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**Background information for  
the Planning Assumptions for the  
Western Downs Regional Council  
Local Government Infrastructure Plan**

**21 April 2016**

**Version 2**



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## 1.0 Preliminary

This report provides the background information for the planning assumptions to support the development of the Western Downs Regional Council Local Government Infrastructure Plan (LGIP).

The report provides further information regarding:

- a) Priority infrastructure area (Section 2);
- b) Planning assumptions (Section 3);
- c) Population and dwelling growth (Section 4);
- d) Employment and GFA growth (Section 5);
- e) Source and supporting documents (Section 6).

## 2.0 Priority Infrastructure Area

The Priority Infrastructure Area (PIA) has been generally determined using the following criteria:

- The area is planned for growth in population or employment in the next 10 to 15 years; and
- The area is serviced, or planned to be serviced in the next 10 to 15 years, by all five trunk networks – water, sewer, roads, stormwater and parks; and
- The zone is of an urban nature (i.e. not rural, rural residential, or conservation).

## 3.0 Planning assumptions

The planning assumptions have been generally based on a background report developed by Foresight Partners in 2014 (Western Downs Land Demand Analyses – Update). This report completed a bottom up approach, assessing the potential for development in the region, based on an aspirational forecast growth between the medium and high population growth published by the State's statisticians, the Queensland Government Statistician's Office (QGSO). Table 3.1 below shows the population forecast series published by QGSO.

**Table 3.1 - QGSO population forecasts**

Series	2011	2016	2021	2026	2031	2036
Low	32,365	33,802	34,910	35,983	37,029	38,043
Medium	32,365	34,241	36,109	38,010	39,930	41,878
High	32,365	34,744	37,551	40,513	43,559	46,699

Council was of the view, however, that the economic climate changed dramatically from the time this report was commissioned to the time of commencement of the LGIP. Therefore, Council adopted during its meeting on 20 May 2015, a projection which is between the low and medium series produced by the QGSO.

An interpolation between the low and medium series produces a population forecast shown in Table 3.2.

**Table 3.2 - Low-medium population forecast**

Series	2011	2016	2021	2026	2031	2036
Low	32,365	33,802	34,910	35,983	37,029	38,043
Low- medium	32,365	34,021	35,510	36,996	38,480	39,960
Medium	32,365	34,241	36,109	38,010	39,930	41,878

The planning assumptions were developed in line with the bottom up analysis conducted in Foresight report and its recommendations, adjusted to a low-medium forecast, from a top down perspective. This issue was discussed at project meetings and the network planning is broadly based on this forecast. The split, by township (except Jandowae), in Table 3.3 was also adopted by Council.

**Table 3.3 - Council adopted population forecast (inside PIA)**

Projection area	Estimated resident population (ERP)						
	2011	2014	2016	2021	2026	2031	2036
Chinchilla	4,871	5,150	5,564	6,245	6,838	7,352	7,865
Dalby	11,157	11,800	11,665	12,065	12,537	13,180	13,822
Miles	1,194	1,235	1,567	1,866	2,135	2,318	2,501
Wandoan	338	330	391	458	566	630	694
Tara	868	920	898	939	983	1,062	1,141
Total inside PIA	18,428	19,435	20,084	21,573	23,059	24,543	26,023

## 4.0 LGIP Population and dwelling growth

The Council's adopted position is expanded to include Jandowae, which meets the criteria to be inside the PIA. The 2011 census figures for Jandowae are included from the Foresight report, and growth to 2036 reflects growth in other small towns. The total inside the PIA at 2011 is just over 19,000, which is forecast to grow to 25,500 in the fifteen years to 2031. The ultimate growth is a forecast to 2031 for the LGIP.

**Table 4.1 - Population forecast**

Projection area	Estimated resident population (ERP)				
	2011	2016	2021	2026	Ultimate (2031)
Chinchilla	4,871	5,564	6,245	6,838	7,352
Dalby	11,157	11,665	12,065	12,537	13,180
Miles	1,194	1,567	1,866	2,135	2,318
Wandoan	338	391	458	566	630
Tara	868	898	939	983	1,062
Jandowae	771	797	834	873	944
<b>Inside PIA</b>	<b>19,199</b>	<b>20,882</b>	<b>22,407</b>	<b>23,932</b>	<b>25,486</b>
Outside PIA	13,166	13,140	13,103	13,064	12,993
<b>Total population</b>	<b>32,365</b>	<b>34,021</b>	<b>35,510</b>	<b>36,996</b>	<b>38,480</b>

The average household size for each locality is Australian Bureau of Statistics (ABS) census data included in the Foresight report (see Table 4.2). It should be noted that the overall population outside the PIA is diminishing slightly over time, for although there is a small increase in the number of dwellings outside the PIA, the anticipated average household size is projected to fall slightly.

**Table 4.2 - Average household size**

Projection area	2011	2016	2021	2026	2031
Chinchilla	2.5	2.46	2.53	2.55	2.53
Dalby	2.64	2.58	2.56	2.55	2.53
Miles	2.33	2.29	2.35	2.4	2.45
Wandoan	2.2	2.24	2.28	2.36	2.43
Tara	2.45	2.31	2.3	2.3	2.29
Jandowae	2.2	2.2	2.25	2.28	2.3
Rural balance	2.62	2.6	2.58	2.55	2.5

The total dwellings split of attached and detached is derived from the 2011 census (Dwelling Structure), as quoted in the Foresight report, with “attached” being the sum of “semi-detached”, “Flats/units” and “other”.

The dwelling growth is derived from the population forecast, using the persons per household from the census (as quoted by the Foresight report), replicating the split of detached and attached from the 2011 census.

**Table 4.3 - Dwelling forecast**

Projection area	Dwelling type	2011	2016	2021	2026	Ultimate (2031)
Chinchilla	Detached	1,766	2,011	2,194	2,384	2,583
	Attached	221	251	274	298	323
Dalby	Detached	3,754	4,160	4,336	4,523	4,793
	Attached	326	362	377	393	417
Miles	Detached	429	641	743	833	886
	Attached	29	44	51	57	61
Wandoan	Detached	176	176	176	207	224
	Attached	28	28	28	32	35
Tara	Detached	294	337	354	370	402
	Attached	46	52	55	57	62
Jandowae	Detached	376	376	376	376	385
	Attached	26	26	26	26	26
<b>Inside PIA</b>		<b>7,445</b>	<b>8,436</b>	<b>8,963</b>	<b>9,531</b>	<b>10,170</b>
Outside PIA	Detached	5,025	5,054	5,079	5,123	5,197
<b>Total dwellings</b>		<b>13,058</b>	<b>13,514</b>	<b>14,066</b>	<b>14,678</b>	<b>15,392</b>

## 5.0 Employment and GFA growth

The total number of persons employed in 2011 is derived from Table 3.4 in the Foresight report which outlines the percentage of persons employed. This percentage is applied to the population growth to estimate employment growth, aligning employment growth with population growth.

**Table 5.1 - Total employment forecast**

Projection area	% Persons employed	2011	2016	2021	2026	Ultimate (2031)
Chinchilla	68.5	3,337	3,811	4,278	4,684	5,036
Dalby	68.1	7,598	7,944	8,216	8,538	8,976
Miles	61.1	730	958	1,140	1,304	1,416
Wandoan	72.3	244	282	331	409	455
Tara	53.3	463	479	501	524	566
Jandowae	45	347	359	375	393	425
<b>Inside PIA</b>		<b>12,718</b>	<b>13,832</b>	<b>14,841</b>	<b>15,852</b>	<b>16,874</b>
Outside PIA	69.5	9,150	9,132	9,106	9,080	9,030
<b>Total employees</b>		<b>21,868</b>	<b>22,964</b>	<b>23,947</b>	<b>24,932</b>	<b>25,905</b>

This census provides the percentage of jobs in each industry. Each census category is allocated to an LGIP job category. The following table (Table 5.2) shows the LGIP Job category and the percentage split of jobs to each industry in each township.

**Table 5.2 - Employment by industry**

Census Employment industry category (2011)	LGIP industry category	Percentage of jobs in each industry (%)			
		Chinchilla	Dalby/Jandowae	Miles/Wandoan	Tara
Agriculture, forestry and fishing	Rural, mining and other	10.4	13.9	28.5	36
Mining	Rural, mining and other	11.9	4.5	9.8	3.7
Manufacturing	Industry and construction	3.5	8.8	2.4	3.4
Elec, Gas & Water Supply	Industry and construction	5.6	2.3	1.5	1.2
Construction	Industry and construction	18	9.8	9.2	8.5
Wholesale trade	Retail	1.7	3.6	2.5	1.5
Retail trade	Retail	8.3	11.1	6.9	5.9
Accomm & food services	Retail	6.3	5.4	5.6	5.1
Transport, postal and warehousing	Industry and construction	3.7	3.9	4	5.1
Information, media & telecomm	Office	0.5	0.5	0.5	0
Finance and insurance	Office	0.9	1.7	0.6	0.5
Rental, hiring & real estate services	Office	1.5	1	0.9	0
Professional, scientific & tech serv	Office	5.3	3.9	3.5	1.2
Administrative & support services	Office	1.9	1.8	1.3	0.6
Public administration & safety	Office	3	5.4	4.8	5.9

Census Employment industry category (2011)	LGIP industry category	Percentage of jobs in each industry (%)			
		Chinchilla	Dalby/ Jandowae	Miles/ Wandoan	Tara
Education & training	Education	5.1	7.1	6.2	8.9
Health care & social assistance	Community	6.4	8	6.5	6.8
Arts & recreation services	Community	0.4	0.5	0.6	0.6
Other services	Rural, mining and other	2.8	4.2	1.5	1.6
Not classified and not stated	Rural, mining and other	2.8	2.8	3.3	3.6

This information is applied to the total employment to derive the following job data by industry and by locality (see Table 5.3). The rural and mining jobs are showing vast volatility in Western Downs, however, the jobs attributed in these sectors in the 2011 census have been maintained, and assumed to be outside the PIA.

**Table 5.3 - Employment planning assumptions**

Projection area	LGIP Industry category	Persons employed (number)				
		2011	2016	2021	2026	Ultimate (2031)
Chinchilla	Community	315	359	403	442	475
	Education	236	270	303	331	356
	Office	1,425	1,628	1,827	2,001	2,151
	Retail	606	692	777	851	915
	Industry / construction	754	862	967	1,059	1,139
	<i>Total jobs</i>	<i>3,337</i>	<i>3,811</i>	<i>4,278</i>	<i>4684</i>	<i>5,036</i>
Dalby	Community	863	903	934	970	1,020
	Education	721	754	780	810	852
	Office	2,519	2,634	2,724	2,831	2,976
	Retail	1,453	1,519	1,571	1,632	1,716
	Industry / construction	2,042	2,135	2,208	2,294	2,412
	<i>Total jobs</i>	<i>7,598</i>	<i>7,944</i>	<i>8,216</i>	<i>8,538</i>	<i>8,976</i>
Miles	Community	91	119	142	162	176
	Education	79	104	124	142	154
	Office	219	287	342	391	425
	Retail	148	195	232	265	288
	Industry / construction	192	252	300	343	373
	<i>Total jobs</i>	<i>730</i>	<i>958</i>	<i>1,140</i>	<i>1,304</i>	<i>1,416</i>
Wandoan	Community	30	35	41	51	57
	Education	27	31	36	44	50
	Office	73	85	99	123	137
	Retail	50	57	67	83	93
	Industry / construction	64	74	87	108	120
	<i>Total jobs</i>	<i>244</i>	<i>282</i>	<i>331</i>	<i>409</i>	<i>455</i>
Tara	Community	62	64	67	70	76
	Education	75	77	81	84	91
	Office	153	158	165	173	187
	Retail	69	71	74	78	84
	Industry / construction	105	108	113	119	128
	<i>Total jobs</i>	<i>463</i>	<i>479</i>	<i>501</i>	<i>524</i>	<i>566</i>
Jandowae	Community	39	41	43	45	48
	Education	33	34	36	37	40
	Office	115	119	124	130	141
	Retail	66	69	72	75	81
	Industry / construction	93	96	101	106	114
	<i>Total jobs</i>	<i>347</i>	<i>359</i>	<i>375</i>	<i>393</i>	<i>425</i>
<b>Inside PIA</b>	<b>Total jobs</b>	<b>12,718</b>	<b>13,832</b>	<b>14,841</b>	<b>15,852</b>	<b>16,874</b>
Outside PIA	Rural, mining and other	9,150	9,132	9,106	9,080	9,030
<b>Total jobs</b>		<b>21,868</b>	<b>22,964</b>	<b>23,947</b>	<b>24,932</b>	<b>25,905</b>



An industry standard methodology for the estimation of gross floor area is to allow an area of floor space for every employee. The assumptions for the area allowed for each employee is shown in Table 5.4. The resultant existing and forecast GFA is shown in Table 5.5.

**Table 5.4 - Gross floor area assumptions**

<b>LGIP industry category</b>	<b>m<sup>2</sup> GFA / employee</b>
Community	50
Education	50
Office	25
Retail	35
Industry / construction	100
Rural, mining and other	100



**Table 5.5 - Gross floor area forecast**

<b>Projection area</b>	<b>Industry category</b>	<b>2011</b>	<b>2016</b>	<b>2021</b>	<b>2026</b>	<b>Ultimate (2031)</b>
Chinchilla	Community	15,734	17,972	20,173	22,090	23,750
	Education	11,801	13,479	15,130	16,567	17,812
	Office	35,634	40,701	45,686	50,027	53,786
	Retail	21,218	24,236	27,204	29,789	32,027
	Industry / construction	75,433	86,160	96,711	105,900	113,859
	<i>Total GFA</i>	<i>159,821</i>	<i>182,548</i>	<i>204,903</i>	<i>224,373</i>	<i>241,233</i>
Dalby	Community	43,170	45,135	46,683	48,512	50,999
	Education	36,060	37,701	38,994	40,521	42,599
	Office	62,977	65,844	68,102	70,770	74,398
	Retail	50,839	53,153	54,976	57,129	60,058
	Industry / construction	204,169	213,463	220,783	229,431	241,193
	<i>Total GFA</i>	<i>397,215</i>	<i>415,296</i>	<i>429,537</i>	<i>446,363</i>	<i>469,247</i>
Miles	Community	4,544	5,964	7,100	8,124	8,821
	Education	3,968	5,208	6,200	7,094	7,703
	Office	5,472	7,182	8,550	9,783	10,622
	Retail	5,196	6,821	8,120	9,291	10,088
	Industry / construction	19,198	25,201	30,001	34,326	37,271
	<i>Total GFA</i>	<i>38,377</i>	<i>50,376</i>	<i>59,973</i>	<i>68,617</i>	<i>74,505</i>
Wandoan	Community	1,522	1,759	2,061	2,548	2,836
	Education	1,329	1,536	1,800	2,225	2,477
	Office	1,833	2,119	2,482	3,068	3,415
	Retail	1,741	2,012	2,357	2,914	3,244
	Industry / construction	6,431	7,434	8,708	10,766	11,984
	<i>Total GFA</i>	<i>12,855</i>	<i>14,860</i>	<i>17,408</i>	<i>21,521</i>	<i>23,956</i>
Tara	Community	3,101	3,207	3,356	3,511	3,795
	Education	3,730	3,858	4,036	4,223	4,564
	Office	3,813	3,944	4,126	4,318	4,667
	Retail	2,405	2,488	2,603	2,723	2,944
	Industry / construction	10,477	10,836	11,336	11,862	12,821
	<i>Total GFA</i>	<i>23,526</i>	<i>24,333</i>	<i>25,457</i>	<i>26,637</i>	<i>28,790</i>
Jandowae	Community	1,971	2,039	2,133	2,232	2,412
	Education	1,647	1,703	1,782	1,864	2,015
	Office	2,876	2,974	3,112	3,256	3,519
	Retail	2,322	2,401	2,512	2,628	2,841
	Industry / construction	9,323	9,643	10,088	10,556	11,409
	<i>Total GFA</i>	<i>18,138</i>	<i>18,760</i>	<i>19,627</i>	<i>20,537</i>	<i>22,197</i>
<b>Inside PIA</b>	<b>Total GFA</b>	<b>649,932</b>	<b>706,173</b>	<b>756,905</b>	<b>808,048</b>	<b>859,928</b>
<i>Outside PIA</i>	Rural, mining and other	915,037	915,037	915,037	915,037	915,037
<b>Total GFA</b>		<b>1,564,969</b>	<b>1,652,014</b>	<b>1,704,170</b>	<b>1,756,806</b>	<b>1,811,412</b>

## 6.0 Source and supporting documents

Document name	Document author	Version
Western Downs Land Demand Analyses – Update	Foresight Partners Pty Ltd	September 2014
Council meeting minutes (20/5/2015)	Western Downs Regional Council	May 2015
Population projection, by local government area, Queensland, 2011 to 2036	Queensland Government Statisticians Office	March 2015