



# **Background information for Planning Assumptions for the Gympie Regional Council Local Government Infrastructure Plan**

## 1.0 Preliminary

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

The report outlines:

1. The project areas and Priority Infrastructure Area (Section 2);
2. Planning assumption methodology (Section 3);
3. Planning assumption modelling (Section 4);
4. Source and supporting documents (Section 5).

## 2.0 Priority Infrastructure Area

### Priority Infrastructure Boundary

The Priority Infrastructure Area (PIA) identifies the area Gympie Regional Council gives priority to provide trunk infrastructure for urban development (refer Attachment 1). The priority infrastructure area was developed based on the following criteria:

1. properties that are currently connected to all infrastructure networks, or has the potential to be connected to trunk infrastructure based on Council's endorsed infrastructure network strategies within the next 10 years;
2. Urban zoning exists – generally not rural or rural residential areas;
3. Areas where suitable and adequate infrastructure exists or where it can be provided most efficiently.

The priority infrastructure area is identified in Attachment 1 Priority Infrastructure Area (PIA) and is discussed further in Section 4.0 Planning Assumptions Modeling.

### Projection Areas

The PIA creates 5 discrete areas within the region including:

- Gympie
- Cooloola Coast
- Goomeri
- Imbil
- Kilkivan.

These areas form the projection areas for the planning assumptions (refer Attachment 2 Projection Areas). Each projection area was divided into census area SA1s to allow for an assessment of each SA1 and comparison with ABS data for a historical comparison. The planning assumptions provide a geographical overview of the growth projections for residential and non-residential development relative to the priority infrastructure area and are summarised in Attachment 3 Planning Assumption Summary.

The planning assumptions have been prepared for the following time periods to align with the Australian Bureau of Statistics (ABS) census years:

- A base year of 2016;
- 2021;
- 2026; and
- 2031.

An estimate of the realistic development if the PIA was built to an ultimate capacity is also included in the planning assumptions.

### 3.0 Planning assumptions methodology

The planning assumptions form a logical and consistent basis for the planning of the trunk infrastructure networks and the determination of the priority infrastructure area.

The distribution and timing of future development (residential dwellings, non-residential floor space and land area) to accommodate projected population and employment growth have been estimated taking into account the following factors:

- (a) physical constraints on the land;
- (b) land use planning provisions of the planning scheme;
- (c) development trends;
- (d) cost efficient provision of infrastructure;
- (e) average occupancy rate projections;
- (f) average GFA per employee;
- (g) existing level of development; and
- (h) realistic potential for development.

### 4.0 Planning assumptions modelling

#### Population and employment

The planning assumptions are developed on a lot by lot basis, considering the existing development, the provisions of the Gympie Regional Council Planning Scheme 2013, a realistic estimate of development which may occur before 2031, considering constraints on the land, and the likely timing for the change. This bottom-up approach anticipates the growth, its type (residential or non-residential), and its use (detached, attached, industrial, commercial, community, office or other). The outcomes of the residential, bottom-up analysis is then compared to the QGSO low series as a top-down cross-check - Queensland Government population projections, 2013 edition (refer Table 1 below) and Australian Bureau of Statistics, Population by Age and Sex, Regions of Australia, 2012 (Cat no. 3235.0).

**Table 1 QGSO population projections compared with Gympie planning assumptions**

Column 1	Column 2											
Description	Population projections											
	5.0	201	6.0	201	7.0	202	8.0	202	9.0	203	10.0	203
	1		6		1		6		1		6	
QGSO low series population projection (2013 edition)	46,837		49,410		51,901		54,229		56,480		58,603	
GRC planning assumptions			49,410		51,901		54,229		56,480			

The non-residential bottom-up outcomes are compared with the employment census data to perform a top-down assessment.

A summary of the projected population and employment growth anticipated to occur within the local government area are contained within Attachment 3 Planning Assumptions Summary.

### Development potential of land

The net developable area is the area of land available for development once land that cannot be developed due to constraints (such as acid sulfate soils, conservation land, flood affected land or steep slope) has been removed. The net developable area for areas within the PIA have been calculated by zone using GIS. The net developable area is shown in Table 2 Net Developable Area for each projection area.

**Table 2 Net Developable Area**

Zone	Projection area					Total per zone
	Gympie	Cooloola Coast	Goomeri	Imbil	Kilkivan	
Character Residential	32.5			0.9		33.4
Community Purposes	78.6	26.1	4.0		10.5	119.2
District Centre	24.7	2.8	4.1		6.1	37.6
High Impact Industry	1.7					1.7
Local Centre	7.3	5.4				12.7
Low Impact Industry	25.8	3.9	3.9		1.4	35.0
Medium Impact Industry	1.1					1.1

Zone	Projection area					Total per zone
	Gympie	Cooloola Coast	Goomeri	Imbil	Kilkivan	
Open Space	6.2	5.2	0.1			11.4
Principal Centre	2.1					2.1
Residential Choice	90.0	26.1				116.1
Residential Living	241.8	299.6	23.3	2.3	39.5	606.5
Rural	0.4					0.4
Rural Residential	12.0		0.2			12.2
Specialised Centre	10.2					10.2
Sport And Recreation	6.0	9.5	1.4		9.8	26.7
Total Net Developable Area by Projection Area	540.4	378.6	37.1	3.1	67.2	1026.4

### Occupancy rates

The dwelling forecasts from the bottom-up analysis are translated to population projections using household occupancy rates. Table 3 Average persons per household identifies average residential occupancy rates for different types of residential dwelling. These values were calculated from the persons per household rates of ABS Census 2011 data and aggregated to the projection area.

**Table 3 Average persons per household**

Locality	Persons per household
Cooloola Coast	2.25
Goomeri	2.31
Imbil	2.48
Kilkivan	2.31

### Floor space per employee rates

The gross floor areas for non-residential development from the bottom-up analysis are translated to employee projections using floor space per employee translation rates. Table 4 Floor space per employee identifies the assumption utilized different types of non-residential uses.

**Table 4 Floor space per employee**

Non-residential use category	GFA per employee
Office	25
Retail	35
Industry and construction	100
Community	50
Rural, mining and other	100

The modelling outcomes for the planning assumptions are summarised by projection area and use to determine the residential (persons and dwellings) and non-residential (jobs and GFA) growth in the Gympie Region until 2031 and at Ultimate. The summaries are provided in Attachment 3.

## 11.0 Source and supporting documents

- Atlas.id <http://atlas.id.com.au/gympie/maps/average-household-size#MapNo=10037&SexKey=3&datatype=1&themtype=3&topicAlias=average-household-size&year=2011>
- Australian Bureau of Statistics - <http://www.abs.gov.au/census>
- Gympie Regional Council Planning Scheme 2013 - <https://www.gympie.qld.gov.au/gympie-regional-council-planning-scheme>
- Queensland Government Statistician's Office - <http://statistics.qgso.qld.gov.au/qld-regional-profiles>

## **Attachments**

Attachment 1 Priority Infrastructure Area

Attachment 2 Projection Areas

Attachment 3 Planning Assumptions summary

## Attachment 3 Planning Assumptions summary

Projection area	LGIP development type	Existing and projected dwellings				
INSIDE PIA		2016	2021	2026	2031	Ultimate
Gympie	Attached	582	892	1396	1608	5977
	Detached	7211	7374	7271	7538	10614
	Total	7793	8266	8667	9146	16591
Cooloola Coast	Attached	599	599	604	679	1553
	Detached	3238	3318	3430	3557	5529
	Total	3837	3917	4034	4236	7082
Goomeri	Attached	0	6	8	10	28
	Detached	240	255	267	298	479
	Total	240	261	275	308	507
Imbil	Attached	0	16	20	44	55
	Detached	225	229	239	240	396
	Total	225	245	259	284	451
Kilkivan	Attached	2	10	10	24	129
	Detached	183	190	203	274	570
	Total	185	200	213	298	699
Inside PIA totals	Attached	1183	1523	2038	2365	7742
	Detached	11097	11366	11410	11907	17588
	Total	12280	12889	13448	14272	25330
outside PIA	Attached	0	0	0	0	38
	Detached	9414	9896	10358	10520	19743
	Total	9414	9896	10358	10520	19781
Total	Attached	1183	1523	2038	2365	7780
	Detached	20511	21262	21768	22427	37331
	Total	21694	22785	23806	24792	45111



Projection area	LGIP development type	Existing and projected population				
INSIDE PIA		2016	2021	2026	2031	Ultimate

Gympie	Attached	1327	2034	3183	3666	13628
	Detached	16441	16813	16578	17187	24200
	Total	17768	18847	19761	20853	37828
Cooloola Coast	Attached	1348	1348	1359	1528	3494
	Detached	7286	7466	7718	8003	12440
	Total	8634	8814	9077	9531	15934
Goomeri	Attached	0	14	18	23	65
	Detached	554	589	617	688	1106
	Total	554	603	635	711	1171
Imbil	Attached	0	40	50	109	136
	Detached	558	568	593	595	982
	Total	558	608	643	704	1118
Kilkivan	Attached	5	23	23	55	298
	Detached	423	439	469	633	1317
	Total	428	462	492	688	1615
Inside PIA totals	Attached	2680	3459	4633	5381	17621
	Detached	25262	25875	25975	27106	40045
	Total	27942	29334	30608	32487	57666
outside PIA	Attached	0	0	0	0	87
	Detached	21468	22567	23621	23993	42488
	Total	21468	22567	23621	23993	42575

Total	Attached	2680	3459	4633	5381	17708
	Detached	46730	48442	49596	51099	82533
	Total	49410	51901	54229	56480	100241

Projection area	LGIP development type	Existing and projected floor space				
INSIDE PIA		2016	2021	2026	2031	Ultimate
Gympie	Retail	228,247	256,639	285,031	313,424	874,901
	Office	22,722	24,559	26,396	28,232	53,797
	Industry	187,766	189,553	191,340	193,126	842,699
	Community	185,135	185,135	185,135	185,135	272,136
	Total	623,870	655,886	687,902	719,917	2,043,533
Cooloolo Coast	Retail	21,910	27,153	32,396	37,640	101,770
	Office	1,200	1,200	1,200	1,200	1,200
	Industry	32,430	38,880	45,330	51,780	91,320
	Community	24,220	24,220	24,220	24,220	27,500
	Total	79,760	91,453	103,146	114,840	221,790
Goomeri	Retail	13,490	14,040	14,590	15,140	85,000
	Office	-	-	-	-	-
	Industry	3,350	3,350	3,350	3,350	29,300
	Community	5,040	5,040	5,040	5,040	6,890
	Total	21,880	22,430	22,980	23,530	121,190
Imbil	Retail	5,300	5,300	5,300	5,300	99,060
	Office	420	420	420	420	-
	Industry	350	350	350	350	350
	Community	6,530	6,530	6,530	6,530	6,530
	Total	12,600	12,600	12,600	12,600	105,940
Kilkivan	Retail	7,020	9,537	12,054	14,570	107,700
	Office	-	-	-	-	-
	Industry	140	140	140	140	16,000
	Community	9,955	9,955	9,955	9,955	9,955
	Total	17,115	19,632	22,149	24,665	133,655
Inside PIA totals	Retail	275,967	312,669	349,371	386,074	1,268,431
	Office	24,342	26,179	28,016	29,852	54,997
	Industry	224,036	232,273	240,510	248,746	979,669
	Community	230,880	230,880	230,880	230,880	323,011
	Total	755,225	802,001	848,777	895,552	2,626,108
Outside PIA	Retail	18,090	19,923	21,756	23,590	53,350
	Office	-	-	-	-	-
	Industry	46,950	51,430	55,910	60,390	83,000
	Community	56,346	56,346	56,346	56,346	56,346
	Total	121,386	127,699	134,012	140,326	192,696
Total	Retail	294,057	332,592	371,127	409,664	1,321,781
	Office	24,342	26,179	28,016	29,852	54,997
	Industry	270,986	283,703	296,420	309,136	1,062,669
	Community	287,226	287,226	287,226	287,226	379,357
	Total	876,611	929,700	982,789	1,035,878	2,818,804

Projection area	LGIP development type	Existing and projected employees				
INSIDE PIA		2016	2021	2026	2031	Ultimate
Gympie	Retail	9,130	10,266	11,401	12,537	34,996
	Office	649	702	754	807	1,537
	Industry	1,878	1,896	1,913	1,931	8,427
	Community	3,703	3,703	3,703	3,703	5,443
	Total	15,360	16,567	17,771	18,978	50,403
Cooloolo Coast	Retail	876	1,086	1,296	1,506	4,071
	Office	34	34	34	34	34
	Industry	324	389	453	518	913
	Community	484	484	484	484	550
	Total	1,718	1,993	2,267	2,542	5,568
Goomeri	Retail	540	562	584	606	3,400
	Office	-	-	-	-	-
	Industry	34	34	34	34	293
	Community	101	101	101	101	138
	Total	675	697	719	741	3,831
Imbil	Retail	212	212	212	212	3,962
	Office	12	12	12	12	-
	Industry	4	4	4	4	4
	Community	131	131	131	131	131
	Total	359	359	359	359	4,097
Kilkivan	Retail	281	381	482	583	4,308
	Office	-	-	-	-	-
	Industry	1	1	1	1	160
	Community	199	199	199	199	199
	Total	481	581	682	783	4,667
Inside PIA totals	Retail	11,039	12,507	13,975	15,443	50,737
	Office	695	748	800	853	1,571
	Industry	2,240	2,323	2,405	2,487	9,797
	Community	4,618	4,618	4,618	4,618	6,460
	Total	18,592	20,196	21,798	23,401	68,565
Outside PIA	Retail	724	797	870	944	2,134
	Office	-	-	-	-	-
	Industry	470	514	559	604	830
	Community	1,127	1,127	1,127	1,127	1,127
	Total	2,321	2,438	2,556	2,675	4,091
Total	Retail	11,763	13,304	14,845	16,387	52,871
	Office	695	748	800	853	1,571
	Industry	2,710	2,837	2,964	3,091	10,627
	Community	5,745	5,745	5,745	5,745	7,587
	Total	20,913	22,634	24,354	26,076	72,656

