

Ballina Shire Commercial & Industrial Land Demand Assessment

Prepared for Ballina Shire Council

December 2014



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INTRODUCTION

Lawrence Consulting was commissioned by Ballina Shire Council to undertake an assessment of future demand for commercial and industrial land in the Ballina Shire over a twenty-year timeframe (i.e. through to 2031), with the potential to provide interim targets (i.e. by 2021). The demand modelling forms part of a broader review of industrial and commercial land use in the shire being conducted by Council. This report is an update of a previous analysis completed in 2008 by Lawrence Consulting in conjunction with GeoLink Environmental Management and Design.

In order to assess the future demand for commercial and industrial land in Ballina Shire, Lawrence Consulting has employed an employment land forecasting model that uses inputs from the working population data set supplemented with population and employment growth projections and assumptions on floor space and development floor space ratio (FSR) averages.

The steps in the floor space/land demand modelling are as follows:

- 1. Establish the current employment profile for Ballina Shire, i.e. identify the number of employees by industry group (ANZSIC 2006), along with the three major sub-regions within the Shire, specifically the following statistical area 2 (SA2):
 - Ballina;
 - Lennox Head and Skennars Head; and
 - Ballina Region (or Balance of Shire, including the localities of Alstonville, Wollongbar and Wardell).
- 2. Undertake employment modelling using various inputs including historical employment changes, population, gross regional product, State and National employment forecasts to estimate growth in employed persons by industry to 2021 and 2031 for Ballina Shire and three sub-regions.
- 3. Multiply the forecast growth in employed persons by industry category by the floor space and land area standards per employee to estimate the demand for additional land.

The details of the employment land demand modelling are summarised in the following sections of this report.



EMPLOYMENT FORECASTS

Workforce Profile

The working population of Ballina Shire – i.e. the number of persons employed in the Shire (as distinct from the number of employed persons resident in the Shire) – was 13,742 as per the 2011 Census, representing an increase of 1,041 persons, or average annual growth of 1.6% since 2006. The following table contains an estimate of the number of employees in each industry represented in Ballina Shire in 2011, along with the respective industry shares of employment for each of the three sub-regions within Ballina Shire.

(Note: All employment and subsequent land demand modelling has been undertaken based on the 2006 ANZSIC industry classification.)

| Table 1: Employme | • | lina | | Head – | Balance of Shire | | Ballina Shire | | |
|---|---------------|-------|-------|--------|------------------|-------|---------------|-------|--|
| maustry | Skennars Head | | | | | | Damme | | |
| | Level | % of | Level | % of | Level | % of | Level | % of | |
| | | total | | total | | total | | total | |
| Agriculture, forestry & fishing | 42 | 0.5 | 12 | 0.9 | 644 | 15.0 | 698 | 5.1 | |
| Mining | 17 | 0.2 | 0 | 0.0 | 23 | 0.5 | 40 | 0.3 | |
| Manufacturing | 439 | 5.4 | 39 | 3.0 | 337 | 7.8 | 815 | 5.9 | |
| Electricity, gas, water & waste services | 110 | 1.3 | 0 | 0.0 | 10 | 0.2 | 120 | 0.9 | |
| Construction | 564 | 6.9 | 133 | 10.4 | 388 | 9.0 | 1,085 | 7.9 | |
| Wholesale trade | 166 | 2.0 | 12 | 0.9 | 210 | 4.9 | 388 | 2.8 | |
| Retail trade | 1,562 | 19.1 | 160 | 12.5 | 313 | 7.3 | 2,035 | 14.8 | |
| Accommodation & food services | 875 | 10.7 | 208 | 16.2 | 256 | 6.0 | 1,339 | 9.7 | |
| Transport, postal & warehousing | 238 | 2.9 | 9 | 0.7 | 156 | 3.6 | 403 | 2.9 | |
| Information media & telecommunications | 106 | 1.3 | 23 | 1.8 | 29 | 0.7 | 158 | 1.1 | |
| Financial & insurance services | 217 | 2.7 | 36 | 2.8 | 61 | 1.4 | 314 | 2.3 | |
| Rental, hiring & real estate services | 165 | 2.0 | 46 | 3.6 | 61 | 1.4 | 272 | 2.0 | |
| Professional, scientific & technical services | 387 | 4.7 | 137 | 10.7 | 218 | 5.1 | 742 | 5.4 | |
| Administrative & support services | 191 | 2.3 | 37 | 2.9 | 80 | 1.9 | 308 | 2.2 | |
| Public administration & safety | 579 | 7.1 | 20 | 1.6 | 174 | 4.0 | 773 | 5.6 | |
| Education & training | 650 | 8.0 | 209 | 16.3 | 494 | 11.5 | 1,353 | 9.8 | |
| Health care & social assistance | 1,365 | 16.7 | 113 | 8.8 | 606 | 14.1 | 2,084 | 15.2 | |
| Arts & recreation services | 85 | 1.0 | 30 | 2.3 | 78 | 1.8 | 193 | 1.4 | |
| Other services | 352 | 4.3 | 39 | 3.0 | 123 | 2.9 | 514 | 3.7 | |
| Unclassified | 50 | 0.6 | 20 | 1.6 | 38 | 0.9 | 108 | 0.8 | |
| Total | 8,160 | 100.0 | 1,283 | 100.0 | 4,299 | 100.0 | 13,742 | 100.0 | |

Source: ABS 2011 Census



Employment Forecasts

The table below provides the employment forecasts by industry for Ballina Shire for 2021 and 2031, whilst the tables on the following pages contain similar data for each sub-region within Ballina Shire. As previously noted, the growth projections are based on various inputs including historical employment changes, population, gross regional product, State and National employment forecasts. Table 2 shows that there is an expected increase in employment in Ballina Shire of 2,260 persons by 2021 and 4,591 persons by 2031.

| Table 2: Emplo | • | | • | | | | |
|---|--------|------------|---------|---------|------------|------------|---------|
| Industry | Emplo | yed person | s (no.) | • | Employment | | yment |
| | | | | | h (no.) | growth (%) | |
| | 2011 | 2021 | 2031 | 2011-21 | 2011-31 | 2011-21 | 2011-31 |
| Agriculture, forestry & fishing | 698 | 598 | 447 | -100 | -251 | -14.4% | -35.9% |
| Mining | 40 | 36 | 43 | -4 | 3 | -8.9% | 8.3% |
| Manufacturing | 815 | 851 | 831 | 36 | 16 | 4.4% | 2.0% |
| Electricity, gas, water & waste services | 120 | 150 | 195 | 30 | 75 | 25.2% | 62.7% |
| Construction | 1,085 | 1,327 | 1,573 | 242 | 488 | 22.3% | 45.0% |
| Wholesale trade | 388 | 452 | 404 | 64 | 16 | 16.4% | 4.1% |
| Retail trade | 2,035 | 2,351 | 2,427 | 316 | 392 | 15.5% | 19.2% |
| Accommodation & food services | 1,339 | 1,636 | 1,985 | 297 | 646 | 22.2% | 48.2% |
| Transport, postal & warehousing | 403 | 414 | 454 | 11 | 51 | 2.7% | 12.6% |
| Information media & telecommunications | 158 | 155 | 172 | -3 | 14 | -1.7% | 9.1% |
| Financial & insurance services | 314 | 318 | 315 | 4 | 1 | 1.1% | 0.2% |
| Rental, hiring & real estate services | 272 | 328 | 329 | 56 | 57 | 20.6% | 20.8% |
| Professional, scientific & technical services | 742 | 880 | 1,000 | 138 | 258 | 18.7% | 34.8% |
| Administrative & support services | 308 | 396 | 471 | 88 | 163 | 28.7% | 53.1% |
| Public administration & safety | 773 | 835 | 885 | 62 | 112 | 8.0% | 14.4% |
| Education & training | 1,353 | 1,756 | 2,182 | 403 | 829 | 29.8% | 61.3% |
| Health care & social assistance | 2,084 | 2,766 | 3,850 | 682 | 1,766 | 32.7% | 84.8% |
| Arts & recreation services | 193 | 217 | 224 | 24 | 31 | 12.5% | 16.0% |
| Other services | 514 | 535 | 545 | 21 | 31 | 4.0% | 6.0% |
| Total | 13,742 | 16,002 | 18,333 | 2,260 | 4,591 | 16.4% | 33.4% |



| Industry | Employed persons (no.) | | | - | yment h (no.) | - | yment th (%) |
|---|------------------------|-------|--------|---------|------------------|---------|-----------------|
| | 2011 | 2021 | 2031 | 2011-21 | 2011-31 | 2011-21 | 2011-31 |
| Agriculture, forestry & fishing | 42 | 28 | 17 | -14 | -25 | -32.3% | -60.1% |
| Mining | 17 | 10 | 8 | -7 | -9 | -38.3% | -53.8% |
| Manufacturing | 439 | 438 | 407 | -1 | -32 | -0.3% | -7.2% |
| Electricity, gas, water & waste services | 110 | 139 | 182 | 29 | 72 | 26.4% | 65.5% |
| Construction | 564 | 685 | 803 | 121 | 239 | 21.4% | 42.4% |
| Wholesale trade | 166 | 148 | 97 | -18 | -69 | -10.9% | -41.5% |
| Retail trade | 1,562 | 1,740 | 1,715 | 178 | 153 | 11.4% | 9.8% |
| Accommodation & food services | 875 | 996 | 1,113 | 121 | 238 | 13.8% | 27.2% |
| Transport, postal & warehousing | 238 | 242 | 262 | 4 | 24 | 1.7% | 10.3% |
| Information media & telecommunications | 106 | 95 | 93 | -11 | -13 | -10.6% | -11.9% |
| Financial & insurance services | 217 | 210 | 199 | -7 | -18 | -3.0% | -8.2% |
| Rental, hiring & real estate services | 165 | 171 | 142 | 6 | -23 | 3.7% | -13.7% |
| Professional, scientific & technical services | 387 | 423 | 425 | 36 | 38 | 9.4% | 9.9% |
| Administrative & support services | 191 | 255 | 307 | 64 | 116 | 33.4% | 60.5% |
| Public administration & safety | 579 | 567 | 530 | -12 | -49 | -2.1% | -8.5% |
| Education & training | 650 | 836 | 1,017 | 186 | 367 | 28.6% | 56.4% |
| Health care & social assistance | 1,365 | 1,754 | 2,355 | 389 | 990 | 28.5% | 72.6% |
| Arts & recreation services | 85 | 78 | 62 | -7 | -23 | -8.6% | -27.2% |
| Other services | 352 | 380 | 399 | 28 | 47 | 7.8% | 13.4% |
| Total | 8,160 | 9,196 | 10,134 | 1,036 | 1,974 | 12.7% | 24.2% |



| Industry | Emplo | Employed persons (no.) | | | yment h (no.) | - | yment th (%) |
|---|-------|------------------------|-------|---------|------------------|---------|-----------------|
| | 2011 | 2021 | 2031 | 2011-21 | 2011-31 | 2011-21 | 2011-31 |
| Agriculture, forestry & fishing | 12 | 12 | 10 | 0 | -2 | -0.7% | -14.1% |
| Mining | 0 | 0 | 0 | 0 | 0 | n.a. | n.a. |
| Manufacturing | 39 | 48 | 55 | 9 | 16 | 22.5% | 40.0% |
| Electricity, gas, water & waste services | 0 | 0 | 0 | 0 | 0 | n.a. | n.a. |
| Construction | 133 | 190 | 262 | 57 | 129 | 42.9% | 97.3% |
| Wholesale trade | 12 | 13 | 11 | 1 | -1 | 9.7% | -11.3% |
| Retail trade | 160 | 250 | 344 | 90 | 184 | 56.0% | 115.2% |
| Accommodation & food services | 208 | 309 | 449 | 101 | 241 | 48.3% | 116.1% |
| Transport, postal & warehousing | 9 | 11 | 14 | 2 | 5 | 21.5% | 57.3% |
| Information media & telecommunications | 23 | 31 | 46 | 8 | 23 | 34.1% | 98.1% |
| Financial & insurance services | 36 | 42 | 48 | 6 | 12 | 16.4% | 32.2% |
| Rental, hiring & real estate services | 46 | 75 | 97 | 29 | 51 | 62.4% | 111.5% |
| Professional, scientific & technical services | 137 | 233 | 363 | 96 | 226 | 69.9% | 164.9% |
| Administrative & support services | 37 | 62 | 93 | 25 | 56 | 67.4% | 152.6% |
| Public administration & safety | 20 | 23 | 25 | 3 | 5 | 13.9% | 23.9% |
| Education & training | 209 | 336 | 510 | 127 | 301 | 60.6% | 144.0% |
| Health care & social assistance | 113 | 184 | 312 | 71 | 199 | 62.5% | 176.0% |
| Arts & recreation services | 30 | 50 | 73 | 20 | 43 | 66.7% | 142.1% |
| Other services | 39 | 43 | 46 | 4 | 7 | 9.8% | 17.6% |
| Total | 1,283 | 1,909 | 2,758 | 626 | 1,475 | 48.8% | 115.0% |



| Industry | Employed persons (no.) | | | | yment h (no.) | - | yment th (%) |
|---|------------------------|-------|-------|---------|------------------|---------|-----------------|
| | 2011 | 2021 | 2031 | 2011-21 | 2011-31 | 2011-21 | 2011-31 |
| Agriculture, forestry & fishing | 644 | 557 | 420 | -87 | -224 | -13.5% | -34.8% |
| Mining | 23 | 26 | 35 | 3 | 12 | 12.8% | 54.3% |
| Manufacturing | 337 | 365 | 369 | 28 | 32 | 8.4% | 9.6% |
| Electricity, gas, water & waste services | 10 | 11 | 13 | 1 | 3 | 12.7% | 31.7% |
| Construction | 388 | 452 | 508 | 64 | 120 | 16.4% | 30.9% |
| Wholesale trade | 210 | 290 | 296 | 80 | 86 | 38.3% | 41.0% |
| Retail trade | 313 | 361 | 367 | 48 | 54 | 15.2% | 17.4% |
| Accommodation & food services | 256 | 332 | 422 | 76 | 166 | 29.6% | 65.0% |
| Transport, postal & warehousing | 156 | 161 | 177 | 5 | 21 | 3.2% | 13.5% |
| Information media & telecommunications | 29 | 30 | 34 | 1 | 5 | 2.4% | 15.5% |
| Financial & insurance services | 61 | 65 | 68 | 4 | 7 | 6.8% | 11.4% |
| Rental, hiring & real estate services | 61 | 82 | 89 | 21 | 28 | 34.7% | 45.5% |
| Professional, scientific & technical services | 218 | 224 | 212 | 6 | -6 | 2.9% | -2.7% |
| Administrative & support services | 80 | 80 | 71 | 0 | -9 | -0.5% | -10.7% |
| Public administration & safety | 174 | 245 | 330 | 71 | 156 | 41.0% | 89.7% |
| Education & training | 494 | 585 | 655 | 91 | 161 | 18.4% | 32.6% |
| Health care & social assistance | 606 | 828 | 1,183 | 222 | 577 | 36.7% | 95.2% |
| Arts & recreation services | 78 | 89 | 89 | 11 | 11 | 14.7% | 14.6% |
| Other services | 123 | 112 | 100 | -11 | -23 | -8.7% | -18.7% |
| Total | 4,299 | 4,897 | 5,440 | 598 | 1,141 | 13.9% | 26.6% |



COMMERCIAL & INDUSTRIAL LAND PROJECTIONS

Employee Floor Space and Land Ratios

In order to derive gross floor space estimates for each commercial and industrial land use category and sector, indicative employment to floor space ratios are applied. The floor space figures are then converted into site area needs based on floor space to site area or land ratios. These ratios are from databases established by Lawrence Consulting based on previous floorspace survey results and other benchmarks for commercial and industrial areas across Australia. These ratios are adjusted for the local Ballina context based on research on the commercial and industrial market in regional New South Wales, as opposed to using metropolitan, statewide and national averages.

The following table shows the floor space and site area standards adopted for this analysis, grouped by various industry groups that have similar floor space requirements.

| Table | 6: Employee Floor S | pace & Site Area Ra | tios | |
|---|--|---|---|------------------------------------|
| Industry | Gross floor area per employee (sq m) | Gross land area per employee (sq m) | Assumed avg floor space ratio (FSR) | No. of employees per hectare |
| Agriculture, Forestry & Fishing | 110 | 275 | 40% | 36 |
| Mining | 110 | 275 | 40% | 36 |
| Manufacturing | 120 | 400 | 30% | 25 |
| Electricity, gas, water & waste services | 110 | 275 | 40% | 36 |
| Construction | 110 | 275 | 40% | 36 |
| Wholesale trade | 120 | 240 | 50% | 42 |
| Retail trade | 50 | 100 | 50% | 100 |
| Accommodation & food services | 60 | 120 | 50% | 83 |
| Transport, postal & warehousing | 160 | 533 | 30% | 19 |
| Information media & telecommunications | 110 | 275 | 40% | 36 |
| Financial & insurance services | 30 | 60 | 50% | 167 |
| Rental, hiring & real estate services | 30 | 60 | 50% | 167 |
| Professional, scientific & technical services | 30 | 60 | 50% | 167 |
| Administrative & support services | 30 | 60 | 50% | 167 |
| Public administration & safety | 30 | 60 | 50% | 167 |
| Education & training | 110 | 275 | 40% | 36 |
| Health care & social assistance | 40 | 80 | 50% | 125 |
| Arts & recreation services | 60 | 120 | 50% | 83 |
| Other services | 50 | 100 | 50% | 100 |



Floor Space Estimates

The employment to floor space ratios outlined in the previous section have been use to provide an estimate of gross floor space that may be added to Ballina Shire over the period 2011 to 2031, with interim figures provided for 2021, as shown in the following table.

| Table 7: Estima | ted Floor S | Space Grov | wth (sq m) | , Ballina S | hire, 20 <u>11</u> | -31 | | |
|---|-------------|------------|------------|-------------|--------------------|----------|---------|----------|
| Industry | Ballin | a Shire | Bal | llina | Lennox | Head – | Balance | of Shire |
| | | | | | Skenn | ars Head | | |
| | 2011-21 | 2011-31 | 2011-21 | 2011-31 | 2011-21 | 2011-31 | 2011-21 | 2011-31 |
| Agriculture, forestry & fishing | -11,044 | -27,600 | -1,493 | -2,777 | -9 | -186 | -9,542 | -24,638 |
| Mining | -392 | 367 | -716 | -1,007 | 0 | 0 | 324 | 1,374 |
| Manufacturing | 4,319 | 1,959 | -137 | -3,802 | 1,053 | 1,870 | 3,402 | 3,890 |
| Electricity, gas, water & waste services | 3,333 | 8,274 | 3,193 | 7,926 | 0 | 0 | 140 | 348 |
| Construction | 26,584 | 53,724 | 13,286 | 26,285 | 6,281 | 14,235 | 7,017 | 13,205 |
| Wholesale trade | 7,620 | 1,911 | -2,171 | -8,260 | 140 | -163 | 9,651 | 10,334 |
| Retail trade | 15,781 | 19,575 | 8,920 | 7,637 | 4,481 | 9,218 | 2,381 | 2,720 |
| Accommodation & food services | 17,845 | 38,762 | 7,262 | 14,297 | 6,033 | 14,486 | 4,549 | 9,979 |
| Transport, postal & warehousing | 1,748 | 8,106 | 646 | 3,910 | 309 | 825 | 793 | 3,370 |
| Information media & telecommunications | -293 | 1,585 | -1,234 | -1,393 | 864 | 2,482 | 77 | 495 |
| Financial & insurance services | 105 | 19 | -197 | -536 | 177 | 348 | 125 | 208 |
| Rental, hiring & real estate services | 1,681 | 1,696 | 185 | -676 | 861 | 1,539 | 635 | 833 |
| Professional, scientific & technical services | 4,153 | 7,752 | 1,090 | 1,148 | 2,871 | 6,779 | 192 | -175 |
| Administrative & support services | 2,652 | 4,902 | 1,916 | 3,466 | 748 | 1,693 | -11 | -257 |
| Public administration & safety | 1,860 | 3,346 | -364 | -1,481 | 84 | 143 | 2,140 | 4,684 |
| Education & training | 44,355 | 91,201 | 20,427 | 40,342 | 13,930 | 33,117 | 9,997 | 17,742 |
| Health care & social assistance | 27,300 | 70,650 | 15,577 | 39,620 | 2,827 | 7,955 | 8,895 | 23,075 |
| Arts & recreation services | 1,449 | 1,855 | -438 | -1,386 | 1,200 | 2,558 | 687 | 683 |
| Other services | 1,035 | 1,552 | 1,379 | 2,361 | 191 | 343 | -536 | -1,152 |
| Total | 150,091 | 289,637 | 67,133 | 125,674 | 42,041 | 97,245 | 40,918 | 66,718 |



Land Area Demand

Using the floor space estimate and site area benchmarks previously outlined, land area demand for each industry category has been calculated in terms of both square metres and hectares, the results of which are shown in the following tables.

| Industry | Land area in | crease (sq m) | Land area increase (ha) | | |
|---|--------------|---------------|-------------------------|---------|--|
| • | 2011-21 | 2011-31 | 2011-21 | 2011-31 | |
| Agriculture, forestry & fishing | -27,610 | -69,001 | -2.8 | -6.9 | |
| Mining | -981 | 918 | -0.1 | 0.1 | |
| Manufacturing | 14,397 | 6,529 | 1.4 | 0.7 | |
| Electricity, gas, water & waste services | 8,332 | 20,686 | 0.8 | 2.1 | |
| Construction | 66,460 | 134,310 | 6.6 | 13.4 | |
| Wholesale trade | 15,240 | 3,822 | 1.5 | 0.4 | |
| Retail trade | 31,562 | 39,150 | 3.2 | 3.9 | |
| Accommodation & food services | 35,690 | 77,524 | 3.6 | 7.8 | |
| Transport, postal & warehousing | 5,828 | 27,019 | 0.6 | 2.7 | |
| Information media & telecommunications | -731 | 3,962 | -0.1 | 0.4 | |
| Financial & insurance services | 211 | 38 | 0.0 | 0.0 | |
| Rental, hiring & real estate services | 3,362 | 3,392 | 0.3 | 0.3 | |
| Professional, scientific & technical services | 8,306 | 15,505 | 0.8 | 1.6 | |
| Administrative & support services | 5,305 | 9,805 | 0.5 | 1.0 | |
| Public administration & safety | 3,719 | 6,693 | 0.4 | 0.7 | |
| Education & training | 110,886 | 228,002 | 11.1 | 22.8 | |
| Health care & social assistance | 54,600 | 141,299 | 5.5 | 14.1 | |
| Arts & recreation services | 2,898 | 3,710 | 0.3 | 0.4 | |
| Other services | 2,070 | 3,105 | 0.2 | 0.3 | |
| Total | 339,544 | 656,469 | 34.0 | 65.6 | |



| Industry | Land area in | crease (sq m) | Land area i | ncrease (ha) | |
|---|--------------|---------------|-------------|--------------|--|
| <u> </u> | 2011-21 | 2011-31 | 2011-21 | 2011-31 | |
| Agriculture, forestry & fishing | -3,733 | -6,942 | -0.4 | -0.7 | |
| Mining | -1,790 | -2,517 | -0.2 | -0.3 | |
| Manufacturing | -455 | -12,673 | 0.0 | -1.3 | |
| Electricity, gas, water & waste services | 7,982 | 19,816 | 0.8 | 2.0 | |
| Construction | 33,215 | 65,712 | 3.3 | 6.6 | |
| Wholesale trade | -4,341 | -16,521 | -0.4 | -1.7 | |
| Retail trade | 17,839 | 15,274 | 1.8 | 1.5 | |
| Accommodation & food services | 14,524 | 28,594 | 1.5 | 2.9 | |
| Transport, postal & warehousing | 2,154 | 13,034 | 0.2 | 1.3 | |
| Information media & telecommunications | -3,084 | -3,482 | -0.3 | -0.3 | |
| Financial & insurance services | -393 | -1,073 | 0.0 | -0.1 | |
| Rental, hiring & real estate services | 371 | -1,352 | 0.0 | -0.1 | |
| Professional, scientific & technical services | 2,180 | 2,296 | 0.2 | 0.2 | |
| Administrative & support services | 3,831 | 6,932 | 0.4 | 0.7 | |
| Public administration & safety | -729 | -2,963 | -0.1 | -0.3 | |
| Education & training | 51,068 | 100,856 | 5.1 | 10.1 | |
| Health care & social assistance | 31,155 | 79,240 | 3.1 | 7.9 | |
| Arts & recreation services | -876 | -2,772 | -0.1 | -0.3 | |
| Other services | 2,758 | 4,721 | 0.3 | 0.5 | |
| Total | 151,676 | 286,180 | 15.2 | 28.6 | |



| | | | Table 10: Land Demand, Lennox Head-Skennars Head, 2011-31 | | | | | | | | |
|---|--------------|---------------|---|--------------|--|--|--|--|--|--|--|
| Industry | Land area in | crease (sq m) | Land area i | ncrease (ha) | | | | | | | |
| | 2011-21 | 2011-31 | 2011-21 | 2011-31 | | | | | | | |
| Agriculture, forestry & fishing | -22 | -464 | 0.0 | 0.0 | | | | | | | |
| Mining | 0 | 0 | 0.0 | 0.0 | | | | | | | |
| Manufacturing | 3,510 | 6,234 | 0.4 | 0.6 | | | | | | | |
| Electricity, gas, water & waste services | 0 | 0 | 0.0 | 0.0 | | | | | | | |
| Construction | 15,702 | 35,586 | 1.6 | 3.6 | | | | | | | |
| Wholesale trade | 279 | -325 | 0.0 | 0.0 | | | | | | | |
| Retail trade | 8,962 | 18,437 | 0.9 | 1.8 | | | | | | | |
| Accommodation & food services | 12,067 | 28,973 | 1.2 | 2.9 | | | | | | | |
| Transport, postal & warehousing | 1,030 | 2,750 | 0.1 | 0.3 | | | | | | | |
| Information media & telecommunications | 2,159 | 6,206 | 0.2 | 0.6 | | | | | | | |
| Financial & insurance services | 354 | 695 | 0.0 | 0.1 | | | | | | | |
| Rental, hiring & real estate services | 1,722 | 3,078 | 0.2 | 0.3 | | | | | | | |
| Professional, scientific & technical services | 5,742 | 13,559 | 0.6 | 1.4 | | | | | | | |
| Administrative & support services | 1,496 | 3,387 | 0.1 | 0.3 | | | | | | | |
| Public administration & safety | 167 | 287 | 0.0 | 0.0 | | | | | | | |
| Education & training | 34,826 | 82,792 | 3.5 | 8.3 | | | | | | | |
| Health care & social assistance | 5,654 | 15,911 | 0.6 | 1.6 | | | | | | | |
| Arts & recreation services | 2,400 | 5,115 | 0.2 | 0.5 | | | | | | | |
| Other services | 383 | 687 | 0.0 | 0.1 | | | | | | | |
| Total | 96,432 | 222,908 | 9.6 | 22.3 | | | | | | | |



| Table 11: Land Demand, Balance of Shire, 2011-31 | | | | | | |
|--|--------------|---------------|-------------|--------------|--|--|
| Industry | Land area in | crease (sq m) | Land area i | ncrease (ha) | | |
| | 2011-21 | 2011-31 | 2011-21 | 2011-31 | | |
| Agriculture, forestry & fishing | -23,855 | -61,595 | -2.4 | -6.2 | | |
| Mining | 810 | 3,434 | 0.1 | 0.3 | | |
| Manufacturing | 11,342 | 12,968 | 1.1 | 1.3 | | |
| Electricity, gas, water & waste services | 350 | 871 | 0.0 | 0.1 | | |
| Construction | 17,542 | 33,012 | 1.8 | 3.3 | | |
| Wholesale trade | 19,303 | 20,668 | 1.9 | 2.1 | | |
| Retail trade | 4,762 | 5,439 | 0.5 | 0.5 | | |
| Accommodation & food services | 9,099 | 19,957 | 0.9 | 2.0 | | |
| Transport, postal & warehousing | 2,644 | 11,235 | 0.3 | 1.1 | | |
| Information media & telecommunications | 194 | 1,238 | 0.0 | 0.1 | | |
| Financial & insurance services | 250 | 416 | 0.0 | 0.0 | | |
| Rental, hiring & real estate services | 1,270 | 1,667 | 0.1 | 0.2 | | |
| Professional, scientific & technical services | 385 | -350 | 0.0 | 0.0 | | |
| Administrative & support services | -22 | -514 | 0.0 | -0.1 | | |
| Public administration & safety | 4,281 | 9,369 | 0.4 | 0.9 | | |
| Education & training | 24,992 | 44,354 | 2.5 | 4.4 | | |
| Health care & social assistance | 17,791 | 46,149 | 1.8 | 4.6 | | |
| Arts & recreation services | 1,373 | 1,366 | 0.1 | 0.1 | | |
| Other services | -1,072 | -2,303 | -0.1 | -0.2 | | |
| Total | 91,436 | 147,381 | 9.1 | 14.7 | | |



SUMMARY

The employment and land demand modelling conducted in this analysis considers changes to market conditions, social patterns, technology and infrastructure that will define the growth of Ballina Shire and the Northern Rivers region over the period to 2031. The land demands for employment uses over this period will be affected by a number of variables beyond population growth including:

- Dependency rate;
- Participation rate;
- Employment growth;
- Containment rate (i.e. proportions of the workforce not commuting);
- Market attraction of the region through marketing of the region;
- Internal growth of local employers;
- Changes in size distribution of enterprises; and
- Shifts in distribution of business sector employment.

The projected demand for commercial and industrial land was based on the expected expansion of specific industry sectors that would be likely to locate within Ballina Shire. The projections define the four key employment sectors that will be the key determinant for land demands.

These include:

- Industrial land, which includes manufacturing; construction; wholesale trade; electricity, gas, water and waste services; and transport and storage;
- Commercial land, which includes retail, communications, restaurants, entertainment and personal services;
- Special use land for schools and other education institutions; and
- Other employment land, which includes Government use of commercial premises, health care and defence.

The likely increase in employment land that would be required for Ballina Shire to both 2021 and 2031 is identified by major land use type in the following table.

| Table 12: Employment Land Demand by Land Use Type, Ballina Shire, 2011-31 | | | | | | | | |
|---|---------------------------------|---------|---------|---------|--------------------------------|---------|------------------|---------|
| Land use type | Additional employment area (ha) | | | | | | | |
| | Ballina Shire | | Ballina | | Lennox Head – Skennars Head | | Balance of Shire | |
| | 2011-21 | 2011-31 | 2011-21 | 2011-31 | 2011-21 | 2011-31 | 2011-21 | 2011-31 |
| Industrial | 10.9 | 19.3 | 3.7 | 6.7 | 2.1 | 4.4 | 5.2 | 8.2 |
| Commercial | 5.8 | 8.3 | 3.4 | 4.5 | 3.3 | 7.5 | -0.9 | -3.6 |
| Special use – schools | 11.1 | 22.8 | 5.1 | 10.1 | 3.5 | 8.3 | 2.5 | 4.4 |
| Special use – other | 6.1 | 15.2 | 3.0 | 7.4 | 0.8 | 2.1 | 2.3 | 5.7 |
| Total | 34.0 | 65.6 | 15.2 | 28.6 | 9.6 | 22.3 | 9.1 | 14.7 |

Source: Lawrence Consulting

This modelling is based on growth in employment numbers as a result of project population growth. There are numerous other external factors, such as major infrastructure upgrades, marketing strategies or the attraction of a major industry, which could also increase the demand for employment and industrial land in Ballina Shire.