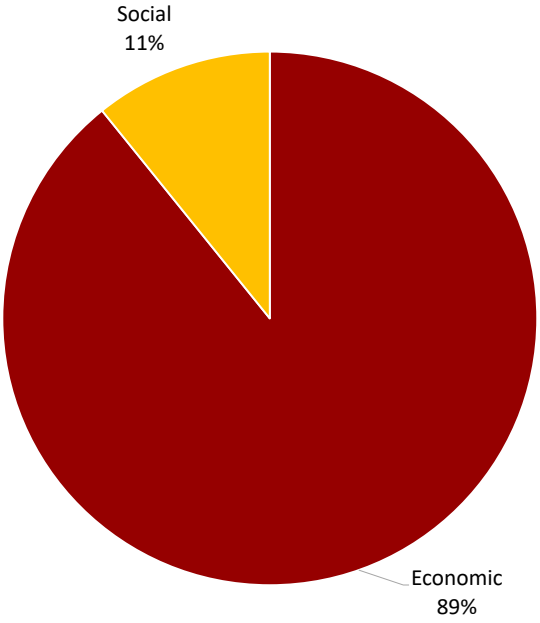

Figure 1 Composition of Benefit Categories, at the 7% Discount Rate

- Econisis estimated the Project is expected to yield a net present value of between $28.50m over 20 years at the 4% discount rate and $11.94m at the 10% discount rate.
- The positive Net Present Value translates to a Benefit Cost Ratio (ratio of benefits to costs) of between 2.79 at the 4% discount rate to 1.81 at the 10% discount rate. The economic nature of the project means the 7% discount is most relevant, meaning that every $1 invested in this project is expected to return $2.22 in economic and social benefits.

Table 1 Summary of Cost Benefit Analysis Results

Summary	4%	7%	10%
Total Costs	**$15.91**	**$15.29**	**$14.81**
Capital Costs	$14.09	$13.90	$13.72
Maintenance	$1.81	$1.39	$1.09
Total Benefits	**$44.41**	**$33.93**	**$26.75**
Construction Supply Chain Benefits	$1.00	$0.99	$0.97
Economic Contribution of Key Workers	$31.95	$24.44	$19.24
Household Expenditure-Based Economic Impacts	$5.42	$4.14	$3.26
Social Benefit of Housing Access	$2.91	$2.23	$1.75
Housing Market Normalisation	$1.81	$1.39	$1.09
Residual Asset Value	$1.31	$0.74	$0.43
NPV	**$28.50**	**$18.64**	**$11.94**
BCR	**2.79**	**2.22**	**1.81**

- Overall, the BCRs for the project reflect a strong benefit to the community when the identified benefits and costs from the town centre revitalisation are considered.
- Based on the per dwelling present value cost (capital and maintenance) over 20 years at the 7% discount rate of $590,000 and the present value of benefits at $1.30m, each key worker housing dwelling in the NEWROC region is expected to generate a net present value of $720,000.

Table 2 Key Worker Housing Unit Costs and Benefits, NEWROC, 7% Discount Rate

Present Value (7%)	Unit Value
Costs – Capital and Maintenance ($m)	$0.59
Benefits ($m)	$1.30
Net Present Value ($m)	$0.72
BCR	2.22

- In the case of Koorda, Nungarin and Trayning each of which identified shovel ready projects with the capacity to deliver 3 dwellings each, this would result in a present value of costs (capital and maintenance) over 20 years at 7% of $1.76m and benefits valued at $3.91m each. This translates to a net present value of $2.15m to maintain a BCR at 7% discount rate at 2.22

Table 3 Key Worker Housing Unit Costs and Benefits, NEWROC, Koorda, Nungarin and Trayning, 7% Discount Rate

Unit Values	NEWROC per Dwelling	Koorda (3 Dwellings)	Nungarin (3 Dwellings)	Trayning (3 Dwellings)
Cost	$0.54	$1.76	$1.76	$1.76
Benefit	$1.25	$3.91	$3.91	$3.91
NPV	$0.71	$2.15	$2.15	$2.15
BCR	2.31	2.22	2.22	2.22

Economic Impact Assessment

- Econisis has undertaken an Economic Impact Assessment using input/output transaction tables regionalised using detailed local employment data sets.
- The delivery of key worker housing will support $24.9m in economic output and $7.8m in Gross Value Added over two years during the construction phase. This will support 13.1 FTEs during this time.

Conclusion

- The NEWROC Key Worker Housing would provide a host of benefits to the region, with the project estimated to have a net present value between $11.94m and $28.50m.
- The main benefit is the significantly increased economic contributions of key workers. Current housing shortages are preventing key workers from moving into the area, and increasing housing supply will facilitate for these workers to enter the NEWROC workforce and contribute to the local economy. These new workers would produce significant value added to the local economy, estimated to be between $19.24m and $31.95m over 20 years.
- Other benefits are the household and visitor expenditure from these new workers and their households. Increased housing supply brings new families who will spend at local businesses, stimulating the economy. There are also social benefits to providing housing supply which include enhanced productivity, health savings, and reduced crime, among others.
- This evaluation finds that the sum of these economic and social benefits outweigh the estimated cost of the project. This is reflected in the high NPV and BCR values. At the standard 7% discount rate, the BCR is 2.22. This means that for every dollar spent on the project, there are $2.2 of benefits produced.
- This return has application to other key worker projects with similar cost profiles in the NEWROC region, with the average new key worker dwelling constructed yielding $1.3m in benefits over 20 years.
- According to the results of the Economic Impact Assessment, this construction phase of the project is expected to generate $24.9m in economic output and $7.8m in Gross Value Added over two years. This economic activity will support 13.1 FTEs across the entire construction phase.
- Overall, the results confirm that the project will generate significant value for the regional and State economies, facilitating economic activity that otherwise would be constrained by housing capacity and availability challenges.

1 INTRODUCTION

This section gives an overview of the background, purpose, and scope of the report.

1.1 Background and Context

Econisis has been engaged by the Wheatbelt Development Commission to undertake a value for money and cost benefit analysis of the NEWROC Key Worker Housing development project.

NEWROC is the North Eastern Wheatbelt Regional Organisation of Councils. NEWROC is a collaboration of local governments that work to coordinate regional planning and deliver programs that support economic development and liveability across the north eastern Wheatbelt. The project area is the NEWROC membership, comprising the shires of Mukinbudin, Mount Marshall, Koorda, Wyalkatchem, Nungarin, Trayning and Dowerin. The Shire of Wongan Ballidu has also been included in the project, although it is not a member of NEWROC.

Small local housing markets and dispersed communities mean that individual shires rarely provide the scale needed for commercially feasible housing development. Aggregating demand across the subregion intends to create sufficient scale for feasible development and to identify where government intervention is required to close the gap left by the market.

The evidence to date points to a shortage of smaller, low maintenance and appropriately located dwellings that better match the needs of many key workers. Contributing factors include small and ageing populations, limited recent dwelling construction and constrained land and service capacity in towns. These constraints reduce the ability of local employers and service providers to attract and retain staff and increase pressure on existing rental markets.

1.2 Report Purpose and Structure

The purpose of this assignment is to test whether targeted investment in purpose built workforce housing across the NEWROC subregion delivers economic and social benefits that justify public and private funding.

The report comprises the following sections:

- **Introduction –** This section provides an overview of the report, its purpose and structure.
- **Project Context –** This section profiles relevant NEWROC socioeconomic characteristics, as well as details the projects and its context.
- **Cost Benefit Analysis –** This section outlines the CBA methodology utilised, assumptions, benefits assessed, and results of the CBA.
- **Economic Impact Assessment –** This section states results of an input-output based regional assessment of the economic impacts of construction and operational expenditure.
- **Conclusions and Findings –** This section summarises the findings and outcomes of the analysis.

1.3 Statistical Geography

NEWROC is a voluntary organisation of Councils and includes seven Local Governments in the North Eastern sub-region of the Wheatbelt, WA. The NEWROC key worker housing project includes all members of NEWROC as well as the Shire of Wongan Ballidu. Relevant local governments include:

- Shire of Dowerin
- Shire of Koorda
- Shire of Mt Marshall
- Shire of Mukinbudin

- Shire of Nungarin
- Shire of Trayning
- Shire of Wyalkatchem
- Shire of Wongan Ballidu

Figure 2 NEWROC Location

1.4 Glossary and Abbreviations

The following terms and abbreviations are referenced in this report.

Table 4 Glossary and Abbreviations

Term/Abbreviation	Definition
ABS	Australian Bureau of Statistics
EIA	Economic Impact Assessment
Externalities	External Costs or Benefits not captured in market prices
FTE	Full time equivalent
GVA	Gross Value Added
IO	Input-output
LGA	Local Government Area
NEWROC	North Eastern Wheatbelt Regional Organisation of Councils
NPV	Net Present Value
OIA	Office of Impact Analysis

2 PROJECT CONTEXT

This section profiles relevant NEWROC socioeconomic characteristics, as well as details the projects and its context.

2.1 Location Profile

2.1.1 Wheatbelt

The Wheatbelt occupies approximately 154,862 square kilometres east and north of Perth, encompassing more than 200 towns within about 42 local government areas and a resident population of roughly 75,000. The region's climate and soil profiles underpin an agricultural production system dominated by broadacre cropping and grazing. Key commodities include wheat, other cereals, canola and sheep products. The value chain relies on distributed grain receival and storage facilities, freight links by road and rail to coastal export ports, and a local agribusiness sector that supplies machinery, inputs and primary processing services.

The Wheatbelt remains a significant contributor to state export earnings and employment, supporting tens of thousands of jobs and multi-billion dollar annual output across agriculture, logistics, light manufacturing and emerging resources and renewable energy services. Structural constraints include an ageing population, net population decline across many towns, exposure to seasonal variability and global commodity price volatility, and the need for ongoing investment in freight and service infrastructure. Regional coordination and investment planning are led by bodies such as the Wheatbelt Development Commission, which focuses on workforce development, infrastructure funding and programs designed to strengthen service delivery and economic resilience[1].

2.1.2 NEWROC

The North Eastern Wheatbelt Regional Organisation of Councils, NEWROC, is a voluntary partnership of seven local government areas, namely Dowerin, Koorda, Mount Marshall, Mukinbudin, Nungarin, Trayning and Wyalkatchem. The organisation was formed to strengthen inter-council cooperation and coordinate region-level planning and advocacy; it is governed by councillors from member shires and supported by administrative arrangements that include an executive officer and shared governance documents. NEWROC covers roughly 22,000 square kilometres in the north-eastern Wheatbelt. The organisation functions as a delivery vehicle for regionally scaled economic development[2].

2.2 Socio-Economic Attributes

2.2.1 Population

From 2001 to 2024, the catchment population declined from 5,658 to 4,581, a reduction of around 19%[3]. Using WA Tomorrow population forecasts, Econisis has modelled future population trajectories under Lower, Central, and Upper growth scenarios. Based on the Central scenario, the population is projected to continue its gradual decline to approximately 4,270 by 2036. Under the Lower scenario, the population is expected to fall more sharply to around 3,072, while the Upper scenario forecasts moderate growth, reaching about 5,446 by 2036.

[1] Wheatbelt Development Commission (2025) Wheatbelt, accessed at wheatbelt.wa.gov.au
[2] NEWROC (2025) North Eastern Wheatbelt Regional Organisation of Councils, accessed at newroc.com.au
[3] Government of Western Australia (2025), WA Tomorrow 12 Population Forecasts, accessed at https://www.wa.gov.au/organisation/department-of-planning-lands-and-heritage/western-australia-tomorrow-12-population-forecasts

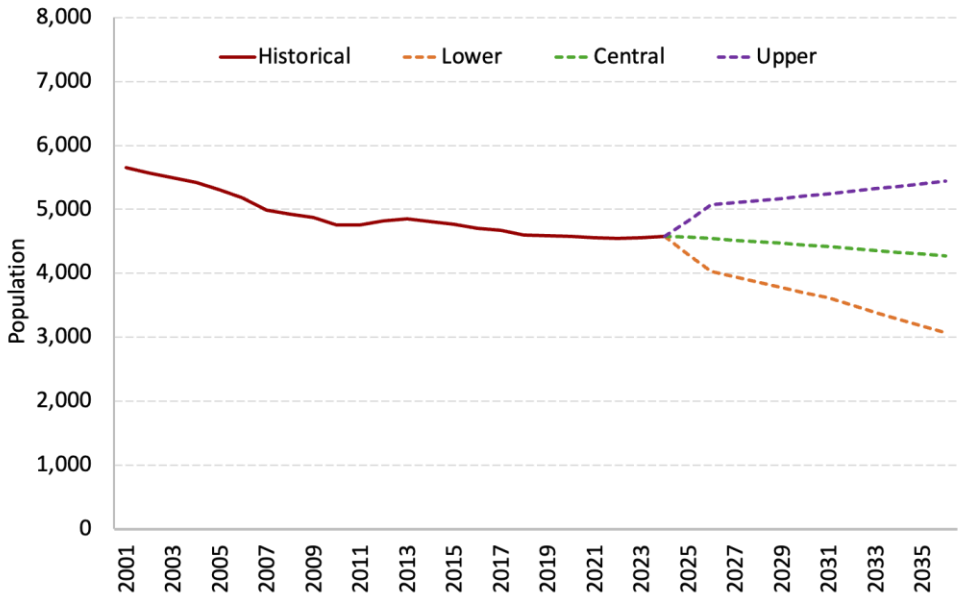

Figure 3 Catchment Historical and Forecasted Population, 2001 – 2036

2.2.2 Census Socio-Economic Profile

A summary of key attributes of the catchment from the 2021 Census of Population and Housing is provided in the table below.

Table 5 Census Socioeconomic Profile, Catchment LGAs, WA and Australia, 2021[4]

Indicators	Koorda	Mt Marshall	Mukinbudin	Dowerin	Nungarin	Trayning	Wyalkatchem	Wongan-Ballidu	Western Australia	Australia
Headline Indicators										
Population	361	459	579	715	255	298	470	1,297	2,660,026	25,422,788
Median Age	51	47	44	45	49	55	54	44	38	38
Average Household Size	2.2	2.3	2.3	2.3	2.1	1.9	1.9	2.3	2.5	2.5
Share of Population 0-14 (%)	18.0%	15.9%	21.7%	21.8%	12.4%	10.6%	11.9%	18.7%	19.0%	18.2%
Share of Population 65+ (%)	26.0%	18.8%	20.1%	25.9%	26.8%	28.8%	33.4%	22.4%	16.1%	17.2%
Born in Australia	82.3%	81.9%	78.4%	81.7%	68.6%	71.1%	74.7%	78.9%	62.0%	66.9%
Education Attendance										
Pre-School	10	10	7	16	0	0	0	25	45,452	484,185
Primary	43	35	50	69	16	9	31	123	222,555	2,075,224
Primary - Government	53.8%	32.4%	29.4%	31.6%	11.1%	13.2%	29.1%	34.0%	19.3%	18.5%
Primary - Catholic	0.0%	0.0%	0.0%	1.5%	11.1%	0.0%	0.0%	0.0%	4.5%	5.2%
Primary - other non-Government	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	2.2%
Secondary	7	11	31	33	7	11	14	36	175,841	1,629,624
Secondary - Government	3.8%	2.8%	13.6%	12.2%	10.0%	19.1%	14.6%	9.8%	12.7%	12.2%
Secondary - Catholic	0.0%	3.7%	0.0%	0.0%	0.0%	4.4%	0.0%	0.0%	4.5%	4.8%

[4] ABS (2022) Census of Population and Housing 2021, accessed at abs.gov.au

Indicators	Koorda	Mt Marshall	Mukinbudin	Dowerin	Nungarin	Trayning	Wyalkatchem	Wongan-Ballidu	Western Australia	Australia
Secondary - other non-Government	0.0%	2.8%	2.8%	3.1%	0.0%	0.0%	0.0%	0.0%	4.6%	4.2%
Tertiary	9	16	19	16	5	5	13	36	172,239	1,789,994
Tertiary - Vocational education	3.8%	6.5%	4.5%	3.1%	0.0%	8.8%	11.7%	8.6%	7.4%	7.8%
Tertiary - University of other higher education	6.2%	3.7%	4.5%	4.1%	8.9%	4.4%	2.9%	3.0%	13.9%	15.4%
Income										
Personal	$759	$868	$756	$758	$640	$512	$582	$767	$848	$805
Family	$1,524	$1,802	$1,875	$1,531	$1,268	$1,125	$1,481	$1,757	$2,214	$2,120
Household	$1,341	$1,396	$1,547	$1,197	$1,087	$864	$916	$1,269	$1,815	$1,746
Households										
Couple family without children	35.1%	30.2%	36.2%	31.2%	33.3%	32.8%	26.3%	29.0%	28.0%	27.6%
Couple family with children	23.2%	26.4%	27.1%	23.7%	23.3%	12.0%	15.2%	22.2%	32.0%	31.1%
One parent family	2.0%	7.7%	6.3%	7.8%	8.9%	10.4%	7.4%	11.1%	11.0%	11.3%
Other family	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.4%	1.0%	1.0%	1.2%
Lone Person Households	37.1%	33.0%	28.1%	35.3%	34.4%	44.8%	45.6%	34.0%	25.0%	25.1%
Group Households	2.6%	2.7%	2.3%	2.0%	0.0%	0.0%	4.1%	2.5%	3.0%	3.8%
Dwelling Occupancy										
Occupied	66.0%	61.3%	73.4%	72.3%	83.8%	57.7%	64.5%	83.4%	89.1%	89.9%
Unoccupied	34.0%	38.7%	25.3%	26.4%	16.2%	43.2%	35.8%	16.6%	10.9%	10.1%
Dwelling Type										
Separate house	98.1%	96.0%	100.0%	96.1%	92.5%	95.4%	96.2%	94.0%	79.7%	72.3%
Semi-detached, row or terrace house, townhouses	0.0%	3.4%	0.0%	1.4%	0.0%	2.3%	2.9%	5.0%	13.0%	12.6%
Flat or apartment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.5%	14.2%
Other dwelling	0.0%	0.0%	0.0%	3.5%	4.3%	0.0%	0.0%	1.7%	0.6%	0.6%
Tenure										
Owned outright	53.5%	49.4%	49.8%	47.2%	51.6%	56.5%	50.2%	43.8%	29.2%	31.0%
Owned with a mortgage	17.2%	13.2%	16.7%	20.9%	12.9%	13.0%	17.2%	20.9%	40.0%	35.0%
Rented	16.6%	21.8%	21.9%	20.6%	19.4%	19.8%	22.0%	28.4%	27.3%	30.6%
Other tenure type	5.7%	15.5%	12.1%	8.5%	9.7%	6.9%	8.1%	5.2%	2.1%	2.0%
Tenure type not stated	5.7%	1.7%	1.4%	3.2%	3.2%	4.6%	1.9%	1.9%	1.4%	1.5%

Key findings from the socio-economic profile include:

- All the LGAs have substantially older median ages than the Western Australia average, indicating an ageing population across the region. Median ages range from 44 to 55 years compared with 38 years for WA.
- School and tertiary education participation is lower than the state average, with university or other higher education participation especially low across most of the LGAs (typically under 9 percent compared with 13.9 per cent for WA).

- Personal, family and household incomes are generally below the WA average. Personal incomes are mostly lower than the WA median of $848 per week, although Mt Marshall records a slightly higher personal income. Family and household incomes are also well below WA levels.
- Average household size in the catchment is smaller than the WA average, at around 1.9 to 2.3 persons compared with 2.5 for WA, reflecting smaller household units.
- Couple families without children are the most common household type across the region, and lone person households are markedly higher than the WA average. Several LGAs record lone person household shares above 35 per cent compared with 25 per cent for WA.
- A large share of dwellings across the catchment are unoccupied relative to WA, particularly in Trayning (about 43 per cent), Mt Marshall (about 39 per cent), Wyalkatchem (about 36 per cent) and Koorda (about 34 per cent).
- The vast majority of dwellings are separate houses, far exceeding the WA share, and outright ownership is much higher across the catchment than the WA average. Mortgage rates are lower and private rental shares are generally below WA levels, consistent with older populations and lower mortgage activity.

2.2.3 Unemployment

Limited data exists for a majority of the LGAs within the catchment and as such a three point time series comparing the June 2024, December 2024, and June 2025 quarters has been done. For every LGA which comprises NEWROC the unemployment rate has improved strongly from June 2024 to June 2025, decreasing by an average of 2.0% to reach 1.6%. Over the same period, WA unemployment rates remained stable around 3-4%. This potentially reflects a strengthening of the NEWROC economy and increasing economic activity.

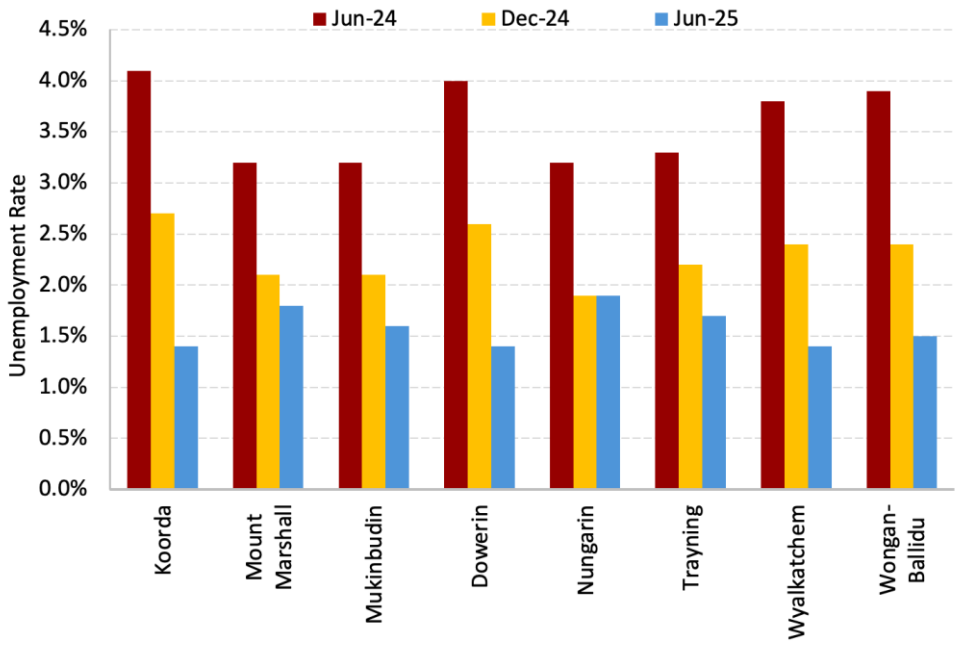

Figure 4 Catchment LGA Unemployment Rates, June 2024 – June 2025[5]

2.2.4 Business Registrations

Wongan-Ballidu LGA has the greatest share of business registrations within the catchment with 213 registrations as of 2024. This is followed by Dowerin at 131, and Mukinbudin at 109. This indicates a higher level of commercial activity in this region. Nungarin had the least registrations at 36.

[5] Australian Government Department of Employment and Workplace Relations (2025), Small Area Labour Markets, accessed at https://www.dewr.gov.au/employment-research/resources/salm-smoothed-lga-datafiles-asgs-2023-september-quarter-2024

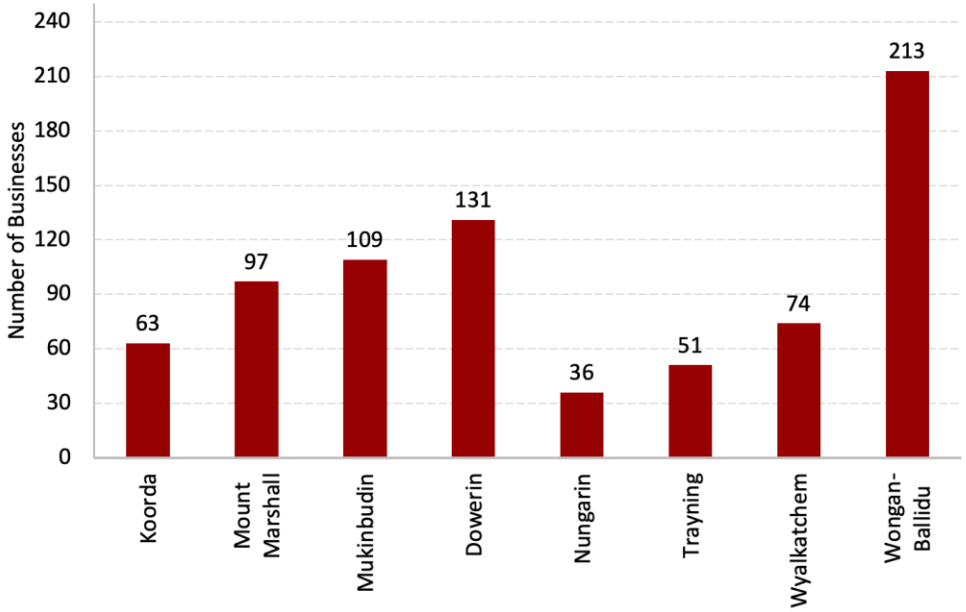

Figure 5 Count of Business Registrations by LGA, 2024[6]

The count of total business registrations in the catchment has fluctuated over the last five years, ranging from a maximum of 806 businesses in 2022 to a recent low of 774 in 2024. This represents a decrease of 3.1%.

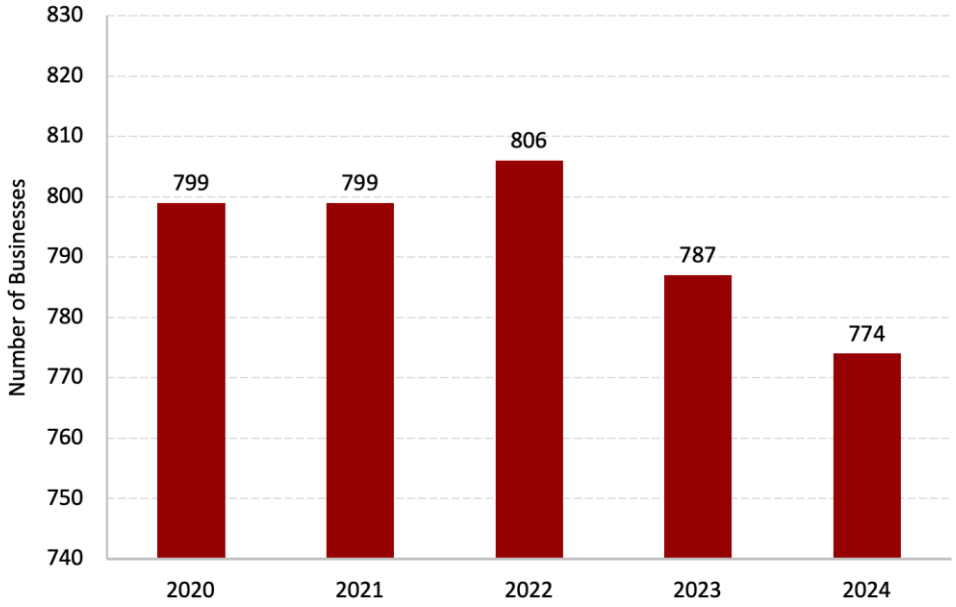

Figure 6 Count of Business Registrations, Catchment Area, 2020 – 2024[7]

As of 2024, 437 business are registered within the catchment in the Agriculture, Forestry and Fishing industry, this comprises the vast majority of businesses registered. The second largest industry is Rental, hiring and real estate services, comprised of just 68 businesses, followed by Construction at 40 businesses.

[6] Australian Bureau of Statistics (2024), Counts of Australian Businesses, accessed at https://www.abs.gov.au/statistics/economy/business-indicators/counts-australian-businesses-including-entries-and-exits/latest-release#
[7] See above.

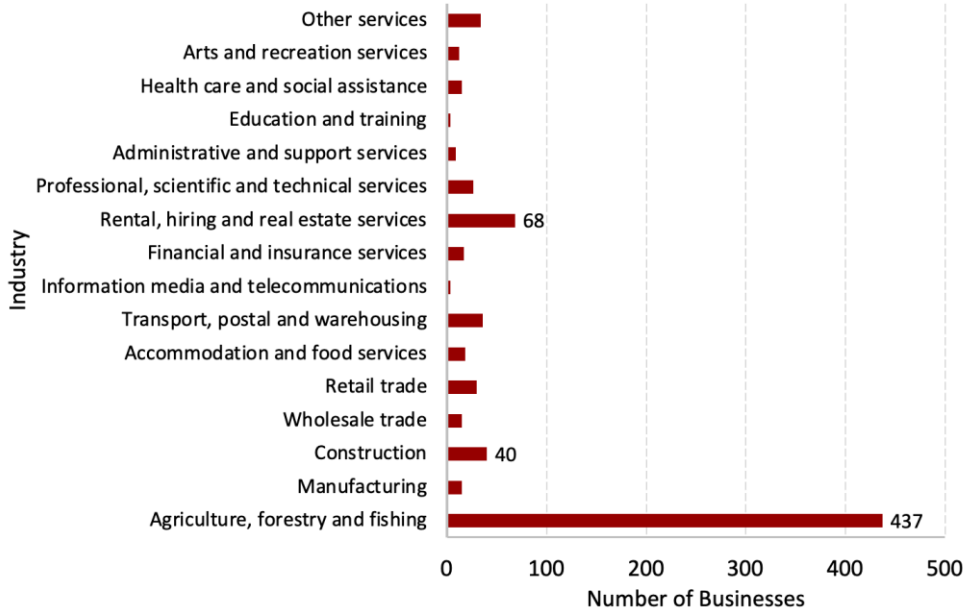

Figure 7 Count of Business Registrations by Industry, Catchment Area, 2024[8]

2.3 Role of Housing in Key Worker Attraction and Retention

Housing supply in regional and remote communities is essential for attracting and keeping key workers. Because of this, using worker productivity values is an appropriate way to quantify the opportunity cost of not delivering necessary housing. Without adequate accommodation, the economic and social contribution that these workers would generate in the community is not captured.

2.3.1 What is Worker Productivity?

Worker productivity represents the amount of Gross Value Added produced per worker in an economy. Gross Value Added is the total value created through economic activity and makes up most of a region's or nation's Gross Product.

By dividing total GVA by the number of workers, an estimate of the average economic output per worker can be calculated. The same method can be applied at the industry level by using Industry Value Added and the number of workers in that industry, allowing differences in productivity between industries to be identified.

Using REMPLAN data for Western Australia, Econisis has calculated worker productivity estimates for both individual industries and the overall economy.

Table 6 Worker Productivity, Western Australia[9]

Industry sector	GVA	Workers	Worker Productivity
Accommodation & Food Services	$6,049,693,698	89,363	$67,698
Administrative & Support Services	$4,103,923,940	42,251	$97,132
Agriculture, Forestry & Fishing	$7,722,546,223	31,176	$247,708
Arts & Recreation Services	$2,477,174,977	22,117	$112,003
Construction	$25,706,134,987	121,303	$211,917
Education & Training	$15,883,382,427	119,759	$132,628
Electricity, Gas, Water & Waste Services	$8,053,627,764	15,908	$506,263
Financial & Insurance Services	$13,900,479,250	29,233	$475,506

[8] See above.
[9] REMPLAN (2025) Economic and Employment, Western Australia accessed at https://app.remplan.com.au/eda-westernaustralia/economy/industries/employment?state=lGv2sz!elxMC6yQNu3wVNqteKmG0SDHdfP7nIrl2ljs3pOpNfPf7yhRfBIGG2qINAZ

Industry sector	GVA	Workers	Worker Productivity
Health Care & Social Assistance	$24,481,664,569	186,114	$131,541
Information Media & Telecommunications	$3,529,274,791	10,442	$337,988
Manufacturing	$15,190,556,361	72,002	$210,974
Mining	$199,949,942,220	105,960	$1,887,032
Other Services	$4,875,768,760	52,983	$92,025
Professional, Scientific & Technical Services	$18,395,303,542	94,061	$195,568
Public Administration & Safety	$17,582,541,937	80,903	$217,329
Rental, Hiring & Real Estate Services	$36,790,596,786	19,497	$1,886,988
Retail Trade	$11,916,155,281	119,926	$99,363
Transport, Postal & Warehousing	$12,808,285,604	62,352	$205,419
Wholesale Trade	$7,478,901,557	33,449	$223,591
Total/Average	**$436,895,954,675**	**1,308,799**	**$333,814**
Total/Average Net Real Estate and Mining	**$200,155,415,668**	**1,183,342**	**$169,144**
Education, Health, Public Admin/Safety Only Average	**$57,947,588,933**	**386,776**	**$149,822**

On average, a worker in Western Australia generates $333,188 in value added per year. This average is lifted by a few highly productive industries, particularly Mining and Rental, Hiring and Real Estate Services. Excluding these sectors drops the estimate to $169,144 per worker.

Because this still combines public and private sector activity, a public sector proxy can be created by averaging the worker productivity of Education and Training, Health Care and Social Assistance and Public Administration and Safety. Using this method produces a lower figure of $149,822 per worker. In contrast, a review of the NEWROC Shires reveals a similar, albeit slightly higher value of $155,687 per worker for these industries.

These estimates reflect Western Australia as a whole, consistent with the level of data available from REMPLAN and the ABS.

2.3.2 Benefits of a Sub-Regional Approach to Key Worker Housing

Taking a sub-regional approach to key worker housing is essential for strengthening project feasibility and ensuring delivery remains viable. A coordinated delivery model across multiple NEWROC communities provides the scale needed to reduce the risks that normally come with small, isolated projects.

This approach also helps lower overall costs. Spreading mobilisation, overhead and supply chain expenses across a larger number of dwellings reduces unit costs and enables housing to be delivered in a structured and efficient way across the sub region as part of a single, integrated program.

2.4 Summary of Proposal

2.4.1 Core Projects

Chadwick Consulting was engaged by Wheatbelt Development Commission to assess the development concept feasibility in the townsites of Beacon (Mt Marshall), Dowerin, Wyalkatchem, Wongan-Hills (Wongan-Ballidu), and Mukinbudin.

These feasibility assessments include:

- **Beacon** – provides for the construction of four dwellings across two lots at Lots 305 & 306 Askew Street, Beacon.

Table 7 Costs for Lot 305 & 306 Askew St, Beacon

Lots 305 & 306 Askew Street, Beacon	Costs
Headworks, connections and fees	$302,751
Site works, internal services and landscaping	$220,000
Planning and technical costs provision	$32,200
Construction	$1,323,000
Four 2-bed, 1-bath	$322,350 per dwelling
Design and construction contingency	10%
TOTAL	**$2,159,644**
Per dwelling	$539,911

- **Dowerin** – provides for the construction of four dwellings on a portion of Lot 28 Goldfields Rd, Dowerin

Table 8 Costs for Portion of Lot 28 Goldfields Rd, Dowerin

Portion of Lot 28 Goldfields Rd, Dowerin	Costs
Headworks, connections and fees	$266,120
Site works, internal services and landscaping	$330,000
Planning and technical costs provision	$32,000
Construction	$1,335,000
Three 2-bed, 1-bath	$307,000 per dwelling
One 3-bed, 2-bath	$414,000 per dwelling
Design and construction contingency	15%
TOTAL	**$2,257,588**
Per dwelling	$564,397

- **Wyalkatchem** – provides for the construction of four dwellings across Lot 438 Gamble St, Wyalkatchem

Table 9 Costs for Lot 438 Gamble St, Wyalkatchem

Lot 438 Gamble St, Wyalkatchem	Costs
Headworks, connections and fees	$444,208
Site works, internal services and landscaping	$220,000
Planning and technical costs provision	$48,000
Construction	$1,228,000
Four 2-bed, 1-bath	$312,000 per dwelling
Design and construction contingency	15%
TOTAL	**$2,231,239**
Per dwelling	$557,810

- **Wongan-Hills** – provides for the construction of ten dwellings on Lot 501 Coomer St, Wongan-Hills.

Table 10 Costs for Lot 501 Coomer St, Wongan-Hills

Lot 501 Coomer St, Wongan-Hills	Costs
Headworks, connections and fees	$81,857
Site works, internal services and landscaping	$550,000
Planning and technical costs provision	$16,500
Construction	$3,364,000
Four 2-bed, 1-bath	$313,000 per dwelling
Four 2-bed, 2-bath	$318,000 per dwelling
Two 2-bed, 2-bath	$420,000 per dwelling
Design and construction contingency	15%
TOTAL	**$4,614,211**
Per dwelling	$461,421

- **Mukinbudin** – provides for the construction of four dwellings on Lots 25 & 26 Muka East SP Area, Mukinbudin.

Table 11 Costs for Lots 25 & 26 Muka East SP Area, Mukinbudin

Lots 25 & 26 Muka East SP Area, Mukinbudin	Costs
Headworks, connections and fees	$1,269,392
Site works, internal services and landscaping	$204,000
Construction	$1,228,000
Four 2-bed, 1-bath	$312,000 per dwelling
Design and construction contingency	15%
TOTAL	**$3,106,601**
Per dwelling	$776,650

These housing investment concepts are supported by high-level costings based on the following assumptions, inclusions, and contingencies:

- Dwelling costs are based on costs provided by Northam-based modular builders, Evoke Living. These costs account for the costs associated with construction in the Wheatbelt region, and include:
  - Pad, house, driveways, carports (one carport for one bedroom, two carports for two or more bedrooms).
  - Liveable but not excessive specification that seeks to balance the cost of delivery against the desire to attract key workers into appropriate and comfortable homes. This includes standard kitchen cabinetry and fit-out specifications, middle-tier vinyl planking, air-conditioning to living spaces, a verandah to the outdoor living space, and carports (not garages).
- Two-bedroom, one-bathroom dwellings are based on an indicative internal floor areas of 63 m2.
- Three-bedroom, two-bathroom dwellings are based on an indicative internal floor areas of 123 m2.
- Lot density and dwelling configuration has been chosen to align with the demand demonstrated in the NEWROC Workforce Housing Investigation 2025 report prepared by JE Planning, with input from the relevant Shires and WDC.
- Initial investigations of planning frameworks, bushfire risk, and power, sewer and water network capacities have been undertaken.

- Estimated costs of any required capacity and network extension upgrades are included where necessary.
- No provision has been made for gas supply to the properties.
- A standardised provision is included for onsite drainage. This requirement may differ between sites, but accounting for the relatively small hard surface footprints of the modelled dwellings, it is unlikely these costs will dramatically impact project feasibility.
- Provision has been made for minor earthworks only. Desktop analysis indicates predominantly clear and level terrain on the subject sites.
- Bushfire planning costs are based on development industry averages. Confirmation by an accredited bushfire planning consultant is required to validate final requirements.
- A 10-15% design and construction contingency, representing the uncertainty of costing construction without site surveys, engineering reports and validated design concepts.
- Costs are estimated as of November 2025 and do not include market-rate escalation.

2.4.2 Other "Shovel-Ready" Projects

In addition to the five costed sites, there are project-ready sites in Koorda, Nungarin and Trayning. These sites have clear development capacity and comparable servicing conditions. Although detailed costings were not undertaken for this stage, the CBA results can reasonably be applied to these locations.

The selected sites were chosen to reflect the main development conditions across the NEWROC towns. Beacon was included because services are not directly adjacent and there is no sewerage, which is comparable to the shovel ready sites in Nungarin and Trayning. The broader mix of sites provides sound coverage of typical servicing and development scenarios in the subregion. This allows the costings and CBA results to be applied in a consistent way to other shovel ready sites, including those in Koorda, Nungarin and Trayning.

- **Koorda** – Lot 200, 6 Greenham Street. Services (power, water, sewerage) are adjacent. The lot can accommodate three 2x1 units. The lot is owned by CEACA (Central East Aged Care Alliance). Two adjoining Shire-owned lots provide additional capacity.
- **Nungarin** – Lot 300, corner of Second Avenue and Waterhouse Street. Two units exist on the site, with capacity for a further three 2x1 units. Power and water are adjacent. Nungarin does not have sewerage. The lot is owned by CEACA (Central East Aged Care Alliance). Two adjoining Shire-owned lots increase development potential.
- **Trayning** – Lots 119 and 120, 35 and 33 Glass Street. Shire-owned lots with power and water adjacent. Trayning does not have sewerage. The two lots can accommodate three 2x1 units. The lot is Local Government owned and two adjoining lots may be available for future transfer.

In the short term, investment should be directed at the identified shovel ready projects. In the medium term, further work will be required to clarify trunk infrastructure costs and support additional key worker dwelling opportunities across the NEWROC towns

3 COST BENEFIT ANALYSIS

This section outlines the CBA methodology utilised, assumptions, benefits assessed and results of the CBA.

3.1 Methodology

A CBA is the most commonly used, and most comprehensive, of the economic evaluation techniques. This approach is the most appropriate to assess the net economic benefits that accrue from development options, when compared against the base case.

The CBA steps include:

- Identify the quantifiable benefits that can be monetised;
- Calculate the value (in monetary terms) of the quantified incremental benefits and capital costs in net present value (NPV) terms using the discount rates;
- Calculate the benefit cost ratio (BCR) – the total present value of all net benefits compared to the present value of capital costs to determine the ratio to which incremental net benefits exceed (or undershoot) incremental costs related with the upgrade; and
- Undertake a sensitivity testing.

3.1.1 Discount Rates

Discounting is the reverse of adding (or compounding) interest. It reduces the monetary value of future costs and benefits back to a common time dimension – the base date. Discounting satisfies the view that people prefer immediate benefits over future benefits (social time preference), and it also enables the opportunity cost to be reflected (opportunity cost of capital). Recognising the potential for multiple audiences for the business cases, real discount rates of 4, 7 and 10% have been applied. This complies with recommendations set by the Office of Impact Analysis at the Federal Government level and WA Treasury Standard Business Case template.

Modelling of quantifiable benefits and costs are developed over a 20-year timeframe.

3.1.2 Cost of Capital Approach

The cost benefit analysis undertaken in this report represents a “cost of capital” assessment. This approach focuses primarily on the up-front capital costs of the project with reduced consideration of ongoing operational costs (beyond whole of lifecycle maintenance cost impacts).

The reason for this approach is twofold:

- Firstly, it reflects the stage of the project design and concept that the Cost Benefit Analysis is testing – early-stage concepts typically have a capital cost estimate but may not have detailed cash flow cost estimates. As such, the “cost of capital” approach does not consider ongoing cashflow consideration which includes discounting any financial revenues that could be secured by the project to offset unknown operational costs;
- Secondly, this analysis supports an economic business case that specifically seeks to develop or address the validity of potential capital investment in the project. As such, evidence is required, through the CBA, of the potential return on investment (in the form of economic and social benefits) to inform this capital decision.

3.1.3 Comparison with the Base Case

For these assessments, Econisis has undertaken a cost benefit assessment of the net additional benefits and costs above and beyond the base case for each project. NPVs and BCRs generated as part of the Cost Benefit Analysis are reflective of the net increase in economic and social benefits beyond the status quo in each location and for each project.

3.1.4 Assumptions

Econisis has made the following additional assumptions applicable across one or more of the projects assessed.

Table 12 Assumptions Table

Assumption	Details
Annual Maintenance Cost	1% of Capital Costs annually
Length of Construction Phase	2 years
Supply Chain Multiplier	7.1%[10]
Average Worker Productivity WA, Education, Health, Public Admin/Safety Industries Only	$155,687.55[11]
Number of New Households	26 long-term residential
Number of Key Workers per Household	1.25 (based on adjusted household sizes for different dwelling sizes)
Attribution Rate of Worker Productivity to Housing Access	50%
Average Household Yearly Expenditure	$33,000[12]
Worker GVA to Expenditure Conversion Rate	50%
Health Cost Savings per Household	$3,085.06[13]
Reduced Domestic Violence per Household	$2,681.99[14]
Enhanced Human Capital per Household	$2,002.24[15]
Reduced Costs of Crime per Household	$ 919.42[16]
Education Benefits per Household	$ 183.01[17]
Annual Value of Normalisation of Housing Market	1% of Capital Cost

3.2 Benefits Statement

This section provides a statement of the identified benefits, their relevance to the scenarios and the method of calculation.

3.2.1 Identified Benefits

A range of direct economic and social benefits of the Project have been identified. Those benefits which are capable of being monetised for inclusion in the CBA are outlined in the table below.

Table 13 Benefit Statement

Benefit	Theme/Description	Method of Calculation
Construction Supply Chain Benefits	Benefits to the WA and regional construction industry of the non-residential capital investment.	Applied a first round GVA economic multiplier of 7.1% to the capital expenditure. Based on WA specific regionalised input/output transaction table. Assumed a construction phase of 2 years.
Direct Economic Contribution of New Key Worker Households	The key workers moving into the houses will be able to be work in the region. This benefit measures their productivity by working in the local economy.	The relative productivity of an individual- worker was calculated by dividing the GVA of the Education, Health and Public Safety/Admin industries in WA by the number of workers in these industries. This was multiplied by the 28 new long-term households.

[10] Based on WA specific regionalised input/output table of non-residential capital expenditure.
[11] REMPLAN (2025) Economic and Employment, Wheatbelt region (specific to NEWROC) accessed at https://app.remplan.com.au/wheatbelt-region/community/summary
[12] Market Info 2022 (Market Data Systems)
[13] SGS (2021) Give Me Shelter accessed at https://sgsep.com.au/projects/give-me-shelter. Adjusted to $2024/25
[14] See above.
[15] See above.
[16] See above.
[17] See above.

Benefit	Theme/Description	Method of Calculation
		It was assumed that there will be 1.25 key workers per household. An attribution rate of 50% was applied to account for other factors contributing to a worker's productivity e.g. the company they work for.
Household Expenditure Benefit	The contribution to the local economy of the new households' spending at local retail businesses.	An average household's retail related expenditure is $33,000 per year[18]. This was applied to the 28 new long-term households and a GVA to expenditure conversion rate of 50% was applied.
Social Benefit of Housing Access	The social benefits of housing access include health cost savings, reduced domestic violence, enhanced human capital, reduced costs of crime, and education benefits.	These social benefits were quantified and collated by SGS Economics in their 2022 'Give Me Shelter' report. The combined total of these benefits per household is $8,872[19]. This was applied to the 28 long-term households.
Housing Market Normalisation	Benefit relating to housing market normalisation due to no functioning housing market currently.	Multiplied the construction cost of the homes by 1% each year.
Residual Asset Value	A static residual value compares the direct and indirect costs associated with the construction of a dwelling with the notional market value of that dwelling.	Calculated by dividing the construction cost by 25 years and multiplying it by 5 (for the remaining years at the end of the assessment. Applied in the final year of the assessment (20 years after construction).

3.3 CBA Results

This section provides an overview of the present value and composition of costs and benefits for the project. It includes an outline of the Benefit Cost Ratios and Net Present Value results for each project.

3.3.1 Costs

The evaluation estimates the present value of costs to range from $15.91m at the 4% discount rate to $14.81m at the 10% discount rate. The majority of this is the capital cost, with the remainder comprising the annual maintenance cost.

[18] Market Info 2022 (Market Data Systems)
[19] SGS Economics and Planning (2022) Give Me Shelter. Accessed at https://sgsep.com.au/assets/main/SGS-Economics-and-Planning_Give-Me-Shelter.pdf

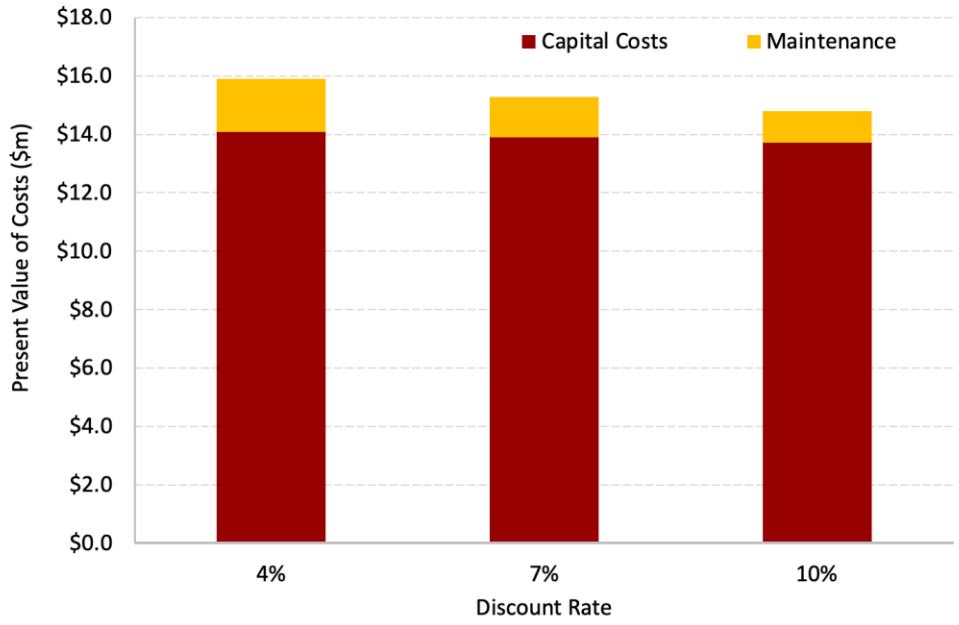

Figure 8 Present Value of Costs, by Discount Rate

3.3.2 Value of Benefits

Overall, the benefits of the project are approximately $33.93m at the 7% discount rate. This ranges from $26.75m at the 10% discount rate to $44.41m at 4%.

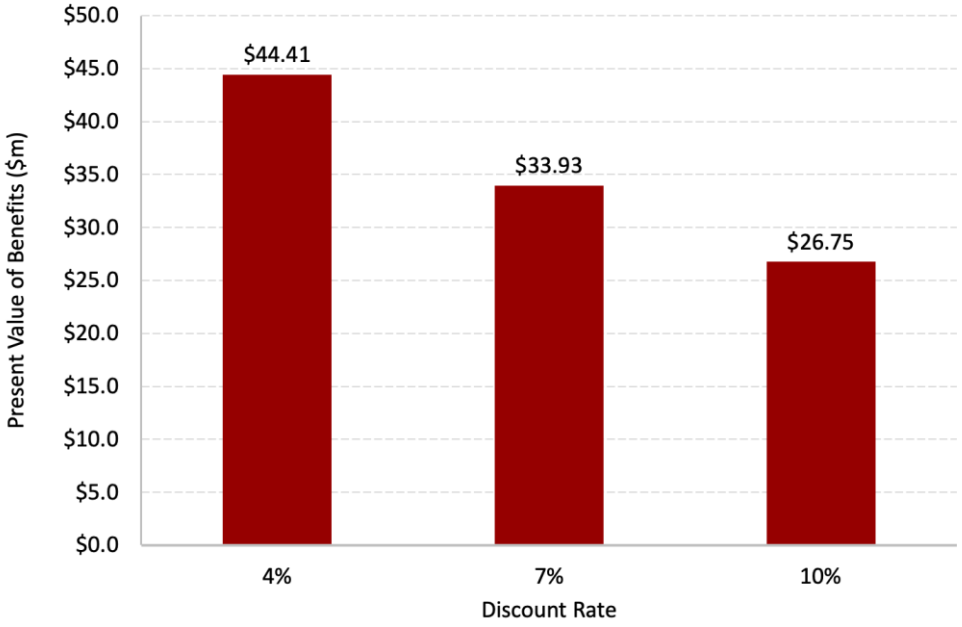

Figure 9 Present Value of Benefits

The largest benefit expected over the 20-year assessment period for the project (at a 7% discount rate) is the economic contribution of key workers (both short and long-term stays), accounting for $24.44m. Following this are Household Expenditure and Social Benefit of Housing Access, which account for $4.14m and $2.23mm respectively. All other benefits are valued at less than $1.40m at the 7% discount rate over 20 years.

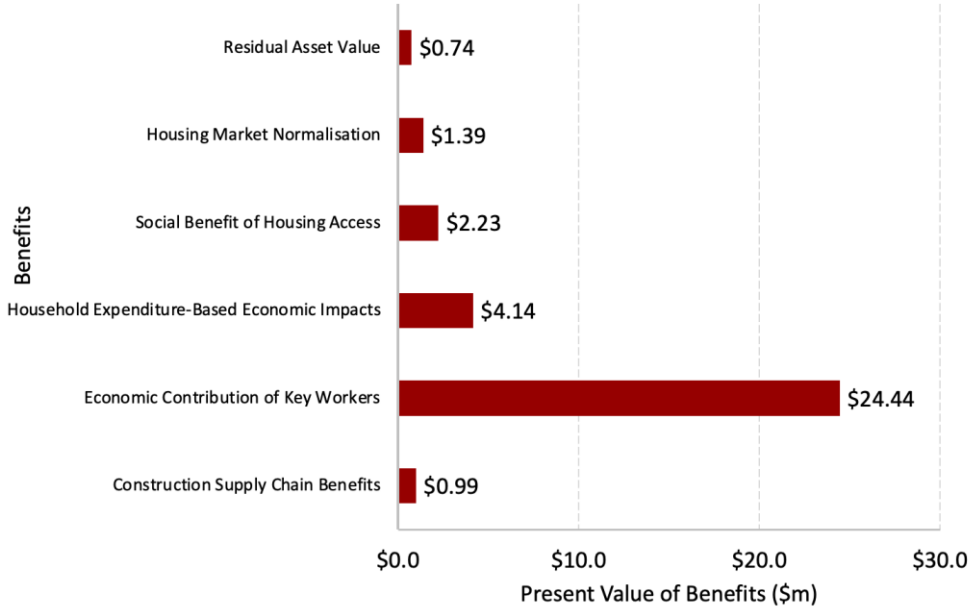

Figure 10 Present Value of Benefits ($m)

Each benefit was categorised as either social or economic. The majority of the benefit of this project is economic, with 11% of benefits being social. This is due to the significant value of worker contribution benefits. This result emphasises the fact that investment in key worker housing in the NEWROC sub region is principally an investment in economically enabling infrastructure.

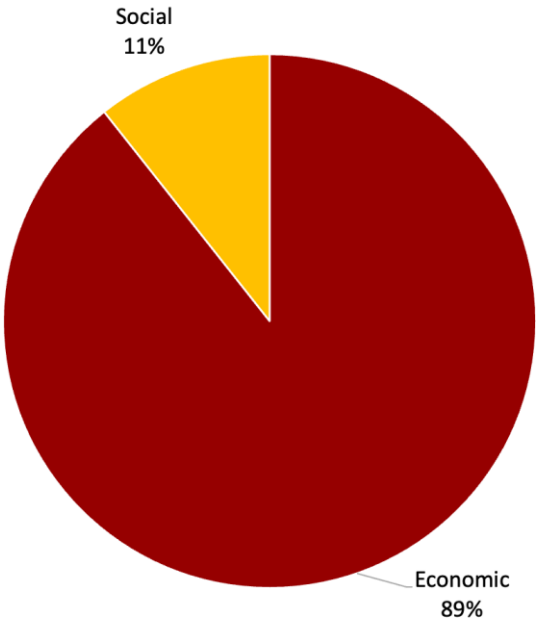

Figure 11 Composition of Benefits at the 7% Discount Rate

3.3.3 NPV and BCR

Comparing the present value of benefits to that of costs, Econisis estimates the project will yield a net present value of between $28.50m over 20 years at the 4% discount rate and $11.94m at the 10% discount rate. All net present value estimates are above $0, meaning that the present value of the benefits is greater than that of the costs across all discount rates.

Figure 12 Net Present Value by Discount Rate

The benefit cost ratios ranged from 2.79 at the 4% discount rate to 1.81 at the 10% discount rate. Any BCR above 1.0 is regarded as positive. This reflects the fact that benefits that accrue in the future have a higher degree of uncertainty, and while this is addressed to an extent by the discount rates, a higher BCR provides the project a greater "buffer" that it will indeed yield benefits greater than the costs. In this instance, the predominantly economic nature of the assets means that the 7% discount rate BCR of 2.22 is most relevant.

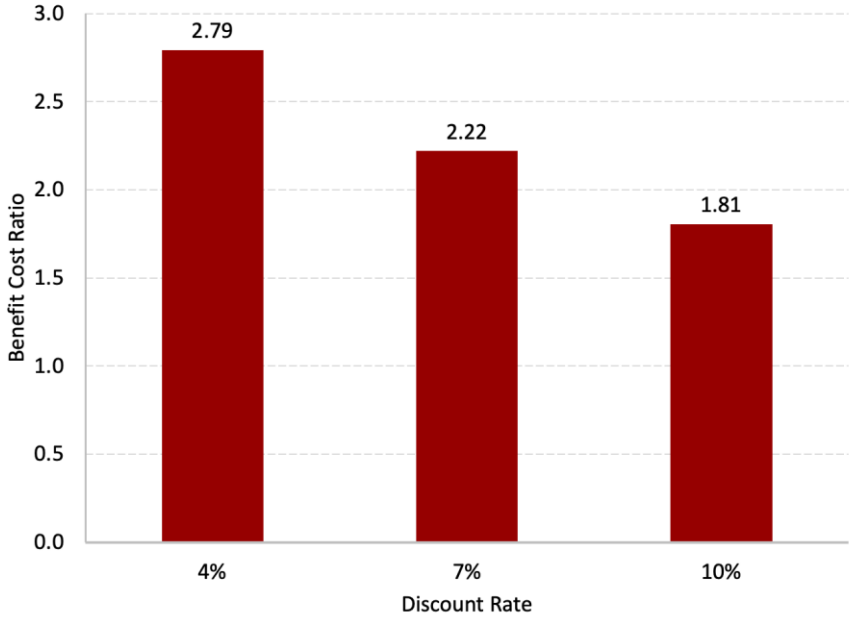

Figure 13 Benefit Cost Ratio by Discount Rate

The below table summarises the results of the cost benefit analysis.

Table 14 Summary of Cost Benefit Analysis Results

Summary	4%	7%	10%
Total Costs	**$15.91**	**$15.29**	**$14.81**
Capital Costs	$14.09	$13.90	$13.72
Maintenance	$1.81	$1.39	$1.09
Total Benefits	**$44.41**	**$33.93**	**$26.75**
Construction Supply Chain Benefits	$1.00	$0.99	$0.97
Economic Contribution of Key Workers	$31.95	$24.44	$19.24
Household Expenditure-Based Economic Impacts	$5.42	$4.14	$3.26
Social Benefit of Housing Access	$2.91	$2.23	$1.75
Housing Market Normalisation	$1.81	$1.39	$1.09
Residual Asset Value	$1.31	$0.74	$0.43
NPV	**$28.50**	**$18.64**	**$11.94**
BCR	**2.79**	**2.22**	**1.81**

Overall, the results confirm that the project will generate significant value for the regional and State economies, facilitating economic activity that otherwise would be constrained by housing capacity and availability challenges.

3.3.4 Sensitivity Tests

Three sensitivity tests of the Program were undertaken which examined:

- Test 1 - 1 Key Worker per Dwelling
- Test 2 - Worker Productivity Benefits Extend for Only 10 Years
- Test 3 - No Residual Value

The results of the BCRs at the 7% discount rate for the main scenario and the three Sensitivity Tests are outlined below.

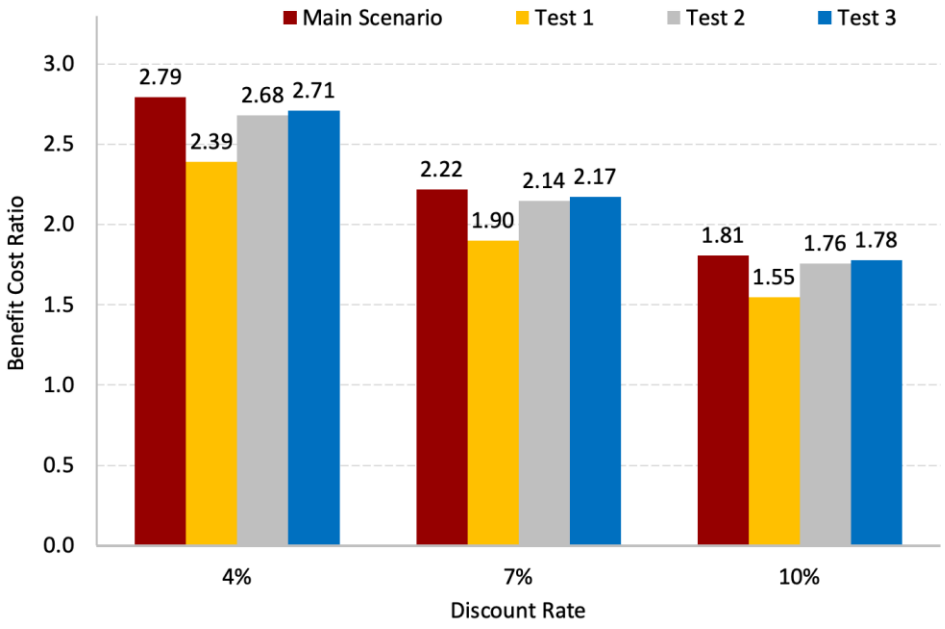

Figure 14 Sensitivity Tests

Test 1 resulted in the BCR decreasing to between 2.39 at the 4% discount rate and 1.55 at 10%. This change is not significant and demonstrates that when the number of key workers per dwelling is decreased, the benefits associated with workforce and household formation remain positive.

Test 2 results in a marginal decline in the BCR to 2.68 at 4% and 1.76 at 10%, though the BCRs remain positive. This reflects the fact that even if the length of time during which worker economic productivity is effectively halved, the benefits of this initial period of additional workforce capacity continues to generate positive impacts.

Test 3 saw only a marginal decline in BCRs across all discount rates. This test revealed that despite removing residual values, the impact of discounting on the present value of the assets, the short lifespan assumed in the CBA (i.e. 25 years), and the fact that the role of the dwellings is only indirectly related to general housing market dynamics and instead is focused on key worker capacity building, the project still provides a strong value for money opportunity.

Overall, the sensitivity testing provides the resilience of the results, with changes to major variables only marginally impacting the results. This supports the value for money associated with the project.

3.4 Unit Values

The analysis within the CBA has application to a wider range of housing projects with other NEWROC towns. There is a high level of consistency in the costs and benefits accrued by key worker housing projects.

Unit Values The analysis within the CBA has application to a wider range of housing projects with other NEWROC towns. There is a high level of consistency in the costs and benefits accrued by key worker housing projects.

The following table provides insights into the costs and benefits of key worker housing projects in the NEWROC on a per dwelling benefits. This unit cost analysis provides flexibility for the results of the cost benefit analysis to be applied to other projects, including shovel ready projects, in the absence of site specific cost.

Table 15 Key Worker Housing Unit Costs and Benefits, NEWROC, 7% Discount Rate

Present Value (7%)	Unit Value
Costs – Capital and Maintenance ($m)	$0.59
Benefits ($m)	$1.30
Net Present Value ($m)	$0.72
BCR	2.22

Based on the per dwelling present value cost (capital and maintenance) over 20 years at the 7% discount rate of $590,000 and the present value of benefits at $1.30m, each key worker housing dwelling in the NEWROC region is expected to generate a net present value of $720,000.

This would achieve the BCR equivalent of 2.22 at the 7% discount rate in line with the core projects.

In the case of Koorda, Nungarin and Trayning each of which identified shovel ready projects with the capacity to deliver 3 dwellings each, this would result in a present value of costs (capital and maintenance) over 20 years at 7% of $1.76m and benefits valued at $3.91m each. This translates to a net present value of $2.15m to maintain a BCR at 7% discount rate at 2.22

Table 16 Key Worker Housing Unit Costs and Benefits, NEWROC, Koorda, Nungarin and Trayning, 7% Discount Rate

Unit Values	NEWROC per Dwelling	Koorda (3 Dwellings)	Nungarin (3 Dwellings)	Trayning (3 Dwellings)
Cost	$0.54	$1.76	$1.76	$1.76
Benefit	$1.25	$3.91	$3.91	$3.91
NPV	$0.71	$2.15	$2.15	$2.15
BCR	2.31	2.22	2.22	2.22

4 ECONOMIC IMPACT ASSESSMENT

This section provides a summary of the economic impact assessment methodology, assumptions and results, for the Project.

4.1 Methodology and Approach

At the core of an Economic Impact Assessment is Input–Output (IO) tables. IO tables are part of the national accounts by the ABS and provide detailed information about the supply and use of products in the Australian economy, and the structure of and inter–relationships between Australian industries.

IO tables are converted, through statistical analysis, into a series of Economic Multipliers. These Multipliers represent the relationship between the direct activity (expenditure or production) associated with a Project and the wider economy.

The results of an EIA are generally presented as both direct effects, that is effects from the direct activity of the Project or event, and indirect effects, which are additional effects from further rounds of spending in the supply chain. A third or consumption effect, resulting from rounds of consumer spending generated by the additional income in the region can also be calculated.

There are two broad levels of Multipliers that can be utilised for Impact Assessments:

1. **Simple Multipliers** – including the Direct or Initial Effect, First Round and Industry Supply Chain effects.
2. **Total Multipliers** – including the Simple Multipliers plus subsequent Induced Production and Household Consumptions effects.

Impact Assessments can assess:

- **Output** - the actual dollar amount spent on the Project in the Region.
- **Income** - the number of wages and salaries paid to labour.
- **Employment** - the full-time equivalent (FTE) per annum employment generated by the Project; and
- **Value Added** - the value added to materials and labour expended on the Project.

Econisis has undertaken an Impact Assessment for the WA state economy, focused solely on **Simple Multipliers**. For the WA economic impacts, this entailed the following tasks:

3. Transaction tables were developed from National IO tables for the WA State economy. For the WA economy, the Regional Transaction Table was calculated by applying employment-based location quotients for the Region, based on the results of the 2016/2021 Census of Population and Housing. This has the effect of excluding spending on imports to the Region since they generate no local economic activity.
4. Economic Multipliers were then generated for WA economy across 119 industry categories defined by the ABS.
5. Construction and operational expenditure and production associated with the development were allocated across 119 industry categories.
6. Economic impacts associated with the Project are calculated.

4.1.1 Criticisms of Impact Assessments

Economic Impact Assessments based on IO-tables and Economic Multipliers have been criticised by Government and academia. Econisis recognises Economic Multipliers are based on limited assumptions that can result in multipliers being a biased estimator of the benefits or costs of a Project.

Shortcomings and limitations of Multipliers for economic impact analysis include:

- **Lack of supply**–side constraints: The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply–side constraints. That is, it is

assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or if it is near capacity.

- **Fixed prices**: Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.
- **Fixed ratios for intermediate inputs and production**: Economic impact analysis using multipliers implicitly assumes that there is a fixed input structure in each industry and fixed ratios for production. As such, impact analysis using multipliers can be seen to describe average effects, not marginal effects. For example, increased demand for a product is assumed to imply an equal increase in production for that product. In reality, however, it may be more efficient to increase imports or divert some exports to local consumption rather than increasing local production by the full amount.
- **No allowance for purchasers' marginal responses to change**: Economic impact analysis using multipliers assumes that households consume goods and services in exact proportions to their initial budget shares. For example, the household budget share of some goods might increase as household income increases. This equally applies to industrial consumption of intermediate inputs and factors of production.
- **Absence of budget constraints**: Assessments of economic impacts using multipliers that consider consumption induced effects (type two multipliers) implicitly assume that household and government consumption is not subject to budget constraints.
- **Not applicable for small regions**: Multipliers that have been calculated from the national IO table are not appropriate for use in economic impact analysis of Projects in small regions. For small regions multipliers tend to be smaller than national multipliers since the inter–industry linkages are normally relatively shallow. Inter–industry linkages tend to be shallow in small regions as they usually do not have the capacity to produce the wide range of goods used for inputs and consumption, instead importing a large proportion of these goods from other regions.

4.1.2 Adjustments to Improve EIA Reliability

Despite this, IO tables and Economic Multipliers remain popular due to their ease of use and communication of results. Econisis has undertaken a number of steps and made appropriate adjustments to the EIA methodology to address and mitigate these concerns.

Econisis has only used ***Simple Multipliers*** in the Assessment. This has the effect of discounting Household Consumption impacts from the assessment. By doing so, only those industries with a first round or supply chain connection are considered. This has the effect of making the results of the EIA conservative and suitable to inform decision making.

Additionally, Econisis has developed economic multipliers for the ***WA economy only***. This has the effect of internalising and limiting the extent of the economic impact outside of the State.

Econisis regards the use of Economic Multipliers as part of this Assessment as appropriate and reliable. The results of the assessment are conservative, defensible and suitable for informing decision making.

4.2 Summary of Results

The following tables provide a breakdown of the direct and indirect economic impacts of the Project during construction.

4.2.1 Construction Phase

Econisis has allocated the construction costs for the housing development across the following sectors of the WA economy:

- Residential Building Construction (80%)

- Heavy and Civil Engineering Construction (10%)
- Professional, Scientific and Technical Services (5%)
- Public Administration and Regulatory Services (5%).

For the purpose of this assessment, Econisis has assumed a 2 year construction phase in line with the CBA.

Overall, this construction phase of the project is expected to generate $24.9m in economic output and $7.8m in Gross Value Added over two years.

Table 17 Construction Phase Economic and Employment Impacts, 2 Year Phase

Indicators	Direct Impact	First Round	Industry Support	Simple Multiplier
Output ($m)	$14.4	$7.0	$3.6	$24.9
Incomes ($m)	$1.9	$1.5	$0.8	$4.2
Employment (FTEs)	3.5	2.1	6.8	13.1
GVA ($m)	$3.8	$2.6	$1.4	$7.8

This economic activity will support 13.1 FTEs across the entire construction phase.

Table 18 Construction Phase Economic and Employment Impacts, Annual Impact

Indicators	Direct Impact	First Round	Industry Support	Simple Multiplier
Output ($m)	$7.2	$3.5	$1.8	$12.5
Incomes ($m)	$1.0	$0.7	$0.4	$2.1
Employment (FTEs)	3.5	2.1	6.8	13.1
GVA ($m)	$1.9	$1.3	$0.7	$3.9

5 CONCLUSIONS

The NEWROC Key Worker Housing would provide a host of benefits to the region, with the project estimated to have a net present value between $11.94m and $28.50m.

The main benefit is the significantly increased economic contributions of key workers. Current housing shortages are preventing key workers from moving into the area, and increasing housing supply will facilitate for these workers to enter the NEWROC workforce and contribute to the local economy. These new workers would produce significant value added to the local economy, estimated to be between $19.24m and $31.95m over 20 years.

Other benefits are the household and visitor expenditure from these new workers and their households. Increased housing supply brings new families who will spend at local businesses, stimulating the economy. There are also social benefits to providing housing supply which include enhanced productivity, health savings, and reduced crime, among others.

This evaluation finds that the sum of these economic and social benefits outweigh the estimated cost of the project. This is reflected in the high NPV and BCR values. At the standard 7% discount rate, the BCR is 2.22. This means that for every dollar spent on the project, there are $2.2 of benefits produced.

This return has application to other key worker projects with similar cost profiles in the NEWROC region, with the average new key worker dwelling constructed yielding $1.3m in benefits over 20 years.

According to the results of the Economic Impact Assessment, this construction phase of the project is expected to generate $24.9m in economic output and $7.8m in Gross Value Added over two years. This economic activity will support 13.1 FTEs across the entire construction phase.

Overall, the results confirm that the project will generate significant value for the regional and State economies, facilitating economic activity that otherwise would be constrained by housing capacity and availability challenges.

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