



## **Background report on the planning assumptions for the Redland City Council Local Government Infrastructure Plan**

**March 2017**

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## 1.0 Background

Redland City Council has prepared a Local Government Infrastructure Plan (LGIP) in accordance with the *Sustainable Planning Act 2009*. The LGIP will replace the Priority Infrastructure Plan (PIP), or transitional LGIP, and identifies the type, scale, location and timing of development within the local government area for the period 2016-2031.

The Redland City Council LGIP includes the following trunk infrastructure networks:

- Water supply network
- Sewerage network
- Transport network
- Stormwater network
- Parks and land for community facilities network

Redland City Council's LGIP will form Part 4 of the Redland City Plan.

### 1.1 Purpose of report

This extrinsic material report has been prepared to assist the interpretation of Redland City Council's LGIP. The report provides the background information and summarises the methodology used to prepare the planning assumptions that support the development of the LGIP.

### 1.2 LGIP studies and reports

The background studies referred to in the extrinsic material that relates to the planning assumptions for the LGIP include:

- *Redland City Centres & Employment Strategy Review 2013*
- *Population, Dwelling and Employment Forecasts, Urbis, May 2016*
- *Redland City Land Supply Review, Urbis, November 2012*
- *Redland City Council: Road Infrastructure Planning – Traffic Forecasts and Assessments, Veitch Lister Consulting, October 2014.*

## 2.0 Planning assumptions

The planning assumptions state expectations about demographics and development in the local government area relating to:

- Population and employment
- The type, scale, location and timing of development including the demand for each trunk network

The planning assumptions together with the desired standards of service form the basis for planning of trunk infrastructure networks and determining the Priority Infrastructure Area (PIA).

The planning assumptions have been forecast for the following projection years and ultimate development:

- The base date (2016)

- 2021
- 2026
- 2031

For the purposes of reporting, the projections of growth and development have been summarised for each Australian Bureau of Statistics (ABS) Statistical Area level 2 (SA2) (projection area) and the following development types:

- Detached dwelling
- Attached dwelling
- Retail
- Commercial
- Industrial
- Community purposes

Each land use is classified into the above development types in accordance with the below Table 1.

| <b>Table 1—Classification of land uses under the planning scheme to LGIP development type</b> |                                           |                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Column 1<br/>LGIP development category</b>                                                 | <b>Column 2<br/>LGIP development type</b> | <b>Column 3<br/>Uses</b>                                                                                                                                                                                                                                                |
| Residential development                                                                       | Attached dwelling                         | Community residence<br>Dual occupancy<br>Dwelling unit<br>Multiple dwelling<br>Nature-based tourism<br>Relocatable home park<br>Residential care facility<br>Resort complex<br>Retirement facility<br>Rooming accommodation<br>Short-term accommodation<br>Tourist park |
|                                                                                               | Detached dwelling                         | Caretaker's accommodation<br>Dwelling house<br>Home based business<br>Rural workers' accommodation                                                                                                                                                                      |
| Non-residential development                                                                   | Commercial                                | Office                                                                                                                                                                                                                                                                  |
|                                                                                               | Community purpose                         | Cemetery<br>Child care centre<br>Community care centre<br>Community use<br>Crematorium<br>Detention facility                                                                                                                                                            |

| <b>Table 1—Classification of land uses under the planning scheme to LGIP development type</b> |                                               |                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Column 1<br/>LGIP development<br/>category</b>                                             | <b>Column 2<br/>LGIP development<br/>type</b> | <b>Column 3<br/>Uses</b>                                                                                                                                                                                                                                                                                                                                            |
|                                                                                               |                                               | Emergency services<br>Educational establishment<br>Funeral parlour<br>Health care services<br>Hospital<br>Park<br>Place of worship                                                                                                                                                                                                                                  |
|                                                                                               | Industry                                      | High impact industry<br>Low impact industry<br>Marine industry<br>Medium impact industry<br>Port services<br>Research and technology industry<br>Rural industry<br>Special industry<br>Transport depot<br>Warehouse                                                                                                                                                 |
|                                                                                               | Retail                                        | Adult store<br>Agricultural supplies store<br>Bar<br>Brothel<br>Car wash<br>Club<br>Bulk landscape supplies<br>Food and drink outlet<br>Function facility<br>Garden centre<br>Hardware and trade supplies<br>Hotel<br>Nightclub entertainment facility<br>Market<br>Outdoor sales<br>Parking station<br>Sales office<br>Service industry<br>Service station<br>Shop |

| <b>Table 1—Classification of land uses under the planning scheme to LGIP development type</b> |                                               |                                                                                     |
|-----------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Column 1<br/>LGIP development<br/>category</b>                                             | <b>Column 2<br/>LGIP development<br/>type</b> | <b>Column 3<br/>Uses</b>                                                            |
|                                                                                               |                                               | Shopping centre<br>Showroom<br>Theatre<br>Tourist attraction<br>Veterinary services |

### 3.0 Methodology

A top-down bottom-up approach has been used to prepare the planning assumptions. This means that development (residential dwellings and non-residential floor space) is projected at a lot level to meet high level population and employment targets (top down) for a larger area.

The type, scale, location and timing of residential dwellings and non-residential floor space to meet the population and employment targets was determined at the lot level based on:

- each lot's ultimate development potential;
- projected residential occupancy rates and employee to floor space conversion rates; and
- the likelihood of a lot developing based on its development application status and current development trends and other key factors.

### 3.1 Ultimate development potential

For the purposes of an LGIP, ultimate development is the realistic extent of development anticipated to be achieved when a site (or projection area or infrastructure service catchment) is fully developed.

The projected population, dwellings, employment and non-residential floor space at ultimate development has been calculated for each lot by applying the planned density for that lot to its net developable area. These lot level projections were then aggregated to determine the total projected development for each projection area.

#### 3.1.1 Planned density

The planned density for each zone and present within the draft Redland City Plan was determined having regard to the associated provisions (zoning & overlays). For residential zones, the minimum lot size provisions were a primary input in determining the number of dwellings per developable hectare and for non-residential zones, site coverage provisions and building heights were the primary inputs for calculating the plot ratio.

Local roads, parks and other infrastructure requirements were also accounted for as part of determining the planned density.

See Appendix A – Planned density and demand generation rate for a trunk infrastructure network

### 3.1.2 Net developable area constraints

The developable area is land zoned for urban purposes not affected by the development constraints stated in Table 2.

| <b>Table 2- Development constraints</b>                   |                                                                                                                                                                                          |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Column 1<br/>Development constraint</b>                | <b>Column 2<br/>Applicable components</b>                                                                                                                                                |
| Coastal protection (erosion prone areas) overlay          | Erosion prone areas                                                                                                                                                                      |
| Environmental significance overlay                        | Matter of state environmental significance areas<br>Matter of local environmental significance areas                                                                                     |
| Flood and storm tide hazard overlay                       | Drainage constrained land*<br><br>Defined storm tide event*<br><br>Defined flood event*<br><br>Note—* except where the land is zoned for residential, commercial or industrial purposes. |
| Landslide hazard overlay                                  | Very high hazard<br><br>High hazard                                                                                                                                                      |
| Regional infrastructure corridors and substations overlay | Water supply pipeline buffer<br>Water quality facility buffer                                                                                                                            |
| Waterway corridors and wetlands overlay                   | Waterway corridors and wetlands                                                                                                                                                          |

### 3.2 Residential occupancy rates

The projected residential occupancy rates used to prepare the projections of dwellings were provided by the are based on a combination 2011 edition and 2015 edition population and dwelling projections released by the Queensland Treasury and Trade (QTT) (see section 4.0).

These projections consisted of an attached dwelling occupancy rate of 1.70 persons/dwelling across the city and the detached dwelling occupancy rates stated in Table 3.

| <b>Table 3—Existing and projected detached dwelling occupancy rates</b> |                                                                              |             |             |             |                             |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------|-------------|-------------|-----------------------------|
| <b>Column 1<br/>Projection area</b>                                     | <b>Column 2<br/>Existing and projected detached dwelling occupancy rates</b> |             |             |             |                             |
|                                                                         | <b>2016</b>                                                                  | <b>2021</b> | <b>2026</b> | <b>2031</b> | <b>Ultimate development</b> |
| Alexandra Hills                                                         | 3.22                                                                         | 3.20        | 3.20        | 2.90        | 2.85                        |
| Birkdale                                                                | 3.37                                                                         | 3.34        | 3.32        | 3.02        | 2.96                        |
| Capalaba                                                                | 3.27                                                                         | 3.25        | 3.23        | 2.93        | 2.89                        |
| Cleveland                                                               | 3.06                                                                         | 3.01        | 2.94        | 2.65        | 2.60                        |

| <b>Table 3—Existing and projected detached dwelling occupancy rates</b> |                                                                              |             |             |             |                             |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------|-------------|-------------|-------------|-----------------------------|
| <b>Column 1<br/>Projection area</b>                                     | <b>Column 2<br/>Existing and projected detached dwelling occupancy rates</b> |             |             |             |                             |
|                                                                         | <b>2016</b>                                                                  | <b>2021</b> | <b>2026</b> | <b>2031</b> | <b>Ultimate development</b> |
| Ormiston                                                                | 3.18                                                                         | 3.15        | 3.12        | 2.82        | 2.78                        |
| Redland Bay                                                             | 3.19                                                                         | 3.19        | 3.19        | 2.90        | 2.86                        |
| Redland Islands                                                         | 1.60                                                                         | 1.58        | 1.57        | 1.42        | 1.39                        |
| Sheldon - Mount Cotton                                                  | 3.30                                                                         | 3.29        | 3.29        | 2.99        | 2.94                        |
| Thorneside                                                              | 2.94                                                                         | 2.92        | 2.91        | 2.66        | 2.67                        |
| Thornlands                                                              | 3.39                                                                         | 3.36        | 3.35        | 3.04        | 2.94                        |
| Victoria Point                                                          | 3.21                                                                         | 3.18        | 3.17        | 2.87        | 2.82                        |
| Wellington Point                                                        | 3.29                                                                         | 3.27        | 3.26        | 2.96        | 2.91                        |

### 3.3 Non-residential floor space conversion rates

The above employment projections were converted into non-residential floor space using the following floor space conversion rates (m<sup>2</sup> GFA/employee):

- Retail 77m<sup>2</sup>
- Commercial 25m<sup>2</sup>
- Industrial 115m<sup>2</sup>
- Community (health & education) 72m<sup>2</sup>

Redland City Council benchmarked the GFA rates against Brisbane City Council's (BCC) conversion rates. Although the retail rate appears high it is comparable to BCC (60m<sup>2</sup>-70m<sup>2</sup>) and reflects the predominately large format retail component in Redland centres.

Redland City Council also used local knowledge and sampled several Redland centres to compare actual 2011 GFA to existing employment to confirm the conversion rates were in line with existing trends.

## 4.0 Population and dwelling projections

The high level population and dwelling assumptions for the LGIP are based on the Urbis report prepared for Redland City Council in May 2016 (*Population, Dwelling and Employment Forecasts*) that forecasts the population, employment and dwellings across the local government area. These projections are based on a combination 2011 edition and 2015 edition population and dwelling projections released by the Queensland Treasury and Trade (QTT) and have been developed using a top down, bottom up approach.

The population and dwelling forecasts from the base date up to the 2026 used as a basis for the LGIP are derived from the 2011 edition projections released by the QTT. The population and dwelling forecasts from the base date up to the 2026 used as a basis for the LGIP are derived from the 2015 edition projections released by the QTT.

LGIP planning began immediately after the former Priority Infrastructure Plan (PIP) came into effect in 2012. Significant progress had been made in the development of Infrastructure Demand Modelling based on 2011 QTT projections prior to the release of the substantially higher rates in the 2013 QTT series as released by the Newman Government. Consequently, Urbis was asked to consider the relationship between the 2011 QTT projects underpinning the Redland City Land Supply Review, Urbis, November 2012 and latest 2015 QTT projections. Recognising the 2015 edition population projections are only slightly lower than the 2011 projections, Urbis determined that the 2012 development sequence mapping and estimates prepared for the timeframe 2011 to 2026 was still valid and could reasonably continue to be used for infrastructure planning purposes.

The key points in relation to these projections include:

- The Redland City Council region's population is expected to increase by approximately 27,257 people from 2016 to 2031.
- A large portion of the growth is expected within the major statistical areas of Thornlands, Capalaba and Victoria Point.
- There is a large increase in the population attributed to attached dwellings in the major activity centres of Cleveland, Capalaba, Thornlands and Victoria Point.
- Thornlands is expected to experience the highest population growth.

The existing and projected population is stated for each projection area in Table 4.

| <b>Table 4—Existing and projected population</b> |                                                   |                                                       |             |             |             |                                 |
|--------------------------------------------------|---------------------------------------------------|-------------------------------------------------------|-------------|-------------|-------------|---------------------------------|
| <b>Column 1<br/>Projection area</b>              | <b>Column 2<br/>LGIP<br/>development<br/>type</b> | <b>Column 3<br/>Existing and projected population</b> |             |             |             |                                 |
|                                                  |                                                   | <b>2016</b>                                           | <b>2021</b> | <b>2026</b> | <b>2031</b> | <b>Ultimate<br/>development</b> |
| Alexander Hills                                  | Detached dwelling                                 | 17,075                                                | 17,457      | 17,777      | 17,710      | 17,505                          |
|                                                  | Attached dwelling                                 | 534                                                   | 638         | 675         | 719         | 772                             |
|                                                  |                                                   |                                                       |             |             |             |                                 |
|                                                  | Total                                             | 17,609                                                | 18,095      | 18,452      | 18,429      | 18,277                          |
| Birkdale                                         | Detached                                          | 14,479                                                | 14,995      | 15,522      | 15,603      | 16,197                          |
|                                                  | Attached dwelling                                 | 1,004                                                 | 1,137       | 1,333       | 1,477       | 1,583                           |
|                                                  |                                                   |                                                       |             |             |             |                                 |
|                                                  | Total                                             | 15,483                                                | 16,132      | 16,855      | 17,080      | 17,780                          |
| Capalaba                                         | Detached dwelling                                 | 15,129                                                | 15,394      | 15,616      | 15,774      | 16,951                          |

**Table 4—Existing and projected population**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected population |        |        |        |                      |
|-----------------------------|-----------------------------------|-----------------------------------------------|--------|--------|--------|----------------------|
|                             |                                   | 2016                                          | 2021   | 2026   | 2031   | Ultimate development |
|                             | Attached dwelling                 | 2,062                                         | 2,374  | 3,407  | 4,145  | 4,321                |
|                             |                                   |                                               |        |        |        |                      |
|                             | Total                             | 17,191                                        | 17,768 | 19,023 | 19,919 | 21,272               |
|                             |                                   |                                               |        |        |        |                      |
| Cleveland                   | Detached dwelling                 | 12,003                                        | 12,249 | 12,317 | 12,352 | 12,118               |
|                             | Attached dwelling                 | 3,876                                         | 5,064  | 6,344  | 7,327  | 8,207                |
|                             |                                   |                                               |        |        |        |                      |
|                             | Total                             | 15,879                                        | 17,313 | 18,661 | 19,679 | 20,325               |
| Ormiston                    | Detached dwelling                 | 5,389                                         | 5,646  | 5,879  | 5,956  | 6,196                |
|                             | Attached dwelling                 | 819                                           | 937    | 1,117  | 1,243  | 1,243                |
|                             |                                   |                                               |        |        |        |                      |
|                             | Total                             | 6,208                                         | 6,583  | 6,996  | 7,199  | 7,439                |
| Redland Bay                 | Detached dwelling                 | 14,133                                        | 15,083 | 16,347 | 17,064 | 17,373               |
|                             | Attached dwelling                 | 352                                           | 709    | 1,164  | 1,542  | 1,542                |
|                             |                                   |                                               |        |        |        |                      |
|                             | Total                             | 14,485                                        | 15,792 | 17,511 | 18,606 | 18,915               |
| Redland Islands             | Detached dwelling                 | 9,012                                         | 9,571  | 10,335 | 11,090 | 12,191               |
|                             | Attached dwelling                 | 664                                           | 698    | 826    | 891    | 891                  |
|                             |                                   |                                               |        |        |        |                      |
|                             | Total                             | 9,676                                         | 10,269 | 11,161 | 11,981 | 13,082               |
| Sheldon - Mount Cotton      | Detached dwelling                 | 5,353                                         | 6,177  | 6,361  | 6,604  | 6,499                |
|                             | Attached dwelling                 | 11                                            | 11     | 12     | 12     | 12                   |
|                             |                                   |                                               |        |        |        |                      |
|                             | Total                             | 5,364                                         | 6,188  | 6,373  | 6,616  | 6,511                |

**Table 4—Existing and projected population**

| Column 1<br>Projection area                  | Column 2<br>LGIP development type | Column 3<br>Existing and projected population |         |         |         |                      |
|----------------------------------------------|-----------------------------------|-----------------------------------------------|---------|---------|---------|----------------------|
|                                              |                                   | 2016                                          | 2021    | 2026    | 2031    | Ultimate development |
| Thorneside                                   | Detached dwelling                 | 3,104                                         | 3,131   | 3,143   | 3,135   | 3,151                |
|                                              | Attached dwelling                 | 846                                           | 885     | 964     | 976     | 976                  |
|                                              |                                   |                                               |         |         |         |                      |
|                                              | Total                             | 3,950                                         | 4,016   | 4,107   | 4,111   | 4,127                |
| Thornlands                                   | Detached dwelling                 | 13,771                                        | 15,600  | 17,617  | 18,749  | 18,755               |
|                                              | Attached dwelling                 | 394                                           | 653     | 922     | 1,353   | 3,465                |
|                                              |                                   |                                               |         |         |         |                      |
|                                              | Total                             | 14,165                                        | 16,253  | 18,539  | 20,102  | 22,220               |
| Victoria Point                               | Detached dwelling                 | 14,801                                        | 14,932  | 15,013  | 14,996  | 15,813               |
|                                              | Attached dwelling                 | 1,393                                         | 1,525   | 1,883   | 2,090   | 2,512                |
|                                              |                                   |                                               |         |         |         |                      |
|                                              | Total                             | 16,194                                        | 16,457  | 16,896  | 17,086  | 18,325               |
| Wellington Point                             | Detached dwelling                 | 11,438                                        | 11,855  | 12,375  | 12,520  | 12,628               |
|                                              | Attached dwelling                 | 683                                           | 791     | 909     | 993     | 993                  |
|                                              |                                   |                                               |         |         |         |                      |
|                                              | Total                             | 12,121                                        | 12,646  | 13,284  | 13,513  | 13,621               |
| Inside priority infrastructure area (total)  | Detached dwelling                 | 135,687                                       | 142,090 | 148,302 | 151,553 | 155,377              |
|                                              | Attached dwelling                 | 12,638                                        | 15,422  | 19,556  | 22,767  | 26,517               |
|                                              |                                   |                                               |         |         |         |                      |
|                                              | Total                             | 148,325                                       | 157,512 | 167,858 | 174,320 | 181,894              |
| Outside priority infrastructure area (total) | Detached dwelling                 | 5,268                                         | 5,732   | 6,202   | 6,175   | 6,091                |
|                                              | Attached dwelling                 | 73                                            | 174     | 286     | 428     | 428                  |
|                                              |                                   |                                               |         |         |         |                      |

| <b>Table 4—Existing and projected population</b> |                                           |                                                       |                |                |                |                             |
|--------------------------------------------------|-------------------------------------------|-------------------------------------------------------|----------------|----------------|----------------|-----------------------------|
| <b>Column 1<br/>Projection area</b>              | <b>Column 2<br/>LGIP development type</b> | <b>Column 3<br/>Existing and projected population</b> |                |                |                |                             |
|                                                  |                                           | <b>2016</b>                                           | <b>2021</b>    | <b>2026</b>    | <b>2031</b>    | <b>Ultimate development</b> |
|                                                  | Total                                     | 5,341                                                 | 5,906          | 6,488          | 6,603          | 6,519                       |
| <b>Redland City</b>                              | <b>Detached dwelling</b>                  | <b>140,955</b>                                        | <b>147,822</b> | <b>154,504</b> | <b>157,728</b> | <b>161,468</b>              |
|                                                  | <b>Attached dwelling</b>                  | <b>12,711</b>                                         | <b>15,596</b>  | <b>19,842</b>  | <b>23,195</b>  | <b>26,945</b>               |
|                                                  |                                           |                                                       |                |                |                |                             |
|                                                  | <b>Total</b>                              | <b>153,666</b>                                        | <b>163,418</b> | <b>174,346</b> | <b>180,923</b> | <b>188,413</b>              |

The existing and projected dwellings are stated for each projection area in Table 5.

| <b>Table 5—Existing and projected residential dwellings</b> |                                           |                                                                  |              |              |              |                             |
|-------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------|--------------|--------------|--------------|-----------------------------|
| <b>Column 1<br/>Projection area</b>                         | <b>Column 2<br/>LGIP development type</b> | <b>Column 3<br/>Existing and projected residential dwellings</b> |              |              |              |                             |
|                                                             |                                           | <b>2016</b>                                                      | <b>2021</b>  | <b>2026</b>  | <b>2031</b>  | <b>Ultimate development</b> |
| <b>Alexander Hills</b>                                      | <b>Detached dwelling</b>                  | 5,296                                                            | 5,448        | 5,559        | 6,096        | 6,136                       |
|                                                             | <b>Attached dwelling</b>                  | 314                                                              | 375          | 397          | 423          | 454                         |
|                                                             |                                           |                                                                  |              |              |              |                             |
|                                                             | <b>Total</b>                              | <b>5,610</b>                                                     | <b>5,823</b> | <b>5,956</b> | <b>6,519</b> | <b>6,590</b>                |
| <b>Birkdale</b>                                             | <b>Detached dwelling</b>                  | 4,301                                                            | 4,491        | 4,672        | 5,174        | 5,472                       |
|                                                             | <b>Attached dwelling</b>                  | 590                                                              | 669          | 784          | 869          | 931                         |
|                                                             |                                           |                                                                  |              |              |              |                             |
|                                                             | <b>Total</b>                              | <b>4,891</b>                                                     | <b>5,160</b> | <b>5,456</b> | <b>6,043</b> | <b>6,403</b>                |
| <b>Capalaba</b>                                             | <b>Detached dwelling</b>                  | 4,620                                                            | 4,742        | 4,834        | 5,379        | 5,875                       |
|                                                             | <b>Attached dwelling</b>                  | 1,213                                                            | 1,397        | 2,004        | 2,438        | 2,542                       |
|                                                             |                                           |                                                                  |              |              |              |                             |
|                                                             | <b>Total</b>                              | <b>5,833</b>                                                     | <b>6,139</b> | <b>6,838</b> | <b>7,817</b> | <b>8,417</b>                |

**Table 5—Existing and projected residential dwellings**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected residential dwellings |       |       |       |                      |
|-----------------------------|-----------------------------------|----------------------------------------------------------|-------|-------|-------|----------------------|
|                             |                                   | 2016                                                     | 2021  | 2026  | 2031  | Ultimate development |
| Cleveland                   | Detached dwelling                 | 3,919                                                    | 4,069 | 4,186 | 4,660 | 4,660                |
|                             | Attached dwelling                 | 2,280                                                    | 2,979 | 3,732 | 4,310 | 4,828                |
|                             |                                   |                                                          |       |       |       |                      |
|                             | Total                             | 6,199                                                    | 7,048 | 7,918 | 8,970 | 9,488                |
| Ormiston                    | Detached dwelling                 | 1,694                                                    | 1,794 | 1,886 | 2,110 | 2,229                |
|                             | Attached dwelling                 | 482                                                      | 551   | 657   | 731   | 731                  |
|                             |                                   |                                                          |       |       |       |                      |
|                             | Total                             | 2,176                                                    | 2,345 | 2,543 | 2,841 | 2,960                |
| Redland Bay                 | Detached dwelling                 | 4,424                                                    | 4,729 | 5,124 | 5,874 | 6,073                |
|                             | Attached dwelling                 | 207                                                      | 417   | 685   | 907   | 907                  |
|                             |                                   |                                                          |       |       |       |                      |
|                             | Total                             | 4,631                                                    | 5,146 | 5,809 | 6,781 | 6,980                |
| Redland Islands             | Detached dwelling                 | 5,646                                                    | 6,049 | 6,586 | 7,802 | 8,754                |
|                             | Attached dwelling                 | 391                                                      | 411   | 486   | 524   | 524                  |
|                             |                                   |                                                          |       |       |       |                      |
|                             | Total                             | 6,037                                                    | 6,460 | 7,072 | 8,326 | 9,278                |
| Sheldon - Mount Cotton      | Detached dwelling                 | 1,621                                                    | 1,879 | 1,936 | 2,212 | 2,212                |
|                             | Attached dwelling                 | 6                                                        | 7     | 7     | 7     | 7                    |
|                             |                                   |                                                          |       |       |       |                      |
|                             | Total                             | 1,627                                                    | 1,886 | 1,943 | 2,219 | 2,219                |
| Thorneside                  | Detached dwelling                 | 1,055                                                    | 1,072 | 1,080 | 1,179 | 1,179                |
|                             | Attached dwelling                 | 498                                                      | 521   | 567   | 574   | 574                  |
|                             |                                   |                                                          |       |       |       |                      |

**Table 5—Existing and projected residential dwellings**

| Column 1<br>Projection area                  | Column 2<br>LGIP development type | Column 3<br>Existing and projected residential dwellings |        |        |        |                      |
|----------------------------------------------|-----------------------------------|----------------------------------------------------------|--------|--------|--------|----------------------|
|                                              |                                   | 2016                                                     | 2021   | 2026   | 2031   | Ultimate development |
|                                              | Total                             | 1,553                                                    | 1,593  | 1,647  | 1,753  | 1,753                |
| Thornlands                                   | Detached dwelling                 | 4,066                                                    | 4,639  | 5,259  | 6,173  | 6,371                |
|                                              | Attached dwelling                 | 232                                                      | 384    | 542    | 796    | 2,038                |
|                                              |                                   |                                                          |        |        |        |                      |
|                                              | Total                             | 4,298                                                    | 5,023  | 5,801  | 6,969  | 8,409                |
| Victoria Point                               | Detached dwelling                 | 4,611                                                    | 4,693  | 4,744  | 5,253  | 5,649                |
|                                              | Attached dwelling                 | 819                                                      | 897    | 1,108  | 1,229  | 1,478                |
|                                              |                                   |                                                          |        |        |        |                      |
|                                              | Total                             | 5,430                                                    | 5,590  | 5,852  | 6,482  | 7,127                |
| Wellington Point                             | Detached dwelling                 | 3,478                                                    | 3,628  | 3,801  | 4,234  | 4,333                |
|                                              | Attached dwelling                 | 402                                                      | 466    | 534    | 584    | 584                  |
|                                              |                                   |                                                          |        |        |        |                      |
|                                              | Total                             | 3,880                                                    | 4,094  | 4,335  | 4,818  | 4,917                |
| Inside priority infrastructure area (total)  | Detached dwelling                 | 44,731                                                   | 47,233 | 49,667 | 56,144 | 58,943               |
|                                              | Attached dwelling                 | 7,434                                                    | 9,074  | 11,503 | 13,392 | 15,598               |
|                                              |                                   |                                                          |        |        |        |                      |
|                                              | Total                             | 52,165                                                   | 56,307 | 61,170 | 69,536 | 74,541               |
| Outside priority infrastructure area (total) | Detached dwelling                 | 1,630                                                    | 1,783  | 1,934  | 2,090  | 2,090                |
|                                              | Attached dwelling                 | 43                                                       | 102    | 168    | 252    | 252                  |
|                                              |                                   |                                                          |        |        |        |                      |
|                                              | Total                             | 1,673                                                    | 1,885  | 2,102  | 2,342  | 2,342                |
| Redland City                                 | Detached dwelling                 | 46,361                                                   | 49,016 | 51,601 | 58,235 | 61,033               |
|                                              | Attached dwelling                 | 7,477                                                    | 9,176  | 11,671 | 13,644 | 15,850               |

**Table 5—Existing and projected residential dwellings**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected residential dwellings |               |               |               |                      |
|-----------------------------|-----------------------------------|----------------------------------------------------------|---------------|---------------|---------------|----------------------|
|                             |                                   | 2016                                                     | 2021          | 2026          | 2031          | Ultimate development |
|                             |                                   |                                                          |               |               |               |                      |
|                             | <b>Total</b>                      | <b>53,838</b>                                            | <b>58,192</b> | <b>63,272</b> | <b>71,879</b> | <b>76,883</b>        |

## 5.0 Employment and floor space projections

Urbis 2016 (*Population, Dwelling and Employment Forecasts*) estimated the employment projections for the Redland City Council region based on the following data sources:

- ABS 2011 Place of Work data collected as part of the Census of Population and Housing;
- 2015 National Institute of Economic and Research (NIEIR) employment forecasts (supplied by Redland City Council);
- An inventory of total, vacant and current inconsistently used employment generating land in Redland City local government area;
- Current and approved development applications for employment generating developments in Redland City local government area from July 2011 to present;
- Dwelling and population projections for Redland LGA.

The Veitch Lister 2014 (*Redland City Council: Road Infrastructure Planning – Traffic Forecasts and Assessments*) reviewed the previous (2011) Urbis employment projections, noting the total jobs only included those jobs within the Census “Place of Work” database and not jobs for which the location was “Not Stated”, ‘Undefined’ or had ‘No Fixed Address’.

VLC’s practice is to apportion the extra jobs of ‘uncertain location’ over the top of those which the location was stated, in turn raising the number of jobs. To compare the two reports, the 2016 Urbis report estimated 45,294 employees in 2031, whereas the VLC report was slightly higher with 48,906. This difference was considered reasonable as ‘footloose’ jobs do not create demand for non-residential floor space, however they do increase demand (vehicle trips) on the transport network and should therefore be included in the road network modelling.

Overall, Redland City Council is forecast to experience moderate employment growth up to 2031 with total employment set to increase to approximately 45,294 FTE jobs by 2031.

The existing and projected employees are stated for each projection area in Table 6.

**Table 6—Existing and projected employees**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected employees |        |        |        |                      |
|-----------------------------|-----------------------------------|----------------------------------------------|--------|--------|--------|----------------------|
|                             |                                   | 2016                                         | 2021   | 2026   | 2031   | Ultimate development |
| Alexander Hills             | Retail                            | 574                                          | 574    | 579    | 584    | 594                  |
|                             | Commercial                        | 357                                          | 372    | 374    | 377    | 377                  |
|                             | Industrial                        | 278                                          | 278    | 278    | 278    | 278                  |
|                             | Community Purposes                | 1,001                                        | 1,009  | 1,017  | 1,025  | 1,025                |
|                             |                                   |                                              |        |        |        |                      |
|                             | Total                             | 2,210                                        | 2,233  | 2,248  | 2,264  | 2,274                |
| Birkdale                    | Retail                            | 470                                          | 472    | 474    | 476    | 480                  |
|                             | Commercial                        | 417                                          | 440    | 446    | 465    | 502                  |
|                             | Industrial                        | 351                                          | 351    | 351    | 351    | 351                  |
|                             | Community Purposes                | 724                                          | 736    | 745    | 751    | 757                  |
|                             |                                   |                                              |        |        |        |                      |
|                             | Total                             | 1,962                                        | 1,999  | 2,016  | 2,043  | 2,090                |
| Capalaba                    | Retail                            | 4,255                                        | 4,739  | 5,223  | 5,707  | 6,675                |
|                             | Commercial                        | 1,580                                        | 1,644  | 1,701  | 1,755  | 1,912                |
|                             | Industrial                        | 3,008                                        | 3,018  | 3,026  | 3,034  | 3,050                |
|                             | Community Purposes                | 953                                          | 977    | 1,001  | 1,023  | 1,101                |
|                             |                                   |                                              |        |        |        |                      |
|                             | Total                             | 9,796                                        | 10,378 | 10,951 | 11,519 | 12,738               |
| Cleveland                   | Retail                            | 2,715                                        | 3,255  | 3,795  | 4,335  | 5,415                |
|                             | Commercial                        | 2,104                                        | 2,116  | 2,121  | 2,134  | 2,154                |
|                             | Industrial                        | 2,054                                        | 2,101  | 2,148  | 2,195  | 2,289                |
|                             | Community Purposes                | 2,345                                        | 2,363  | 2,678  | 3,214  | 3,900                |
|                             |                                   |                                              |        |        |        |                      |
|                             | Total                             | 9,218                                        | 9,835  | 10,742 | 11,878 | 13,758               |

**Table 6—Existing and projected employees**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected employees |       |       |       |                      |
|-----------------------------|-----------------------------------|----------------------------------------------|-------|-------|-------|----------------------|
|                             |                                   | 2016                                         | 2021  | 2026  | 2031  | Ultimate development |
| Ormiston                    | Retail                            | 241                                          | 241   | 241   | 241   | 241                  |
|                             | Commercial                        | 333                                          | 363   | 384   | 403   | 437                  |
|                             | Industrial                        | 222                                          | 222   | 222   | 222   | 222                  |
|                             | Community Purposes                | 390                                          | 404   | 416   | 424   | 440                  |
|                             |                                   |                                              |       |       |       |                      |
|                             | Total                             | 1,186                                        | 1,230 | 1,263 | 1,290 | 1,340                |
| Redland Bay                 | Retail                            | 426                                          | 462   | 498   | 534   | 606                  |
|                             | Commercial                        | 456                                          | 535   | 573   | 619   | 781                  |
|                             | Industrial                        | 630                                          | 657   | 684   | 711   | 765                  |
|                             | Community Purposes                | 332                                          | 345   | 355   | 361   | 369                  |
|                             |                                   |                                              |       |       |       |                      |
|                             | Total                             | 1,844                                        | 1,999 | 2,110 | 2,225 | 2,521                |
| Redland Islands             | Retail                            | 554                                          | 570   | 586   | 602   | 635                  |
|                             | Commercial                        | 272                                          | 284   | 285   | 286   | 288                  |
|                             | Industrial                        | 305                                          | 305   | 305   | 305   | 305                  |
|                             | Community Purposes                | 270                                          | 283   | 289   | 295   | 319                  |
|                             |                                   |                                              |       |       |       |                      |
|                             | Total                             | 1,401                                        | 1,442 | 1,465 | 1,488 | 1,547                |
| Sheldon-Mount Cotton        | Retail                            | 137                                          | 182   | 227   | 272   | 362                  |
|                             | Commercial                        | 191                                          | 244   | 280   | 280   | 280                  |
|                             | Industrial                        | 0                                            | 0     | 0     | 0     | 0                    |
|                             | Community Purposes                | 169                                          | 184   | 191   | 197   | 218                  |
|                             |                                   |                                              |       |       |       |                      |
|                             | Total                             | 497                                          | 610   | 698   | 749   | 860                  |

**Table 6—Existing and projected employees**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected employees |       |       |       |                      |
|-----------------------------|-----------------------------------|----------------------------------------------|-------|-------|-------|----------------------|
|                             |                                   | 2016                                         | 2021  | 2026  | 2031  | Ultimate development |
| Thornlands                  | Retail                            | 233                                          | 249   | 265   | 281   | 313                  |
|                             | Commercial                        | 420                                          | 516   | 554   | 583   | 585                  |
|                             | Industrial                        | 510                                          | 510   | 510   | 510   | 510                  |
|                             | Community Purposes                | 693                                          | 742   | 799   | 855   | 936                  |
|                             |                                   |                                              |       |       |       |                      |
|                             | Total                             | 1,856                                        | 2,017 | 2,128 | 2,229 | 2,344                |
| Thorneside                  | Retail                            | 65                                           | 65    | 65    | 65    | 65                   |
|                             | Commercial                        | 93                                           | 114   | 134   | 154   | 194                  |
|                             | Industrial                        | 149                                          | 153   | 157   | 161   | 169                  |
|                             | Community Purposes                | 37                                           | 37    | 37    | 37    | 37                   |
|                             |                                   |                                              |       |       |       |                      |
|                             | Total                             | 344                                          | 369   | 393   | 417   | 465                  |
| Victoria Point              | Retail                            | 1,719                                        | 1,784 | 1,922 | 2,065 | 2,561                |
|                             | Commercial                        | 678                                          | 733   | 837   | 947   | 1,408                |
|                             | Industrial                        | 401                                          | 401   | 401   | 401   | 401                  |
|                             | Community Purposes                | 1,061                                        | 1,123 | 1,228 | 1,325 | 1,576                |
|                             |                                   |                                              |       |       |       |                      |
|                             | Total                             | 3,859                                        | 4,041 | 4,388 | 4,738 | 5,946                |
| Wellington Point            | Retail                            | 444                                          | 456   | 468   | 480   | 504                  |
|                             | Commercial                        | 307                                          | 322   | 327   | 327   | 449                  |
|                             | Industrial                        | 210                                          | 210   | 210   | 210   | 210                  |
|                             | Community Purposes                | 676                                          | 694   | 710   | 720   | 735                  |
|                             |                                   |                                              |       |       |       |                      |
|                             | Total                             | 1,637                                        | 1,682 | 1,715 | 1,737 | 1,898                |

| <b>Table 6—Existing and projected employees</b> |                                           |                                                      |               |               |               |                             |
|-------------------------------------------------|-------------------------------------------|------------------------------------------------------|---------------|---------------|---------------|-----------------------------|
| <b>Column 1<br/>Projection area</b>             | <b>Column 2<br/>LGIP development type</b> | <b>Column 3<br/>Existing and projected employees</b> |               |               |               |                             |
|                                                 |                                           | <b>2016</b>                                          | <b>2021</b>   | <b>2026</b>   | <b>2031</b>   | <b>Ultimate development</b> |
| Inside priority infrastructure area (total)     | Retail                                    | 11,833                                               | 13,049        | 14,343        | 15,642        | 18,451                      |
|                                                 | Commercial                                | 7,208                                                | 7,683         | 8,016         | 8,330         | 9,367                       |
|                                                 | Industrial                                | 8,118                                                | 8,206         | 8,292         | 8,378         | 8,550                       |
|                                                 | Community Purposes                        | 8,651                                                | 8,897         | 9,466         | 10,227        | 11,413                      |
|                                                 |                                           |                                                      |               |               |               |                             |
|                                                 | <b>Total</b>                              | <b>35,810</b>                                        | <b>37,835</b> | <b>40,117</b> | <b>42,577</b> | <b>47,781</b>               |
| Outside priority infrastructure area (total)    | Retail                                    | 61                                                   | 200           | 395           | 456           | 466                         |
|                                                 | Commercial                                | 77                                                   | 243           | 494           | 596           | 652                         |
|                                                 | Industrial                                | 1,350                                                | 1,351         | 1,352         | 1,353         | 1,355                       |
|                                                 | Community Purposes                        | 254                                                  | 278           | 294           | 309           | 343                         |
|                                                 |                                           |                                                      |               |               |               |                             |
|                                                 | <b>Total</b>                              | <b>1,742</b>                                         | <b>2,072</b>  | <b>2,535</b>  | <b>2,714</b>  | <b>2,816</b>                |
| <b>Redland City</b>                             | <b>Retail</b>                             | <b>11,894</b>                                        | <b>13,249</b> | <b>14,738</b> | <b>16,098</b> | <b>18,917</b>               |
|                                                 | <b>Commercial</b>                         | <b>7,287</b>                                         | <b>7,928</b>  | <b>8,512</b>  | <b>8,928</b>  | <b>10,021</b>               |
|                                                 | <b>Industrial</b>                         | <b>9,468</b>                                         | <b>9,557</b>  | <b>9,644</b>  | <b>9,731</b>  | <b>9,905</b>                |
|                                                 | <b>Community Purposes</b>                 | <b>8,905</b>                                         | <b>9,175</b>  | <b>9,760</b>  | <b>10,536</b> | <b>11,756</b>               |
|                                                 |                                           |                                                      |               |               |               |                             |
|                                                 | <b>Total</b>                              | <b>37,554</b>                                        | <b>39,910</b> | <b>42,655</b> | <b>45,294</b> | <b>50,599</b>               |

Table 7 provides a summary of the existing projected non-residential floor space to accommodate future employment growth.

**Table 7—Existing and projected non-residential floor space (m<sup>2</sup> GFA)**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected non-residential floor space (m <sup>2</sup> GFA) |         |         |         |                      |
|-----------------------------|-----------------------------------|-------------------------------------------------------------------------------------|---------|---------|---------|----------------------|
|                             |                                   | 2016                                                                                | 2021    | 2026    | 2031    | Ultimate development |
| Alexander Hills             | Retail                            | 44,198                                                                              | 44,198  | 44,583  | 44,968  | 45,738               |
|                             | Commercial                        | 8,925                                                                               | 9,300   | 9,350   | 9,425   | 9,425                |
|                             | Industrial                        | 31,970                                                                              | 31,970  | 31,970  | 31,970  | 31,970               |
|                             | Community Purposes                | 72,072                                                                              | 72,648  | 73,224  | 73,800  | 73,800               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 157,165                                                                             | 158,116 | 159,127 | 160,163 | 160,933              |
| Birkdale                    | Retail                            | 36,190                                                                              | 36,344  | 36,498  | 36,652  | 36,960               |
|                             | Commercial                        | 10,425                                                                              | 11,000  | 11,150  | 11,625  | 12,550               |
|                             | Industrial                        | 40,365                                                                              | 40,365  | 40,365  | 40,365  | 40,365               |
|                             | Community Purposes                | 52,128                                                                              | 52,992  | 53,640  | 54,072  | 54,504               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 139,108                                                                             | 140,701 | 141,653 | 142,714 | 144,379              |
| Capalaba                    | Retail                            | 327,635                                                                             | 364,903 | 402,171 | 439,439 | 513,975              |
|                             | Commercial                        | 39,500                                                                              | 41,100  | 42,525  | 43,875  | 47,800               |
|                             | Industrial                        | 345,920                                                                             | 347,070 | 347,990 | 348,910 | 350,750              |
|                             | Community Purposes                | 68,616                                                                              | 70,344  | 72,072  | 73,656  | 79,272               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 781,671                                                                             | 823,417 | 864,758 | 905,880 | 991,797              |
| Cleveland                   | Retail                            | 209,055                                                                             | 250,635 | 292,215 | 333,795 | 416,955              |
|                             | Commercial                        | 52,600                                                                              | 52,900  | 53,025  | 53,350  | 53,850               |
|                             | Industrial                        | 236,210                                                                             | 241,615 | 247,020 | 252,425 | 263,235              |
|                             | Community Purposes                | 168,840                                                                             | 170,136 | 192,816 | 231,408 | 280,800              |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 666,705                                                                             | 715,286 | 785,076 | 870,978 | 1,014,840            |

**Table 7—Existing and projected non-residential floor space (m<sup>2</sup> GFA)**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected non-residential floor space (m <sup>2</sup> GFA) |         |         |         |                      |
|-----------------------------|-----------------------------------|-------------------------------------------------------------------------------------|---------|---------|---------|----------------------|
|                             |                                   | 2016                                                                                | 2021    | 2026    | 2031    | Ultimate development |
| Ormiston                    | Retail                            | 18,557                                                                              | 18,557  | 18,557  | 18,557  | 18,557               |
|                             | Commercial                        | 8,325                                                                               | 9,075   | 9,600   | 10,075  | 10,925               |
|                             | Industrial                        | 25,530                                                                              | 25,530  | 25,530  | 25,530  | 25,530               |
|                             | Community Purposes                | 28,080                                                                              | 29,088  | 29,952  | 30,528  | 31,680               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 80,492                                                                              | 82,250  | 83,639  | 84,690  | 86,692               |
| Redland Bay                 | Retail                            | 32,802                                                                              | 35,574  | 38,346  | 41,118  | 46,662               |
|                             | Commercial                        | 11,400                                                                              | 13,375  | 14,325  | 15,475  | 19,525               |
|                             | Industrial                        | 72,450                                                                              | 75,555  | 78,660  | 81,765  | 87,975               |
|                             | Community Purposes                | 23,904                                                                              | 24,840  | 25,560  | 25,992  | 26,568               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 140,556                                                                             | 149,344 | 156,891 | 164,350 | 180,730              |
| Redland Islands             | Retail                            | 42,658                                                                              | 43,890  | 45,122  | 46,354  | 48,895               |
|                             | Commercial                        | 6,800                                                                               | 7,100   | 7,125   | 7,150   | 7,200                |
|                             | Industrial                        | 35,075                                                                              | 35,075  | 35,075  | 35,075  | 35,075               |
|                             | Community Purposes                | 19,440                                                                              | 20,376  | 20,808  | 21,240  | 22,968               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 103,973                                                                             | 106,441 | 108,130 | 109,819 | 114,138              |
| Sheldon-Mount Cotton        | Retail                            | 10,549                                                                              | 14,014  | 17,479  | 20,944  | 27,874               |
|                             | Commercial                        | 4,775                                                                               | 6,100   | 7,000   | 7,000   | 7,000                |
|                             | Industrial                        | 0                                                                                   | 0       | 0       | 0       | 0                    |
|                             | Community Purposes                | 12,168                                                                              | 13,248  | 13,752  | 14,184  | 15,696               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 27,492                                                                              | 33,362  | 38,231  | 42,128  | 50,570               |

**Table 7—Existing and projected non-residential floor space (m<sup>2</sup> GFA)**

| Column 1<br>Projection area | Column 2<br>LGIP development type | Column 3<br>Existing and projected non-residential floor space (m <sup>2</sup> GFA) |         |         |         |                      |
|-----------------------------|-----------------------------------|-------------------------------------------------------------------------------------|---------|---------|---------|----------------------|
|                             |                                   | 2016                                                                                | 2021    | 2026    | 2031    | Ultimate development |
| Thornlands                  | Retail                            | 17,941                                                                              | 19,173  | 20,405  | 21,637  | 24,101               |
|                             | Commercial                        | 10,500                                                                              | 12,900  | 13,850  | 14,575  | 14,625               |
|                             | Industrial                        | 58,650                                                                              | 58,650  | 58,650  | 58,650  | 58,650               |
|                             | Community Purposes                | 49,896                                                                              | 53,424  | 57,528  | 61,560  | 67,392               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 136,987                                                                             | 144,147 | 150,433 | 156,422 | 164,768              |
| Thorneside                  | Retail                            | 5,005                                                                               | 5,005   | 5,005   | 5,005   | 5,005                |
|                             | Commercial                        | 2,325                                                                               | 2,850   | 3,350   | 3,850   | 4,850                |
|                             | Industrial                        | 17,135                                                                              | 17,595  | 18,055  | 18,515  | 19,435               |
|                             | Community Purposes                | 2,664                                                                               | 2,664   | 2,664   | 2,664   | 2,664                |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 27,129                                                                              | 28,114  | 29,074  | 30,034  | 31,954               |
| Victoria Point              | Retail                            | 132,363                                                                             | 137,368 | 147,994 | 159,005 | 197,197              |
|                             | Commercial                        | 16,950                                                                              | 18,325  | 20,925  | 23,675  | 35,200               |
|                             | Industrial                        | 46,115                                                                              | 46,115  | 46,115  | 46,115  | 46,115               |
|                             | Community Purposes                | 76,392                                                                              | 80,856  | 88,416  | 95,400  | 113,472              |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 271,820                                                                             | 282,664 | 303,450 | 324,195 | 391,984              |
| Wellington Point            | Retail                            | 34,188                                                                              | 35,112  | 36,036  | 36,960  | 38,808               |
|                             | Commercial                        | 7,675                                                                               | 8,050   | 8,175   | 8,175   | 11,225               |
|                             | Industrial                        | 24,150                                                                              | 24,150  | 24,150  | 24,150  | 24,150               |
|                             | Community Purposes                | 48,672                                                                              | 49,968  | 51,120  | 51,840  | 52,920               |
|                             |                                   |                                                                                     |         |         |         |                      |
|                             | Total                             | 114,685                                                                             | 117,280 | 119,481 | 121,125 | 127,103              |

**Table 7—Existing and projected non-residential floor space (m<sup>2</sup> GFA)**

| Column 1<br>Projection area                  | Column 2<br>LGIP development type | Column 3<br>Existing and projected non-residential floor space (m <sup>2</sup> GFA) |                  |                  |                  |                      |
|----------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|------------------|------------------|------------------|----------------------|
|                                              |                                   | 2016                                                                                | 2021             | 2026             | 2031             | Ultimate development |
| Inside priority infrastructure area (total)  | Retail                            | 911,141                                                                             | 1,004,773        | 1,104,411        | 1,204,434        | 1,420,727            |
|                                              | Commercial                        | 180,200                                                                             | 192,075          | 200,400          | 208,250          | 234,175              |
|                                              | Industrial                        | 933,570                                                                             | 943,690          | 953,580          | 963,470          | 983,250              |
|                                              | Community Purposes                | 622,872                                                                             | 640,584          | 681,552          | 736,344          | 821,736              |
|                                              |                                   |                                                                                     |                  |                  |                  |                      |
|                                              | <b>Total</b>                      | <b>2,647,783</b>                                                                    | <b>2,781,122</b> | <b>2,939,943</b> | <b>3,112,498</b> | <b>3,459,888</b>     |
| Outside priority infrastructure area (total) | Retail                            | 4,697                                                                               | 15,400           | 30,415           | 35,112           | 35,882               |
|                                              | Commercial                        | 1,925                                                                               | 6,075            | 12,350           | 14,900           | 16,300               |
|                                              | Industrial                        | 155,250                                                                             | 155,365          | 155,480          | 155,595          | 155,825              |
|                                              | Community Purposes                | 18,288                                                                              | 20,016           | 21,168           | 22,248           | 24,696               |
|                                              |                                   |                                                                                     |                  |                  |                  |                      |
|                                              | <b>Total</b>                      | <b>180,160</b>                                                                      | <b>196,856</b>   | <b>219,413</b>   | <b>227,855</b>   | <b>232,703</b>       |
| <b>Redland City</b>                          | <b>Retail</b>                     | <b>915,838</b>                                                                      | <b>1,020,173</b> | <b>1,134,826</b> | <b>1,239,546</b> | <b>1,456,609</b>     |
|                                              | <b>Commercial</b>                 | <b>182,125</b>                                                                      | <b>198,150</b>   | <b>212,750</b>   | <b>223,200</b>   | <b>250,475</b>       |
|                                              | <b>Industrial</b>                 | <b>1,088,820</b>                                                                    | <b>1,099,055</b> | <b>1,109,060</b> | <b>1,119,065</b> | <b>1,139,075</b>     |
|                                              | <b>Community Purposes</b>         | <b>641,160</b>                                                                      | <b>660,600</b>   | <b>702,720</b>   | <b>758,592</b>   | <b>846,432</b>       |
|                                              |                                   |                                                                                     |                  |                  |                  |                      |
|                                              | <b>Total</b>                      | <b>2,827,943</b>                                                                    | <b>2,977,978</b> | <b>3,159,356</b> | <b>3,340,403</b> | <b>3,692,591</b>     |

## 6.0 Infrastructure demand projections

The projections of growth and development were converted into projections of demand for each trunk infrastructure network in accordance with the following sections.

### 6.1 Water supply and sewerage networks

Demand for the water supply and sewerage network is measured in Equivalent Persons (EP).

The water and wastewater Infrastructure Demand Models (IDM) calculated projected EP demand for each lot at each projection year and ultimate development by:

- For residential development, using the Urbis population projections (i.e. one person = 1 EP); and
- For non-residential development, converting the employment projections into projections of EP demand using demand conversion rates for various development types.

## 6.2 Transport network

Demand for the transport network is measured in vehicle trips per day (vpd).

The road network differs from other infrastructure networks. For this network, the infrastructure demand is an output from a complex transport modelling process rather than an input to that process. The growth projections (population and employment) are input directly into the transport network model along with other key demographic and trip data, and the model simulates vehicle trips on the network based on this information.

For this reason, the projected infrastructure demand at each projection year and ultimate development has been determined by the Veitch Lister Consulting (VLC) travel forecasting model.

The demand generation rates stated for a particular zone and precinct classification in section 6.5 reflect the trip data generated by the VLC model and industry standard trip generation rates.

## 6.3 Stormwater network

Demand for the stormwater network is measured in hectares of impervious area (imp Ha).

The standard impervious fraction applied to each development type is stated in the below table.

| Land use           | Impervious Percentage % |
|--------------------|-------------------------|
| Detached dwelling  | 50%                     |
| Attached dwelling  | 90%                     |
| Retail             | 90%                     |
| Commercial         | 90%                     |
| Industrial         | 90%                     |
| Community purposes | 90%                     |
| Road               | 90%                     |

## 6.4 Public parks and land for community facilities network

Demand for public parks and land for community facilities is measured in Equivalent Persons (EP).

The projected EP demand for the public parks and land for community facilities network was taken directly from the Urbis population projections. That is, one person was assumed to equate to one EP.

## 6.5 Demand generation rates

The demand generation rates for each network in each zone and precinct is stated in Appendix A – Planned density and demand generation rate for a trunk infrastructure network.

## 6.6 Existing and projected demand by service catchment

Table 8 to Table 12 summarise the existing and projected demand for each service catchment of a trunk infrastructure network at each projection year and ultimate development.

**Table 8 - Existing and projected demand for the water supply network**

| Column 1<br>Service catchment <sup>1</sup> | Column 2<br>Existing and projected demand (EP) |        |        |         |                         |
|--------------------------------------------|------------------------------------------------|--------|--------|---------|-------------------------|
|                                            | 2016<br>(base date)                            | 2021   | 2026   | 2031    | Ultimate<br>development |
| Alexandra Hills                            | 89,613                                         | 93,713 | 97,959 | 101,712 | 102,719                 |
| Mount Cotton                               | 21,165                                         | 21,890 | 22,965 | 23,961  | 24,250                  |
| Dunwich                                    | 1,372                                          | 1,575  | 1,607  | 1,633   | 1,636                   |
| Amity Point                                | 841                                            | 885    | 903    | 935     | 935                     |
| Point Lookout                              | 1,132                                          | 1,132  | 1,132  | 1,132   | 1,132                   |
| Southern Moreton Bay Islands               | 6,804                                          | 8,153  | 9,511  | 10,855  | 12,148                  |
| Heinemann Road                             | 47,714                                         | 52,069 | 55,198 | 57,362  | 58,047                  |

**Table 9 - Existing and projected demand for the sewerage network**

| Column 1<br>Service catchment <sup>2</sup> | Column 2<br>Existing and projected demand (EP) |        |        |        |                         |
|--------------------------------------------|------------------------------------------------|--------|--------|--------|-------------------------|
|                                            | 2016<br>(base date)                            | 2021   | 2026   | 2031   | Ultimate<br>development |
| Capalaba                                   | 28,110                                         | 28,900 | 29,786 | 30,645 | 30,997                  |
| Cleveland                                  | 41,053                                         | 45,071 | 47,964 | 50,590 | 51,381                  |
| Thorneside                                 | 42,615                                         | 44,268 | 45,840 | 46,856 | 47,470                  |
| Victoria Point                             | 30,721                                         | 32,940 | 34,813 | 36,243 | 36,642                  |
| Mount Cotton                               | 4,205                                          | 5,314  | 5,352  | 5,409  | 5,494                   |
| Dunwich                                    | 1,003                                          | 1,564  | 1,572  | 1,578  | 1,614                   |

**Table 9 - Existing and projected demand for the sewerage network**

| Column 1<br>Service catchment <sup>2</sup> | Column 2<br>Existing and projected demand (EP) |       |       |       |                         |
|--------------------------------------------|------------------------------------------------|-------|-------|-------|-------------------------|
|                                            | 2016<br>(base date)                            | 2021  | 2026  | 2031  | Ultimate<br>development |
| Point Lookout                              | 1,834                                          | 7,116 | 7,600 | 7,600 | 7,600                   |

**Table 10—Existing and projected demand for the transport network**

| Column 1<br>Service catchment <sup>3</sup> | Column 2<br>Existing and projected demand (vehicle trips per day, vpd) |         |         |         |                         |
|--------------------------------------------|------------------------------------------------------------------------|---------|---------|---------|-------------------------|
|                                            | 2016                                                                   | 2021    | 2026    | 2031    | Ultimate<br>development |
| Alexandra Hills                            | 65,347                                                                 | 66,484  | 67,620  | 68,756  | 87,497                  |
| Birkdale                                   | 53,605                                                                 | 55,562  | 57,519  | 59,476  | 75,688                  |
| Capalaba                                   | 138,401                                                                | 144,381 | 150,362 | 156,342 | 198,957                 |
| Cleveland                                  | 99,465                                                                 | 106,118 | 112,772 | 119,425 | 151,977                 |
| Mt Cotton                                  | 18,756                                                                 | 20,320  | 21,884  | 23,448  | 29,839                  |
| Ormiston                                   | 24,082                                                                 | 25,264  | 26,446  | 27,628  | 35,159                  |
| Redland Bay                                | 47,277                                                                 | 50,045  | 52,812  | 55,579  | 70,729                  |
| Sheldon                                    | 7,847                                                                  | 7,865   | 7,883   | 7,901   | 10,055                  |
| Thorneside                                 | 10,214                                                                 | 10,315  | 10,415  | 10,516  | 13,382                  |
| Thornlands                                 | 47,778                                                                 | 52,637  | 57,495  | 62,353  | 79,349                  |
| Victoria Point                             | 77,539                                                                 | 81,493  | 85,447  | 89,402  | 113,771                 |
| Wellington Point                           | 39,591                                                                 | 40,936  | 42,280  | 43,624  | 55,515                  |
| Islands                                    | 23,847                                                                 | 26,186  | 28,526  | 30,865  | 39,278                  |
| Citywide                                   | 653,748                                                                | 687,604 | 721,459 | 755,315 | 961,196                 |

<sup>3</sup> **Error! Reference source not found.** Column 1 - The service catchments for the transport network are identified on Local Government Infrastructure Plan Map LGIP-05 Plan for trunk transport infrastructure in **Error! Reference source not found.** **Error! Reference source not found.**

**Table 11 - Existing and projected demand for the stormwater network**

| <b>Column 1</b><br><b>Service catchment<sup>4</sup></b> | <b>Column 2</b><br><b>Existing and projected demand (imp ha)</b> |             |             |             |                             |
|---------------------------------------------------------|------------------------------------------------------------------|-------------|-------------|-------------|-----------------------------|
|                                                         | <b>2016</b>                                                      | <b>2021</b> | <b>2026</b> | <b>2031</b> | <b>Ultimate development</b> |
| Cleveland CBD                                           | 121.88                                                           | 132.88      | 143.23      | 151.04      | 156.00                      |
| Kinross Road Precinct                                   | 28.36                                                            | 32.54       | 37.11       | 40.24       | 44.48                       |
| Lower Tingalpa Creek                                    | 34.61                                                            | 36.66       | 38.69       | 40.69       | 45.00                       |
| Native Dog Creek                                        | 28.79                                                            | 33.22       | 34.95       | 34.95       | 34.95                       |
| SE Thornlands Precinct                                  | 20.25                                                            | 23.24       | 26.51       | 28.74       | 31.77                       |
| Torquay Creek                                           | 27.36                                                            | 29.83       | 33.08       | 35.15       | 35.73                       |
| Upper Eprapah Creek                                     | 30.43                                                            | 30.93       | 31.75       | 32.11       | 34.44                       |
| Weinam Creek                                            | 58.01                                                            | 63.25       | 70.13       | 74.52       | 75.76                       |
| Redlands Balance                                        | 2,089.17                                                         | 2,215.39    | 2,359.80    | 2,667.37    | 3,531.35                    |

**Table 12 - Existing and projected demand for the parks and land for community facilities network**

| <b>Column 1</b><br><b>Service catchment<sup>5</sup></b> | <b>Column 2</b><br><b>Existing and projected demand (EP)</b> |             |             |             |                             |
|---------------------------------------------------------|--------------------------------------------------------------|-------------|-------------|-------------|-----------------------------|
|                                                         | <b>2016</b>                                                  | <b>2021</b> | <b>2026</b> | <b>2031</b> | <b>Ultimate development</b> |
| Catchment 1                                             | 31,553                                                       | 32,795      | 34,246      | 34,704      | 35,528                      |
| Catchment 2                                             | 35,506                                                       | 36,565      | 38,172      | 38,981      | 40,172                      |
| Catchment 3                                             | 22,159                                                       | 23,970      | 25,730      | 26,951      | 27,837                      |
| Catchment 4                                             | 46,762                                                       | 51,005      | 56,036      | 59,302      | 62,932                      |
| Catchment 5                                             | 7,930                                                        | 8,741       | 8,925       | 8,936       | 8,794                       |
| Catchment 6                                             | 9,752                                                        | 10,345      | 11,236      | 12,049      | 13,149                      |
| Citywide                                                | 153,662                                                      | 163,421     | 174,346     | 180,923     | 188,412                     |

## 7.0 Priority Infrastructure Area

The Priority Infrastructure Area (PIA) for the local government area identifies those parts of the City prioritised for the provision of trunk infrastructure up to 2027. It includes existing urban areas serviced by trunk infrastructure and those growth areas intended to be serviced up to 2027 and supported by the City Plan development controls.

Specific sites excluded from the PIA include both the Toondah Harbour and Weinam Creek Priority Development Areas (PDAs), the Double Jump Road Road Emerging Community and Southern Redland Bay.

The land use planning for both Priority Development Areas (PDAs) is managed by a separate process under the Economic Development Act 2012. Both PDA Development Schemes were in preparation around the time the Population, Dwelling and Employment Forecasts (Urbis, May 2016) were being prepared but provided limited data for the purposes of detailed top down bottom up demographic modelling. Detailed master planning (released end 2015 for Toondah) had also not been finalised in time to be included in the Urbis modelling which was largely finalised by mid-2015. The Weinam Creek Master Plan was still in development at the publishing date of this report. In effect, only the growth available under the existing Redland Planning Scheme 2006 zoning for each PDA was included in the Urbis forecasting for these reasons.

It is also worth noting that a formally executed Infrastructure Agreement between the Toondah Harbour PDA proponent, State Government (Minister for Economic Development Queensland (MEDQ)) and Redland City Council addresses the specific infrastructure impacts of the PDA.

The Double Jump Road Emerging Community (EC) zoned area requires structure planning under both the superseded scheme and the City Plan. Consequently, limited growth applicable to the underlying non-urban use of the land was included up to 2027. A projected urban population is forecast in the ultimate demographic figures of the Urbis analysis.

The Southern Redland Bay area ('Shoreline Development Estate') was not considered in the Urbis modelling as the preliminary approval for that development hadn't been issued at the time the Urbis forecasting had been finalised. Importantly, there is now an Infrastructure Agreement for Southern Redland Bay that addresses the out-of-sequence infrastructure impacts of the proposal, particularly in relation to wastewater servicing. The proponent is intending to sewer the site through a private utility solution, potentially including a recycled water option.

## Appendix A

| Planned density and demand generation rate for a trunk infrastructure network |                                               |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
|-------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------|
| Column 1<br>Area<br>classification                                            | Column 2<br>LGIP<br>developme<br>nt types     | Column 3<br>Planned density <sup>6</sup>       |                                                          | Column 4<br>Demand generation rate for a trunk infrastructure network <sup>1</sup> |                                             |                                               |                                                                                    |                                                        |
|                                                                               |                                               | Total<br>non-<br>residenti<br>al plot<br>ratio | Residenti<br>al density<br>(dwelling<br>s/net dev<br>ha) | Water<br>supply<br>network<br>(EP/net dev<br>ha)                                   | Sewerage<br>network<br>(EP / net<br>dev ha) | Transport<br>network<br>(vpd / net<br>dev ha) | Parks and<br>land for<br>communit<br>y facilities<br>network<br>(EP/net<br>dev ha) | Stormwat<br>er<br>network<br>(imp<br>ha/net dev<br>ha) |
| Residential development                                                       |                                               |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
| Character<br>residential zone                                                 | Detached<br>dwelling                          | 0                                              | 15                                                       | 45.0                                                                               | 45.0                                        | 98.0                                          | 45.0                                                                               | 0.5                                                    |
| Emerging<br>community zone                                                    | Detached<br>dwelling,<br>Attached<br>dwelling | 0                                              | 21                                                       | 51.0                                                                               | 51.0                                        | 113.2                                         | 51.0                                                                               | 0.6                                                    |
| Low density<br>residential zone                                               | Detached<br>dwelling                          | 0                                              | 15                                                       | 45.0                                                                               | 45.0                                        | 97.5                                          | 45.0                                                                               | 0.5                                                    |

| <b>Planned density and demand generation rate for a trunk infrastructure network</b> |                                                     |                                                           |                                                                     |                                                                                           |                                                       |                                                         |                                                                                                 |                                                                    |
|--------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>Column 1<br/>Area<br/>classification</b>                                          | <b>Column 2<br/>LGIP<br/>developme<br/>nt types</b> | <b>Column 3<br/>Planned density<sup>6</sup></b>           |                                                                     | <b>Column 4<br/>Demand generation rate for a trunk infrastructure network<sup>1</sup></b> |                                                       |                                                         |                                                                                                 |                                                                    |
|                                                                                      |                                                     | <b>Total<br/>non-<br/>residenti<br/>al plot<br/>ratio</b> | <b>Residenti<br/>al density<br/>(dwelling<br/>s/net dev<br/>ha)</b> | <b>Water<br/>supply<br/>network<br/>(EP/net dev<br/>ha)</b>                               | <b>Sewerage<br/>network<br/>(EP / net<br/>dev ha)</b> | <b>Transport<br/>network<br/>(vpd / net<br/>dev ha)</b> | <b>Parks and<br/>land for<br/>communit<br/>y facilities<br/>network<br/>(EP/net<br/>dev ha)</b> | <b>Stormwat<br/>er<br/>network<br/>(imp<br/>ha/net dev<br/>ha)</b> |
| Precinct LDR1<br>Large lot<br>residential                                            | Detached<br>dwelling                                | 0                                                         | 5                                                                   | 15.0                                                                                      | 15.0                                                  | 32.5                                                    | 15.0                                                                                            | 0.3                                                                |
| Precinct LDR2<br>Park residential                                                    | Detached<br>dwelling                                | 0                                                         | 1.67                                                                | 5.0                                                                                       | 5.0                                                   | 10.8                                                    | 5.0                                                                                             | 0.2                                                                |
| Precinct LDR3<br>Point Lookout<br>residential                                        | Detached<br>dwelling                                | 0                                                         | 15                                                                  | 45.0                                                                                      | 45.0                                                  | 97.5                                                    | 45.0                                                                                            | 0.5                                                                |
| Precinct LDR4<br>Kinross Road                                                        | Detached<br>dwelling                                | 0                                                         | 6.25                                                                | 18.8                                                                                      | 18.8                                                  | 40.6                                                    | 18.8                                                                                            | 0.3                                                                |
| Low-medium<br>density<br>residential zone                                            | Detached<br>dwelling,<br>Attached<br>dwelling       | 0                                                         | 21                                                                  | 51.0                                                                                      | 51.0                                                  | 113.2                                                   | 51.0                                                                                            | 0.6                                                                |
| Precinct LMDR1<br>SE Thornlands                                                      | Detached<br>dwelling,                               | 0                                                         | 21                                                                  | 51.0                                                                                      | 51.0                                                  | 113.2                                                   | 51.0                                                                                            | 0.6                                                                |

| Planned density and demand generation rate for a trunk infrastructure network |                                               |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
|-------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------|
| Column 1<br>Area<br>classification                                            | Column 2<br>LGIP<br>developme<br>nt types     | Column 3<br>Planned density <sup>6</sup>       |                                                          | Column 4<br>Demand generation rate for a trunk infrastructure network <sup>1</sup> |                                             |                                               |                                                                                    |                                                        |
|                                                                               |                                               | Total<br>non-<br>residenti<br>al plot<br>ratio | Residenti<br>al density<br>(dwelling<br>s/net dev<br>ha) | Water<br>supply<br>network<br>(EP/net dev<br>ha)                                   | Sewerage<br>network<br>(EP / net<br>dev ha) | Transport<br>network<br>(vpd / net<br>dev ha) | Parks and<br>land for<br>communit<br>y facilities<br>network<br>(EP/net<br>dev ha) | Stormwat<br>er<br>network<br>(imp<br>ha/net dev<br>ha) |
|                                                                               | Attached<br>dwelling                          |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
| Precinct LMDR2<br>Kinross Road                                                | Detached<br>dwelling,<br>Attached<br>dwelling | 0                                              | 21                                                       | 51.0                                                                               | 51.0                                        | 113.2                                         | 51.0                                                                               | 0.6                                                    |
| Medium density<br>residential zone                                            | Attached<br>dwelling                          | 0                                              | 44                                                       | 74.8                                                                               | 74.8                                        | 176.0                                         | 74.8                                                                               | 0.8                                                    |
| Precinct MDR1<br>Park living,<br>Capalaba                                     | Attached<br>dwelling                          | 0                                              | 80                                                       | 136.0                                                                              | 136.0                                       | 320.0                                         | 136.0                                                                              | 0.8                                                    |
| Precinct MDR2<br>Mount Cotton<br>Road, Capalaba                               | Attached<br>dwelling                          | 0                                              | 60                                                       | 102.0                                                                              | 102.0                                       | 240.0                                         | 102.0                                                                              | 0.8                                                    |

| <b>Planned density and demand generation rate for a trunk infrastructure network</b> |                                                     |                                                           |                                                                     |                                                                                           |                                                       |                                                         |                                                                                                 |                                                                    |
|--------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>Column 1<br/>Area<br/>classification</b>                                          | <b>Column 2<br/>LGIP<br/>developme<br/>nt types</b> | <b>Column 3<br/>Planned density<sup>6</sup></b>           |                                                                     | <b>Column 4<br/>Demand generation rate for a trunk infrastructure network<sup>1</sup></b> |                                                       |                                                         |                                                                                                 |                                                                    |
|                                                                                      |                                                     | <b>Total<br/>non-<br/>residenti<br/>al plot<br/>ratio</b> | <b>Residenti<br/>al density<br/>(dwelling<br/>s/net dev<br/>ha)</b> | <b>Water<br/>supply<br/>network<br/>(EP/net dev<br/>ha)</b>                               | <b>Sewerage<br/>network<br/>(EP / net<br/>dev ha)</b> | <b>Transport<br/>network<br/>(vpd / net<br/>dev ha)</b> | <b>Parks and<br/>land for<br/>communit<br/>y facilities<br/>network<br/>(EP/net<br/>dev ha)</b> | <b>Stormwat<br/>er<br/>network<br/>(imp<br/>ha/net dev<br/>ha)</b> |
| Precinct MDR3<br>Shore Street East,<br>Cleveland                                     | Attached<br>dwelling                                | 0                                                         | 80                                                                  | 136.0                                                                                     | 136.0                                                 | 320.0                                                   | 136.0                                                                                           | 0.8                                                                |
| Precinct MDR4<br>Cleveland                                                           | Attached<br>dwelling                                | 0                                                         | 60                                                                  | 102.0                                                                                     | 102.0                                                 | 240.0                                                   | 102.0                                                                                           | 0.8                                                                |
| Precinct MDR5<br>Esplanade,<br>Redland Bay                                           | Attached<br>dwelling                                | 0                                                         | 60                                                                  | 102.0                                                                                     | 102.0                                                 | 240.0                                                   | 102.0                                                                                           | 0.8                                                                |
| Precinct MDR6 SE<br>Thornlands                                                       | Attached<br>dwelling                                | 0                                                         | 44                                                                  | 74.8                                                                                      | 74.8                                                  | 176.0                                                   | 74.8                                                                                            | 0.8                                                                |
| Precinct MDR7<br>Erapah Creek, SE<br>Thornlands                                      | Attached<br>dwelling                                | 0                                                         | 44                                                                  | 74.8                                                                                      | 74.8                                                  | 176.0                                                   | 74.8                                                                                            | 0.8                                                                |
| Precinct MDR8<br>Kinross and<br>Boundary Roads                                       | Attached<br>dwelling                                | 0                                                         | 44                                                                  | 74.8                                                                                      | 74.8                                                  | 176.0                                                   | 74.8                                                                                            | 0.8                                                                |

| Planned density and demand generation rate for a trunk infrastructure network |                                                |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
|-------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------|
| Column 1<br>Area<br>classification                                            | Column 2<br>LGIP<br>developme<br>nt types      | Column 3<br>Planned density <sup>6</sup>       |                                                          | Column 4<br>Demand generation rate for a trunk infrastructure network <sup>1</sup> |                                             |                                               |                                                                                    |                                                        |
|                                                                               |                                                | Total<br>non-<br>residenti<br>al plot<br>ratio | Residenti<br>al density<br>(dwelling<br>s/net dev<br>ha) | Water<br>supply<br>network<br>(EP/net dev<br>ha)                                   | Sewerage<br>network<br>(EP / net<br>dev ha) | Transport<br>network<br>(vpd / net<br>dev ha) | Parks and<br>land for<br>communit<br>y facilities<br>network<br>(EP/net<br>dev ha) | Stormwat<br>er<br>network<br>(imp<br>ha/net dev<br>ha) |
| Precinct MDR9<br>Kinross Road                                                 | Attached<br>dwelling                           | 0                                              | 44                                                       | 74.8                                                                               | 74.8                                        | 176.0                                         | 74.8                                                                               | 0.8                                                    |
| Tourist<br>accommodation<br>zone                                              | Attached<br>dwelling                           | 0                                              | 44                                                       | 74.8                                                                               | 74.8                                        | 176.0                                         | 74.8                                                                               | 0.8                                                    |
| Non-residential development and mixed development <sup>7</sup>                |                                                |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
| Local centre zone                                                             | Commercial,<br>Retail,<br>Attached<br>dwelling | 0.45                                           | 6                                                        | 45.9                                                                               | 62.0                                        | 2,112.0                                       | 10.2                                                                               | 1.0                                                    |
| District centre<br>zone                                                       | Commercial,<br>Retail,<br>Attached<br>dwelling | 0.6                                            | 44                                                       | 70.8                                                                               | 92.8                                        | 2,112.0                                       | 10.2                                                                               | 1.0                                                    |

| <b>Planned density and demand generation rate for a trunk infrastructure network</b> |                                                     |                                                           |                                                                     |                                                                                           |                                                       |                                                         |                                                                                                 |                                                                    |
|--------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>Column 1<br/>Area<br/>classification</b>                                          | <b>Column 2<br/>LGIP<br/>developme<br/>nt types</b> | <b>Column 3<br/>Planned density<sup>6</sup></b>           |                                                                     | <b>Column 4<br/>Demand generation rate for a trunk infrastructure network<sup>1</sup></b> |                                                       |                                                         |                                                                                                 |                                                                    |
|                                                                                      |                                                     | <b>Total<br/>non-<br/>residenti<br/>al plot<br/>ratio</b> | <b>Residenti<br/>al density<br/>(dwelling<br/>s/net dev<br/>ha)</b> | <b>Water<br/>supply<br/>network<br/>(EP/net dev<br/>ha)</b>                               | <b>Sewerage<br/>network<br/>(EP / net<br/>dev ha)</b> | <b>Transport<br/>network<br/>(vpd / net<br/>dev ha)</b> | <b>Parks and<br/>land for<br/>communit<br/>y facilities<br/>network<br/>(EP/net<br/>dev ha)</b> | <b>Stormwat<br/>er<br/>network<br/>(imp<br/>ha/net dev<br/>ha)</b> |
| Major centre<br>zone (Victoria<br>Point)                                             | Commercial,<br>Retail                               | 1                                                         | 0                                                                   | 105.2                                                                                     | 142.5                                                 | 3,610.0                                                 | 0.0                                                                                             | 1.0                                                                |
| Mixed use zone                                                                       | Retail                                              | 0.5                                                       | 0                                                                   | 59.0                                                                                      | 80.0                                                  | 2,000.0                                                 | 0.0                                                                                             | 0.9                                                                |
| Principal centre<br>zone (Cleveland)                                                 | Commercial,<br>Retail,<br>Attached<br>dwelling      | 2                                                         | 124                                                                 | 151.6                                                                                     | 196.2                                                 | 4,649.6                                                 | 21.1                                                                                            | 1.0                                                                |
| Principal centre<br>zone (Capalaba)                                                  | Commercial,<br>Retail,<br>Attached<br>dwelling      | 2.5                                                       | 124                                                                 | 184.2                                                                                     | 240.2                                                 | 5,799.6                                                 | 21.1                                                                                            | 1.0                                                                |
| Specialised centre<br>zone (Redland<br>Hospital)                                     | Commercial,<br>Retail,<br>Community                 | 0.7                                                       | 0                                                                   | 269.7                                                                                     | 269.7                                                 | 1,112.9                                                 | 0.0                                                                                             | 0.9                                                                |

| Planned density and demand generation rate for a trunk infrastructure network |                                             |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
|-------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------|
| Column 1<br>Area<br>classification                                            | Column 2<br>LGIP<br>developme<br>nt types   | Column 3<br>Planned density <sup>6</sup>       |                                                          | Column 4<br>Demand generation rate for a trunk infrastructure network <sup>1</sup> |                                             |                                               |                                                                                    |                                                        |
|                                                                               |                                             | Total<br>non-<br>residenti<br>al plot<br>ratio | Residenti<br>al density<br>(dwelling<br>s/net dev<br>ha) | Water<br>supply<br>network<br>(EP/net dev<br>ha)                                   | Sewerage<br>network<br>(EP / net<br>dev ha) | Transport<br>network<br>(vpd / net<br>dev ha) | Parks and<br>land for<br>communit<br>y facilities<br>network<br>(EP/net<br>dev ha) | Stormwat<br>er<br>network<br>(imp<br>ha/net dev<br>ha) |
|                                                                               | purpose<br>(Hospital)                       |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
| Low impact<br>industry zone                                                   | Retail,<br>Industrial<br>(low impact)       | 0.6                                            | 0                                                        | 21.9                                                                               | 22.5                                        | 720.0                                         | 0.0                                                                                | 0.9                                                    |
| Medium impact<br>industry zone                                                | Retail,<br>Industrial<br>(medium<br>impact) | 0.6                                            | 0                                                        | 28.1                                                                               | 28.6                                        | 555.0                                         | 0.0                                                                                | 0.9                                                    |
| Waterfront and<br>marine industry<br>zone                                     | Retail,<br>Industrial                       | 0.5                                            | 0                                                        | 22.5                                                                               | 23.1                                        | 542.3                                         | 0.0                                                                                | 0.9                                                    |
| Precinct CF1<br>cemeteries and<br>crematoria                                  | Community<br>purpose                        | 0.1                                            | 0                                                        | 6.0                                                                                | 6.0                                         | 100.0                                         | 0.0                                                                                | 0.1                                                    |

| <b>Planned density and demand generation rate for a trunk infrastructure network</b> |                                                                             |                                                           |                                                                     |                                                                                           |                                                       |                                                         |                                                                                                 |                                                                    |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>Column 1<br/>Area<br/>classification</b>                                          | <b>Column 2<br/>LGIP<br/>developme<br/>nt types</b>                         | <b>Column 3<br/>Planned density<sup>6</sup></b>           |                                                                     | <b>Column 4<br/>Demand generation rate for a trunk infrastructure network<sup>1</sup></b> |                                                       |                                                         |                                                                                                 |                                                                    |
|                                                                                      |                                                                             | <b>Total<br/>non-<br/>residenti<br/>al plot<br/>ratio</b> | <b>Residenti<br/>al density<br/>(dwelling<br/>s/net dev<br/>ha)</b> | <b>Water<br/>supply<br/>network<br/>(EP/net dev<br/>ha)</b>                               | <b>Sewerage<br/>network<br/>(EP / net<br/>dev ha)</b> | <b>Transport<br/>network<br/>(vpd / net<br/>dev ha)</b> | <b>Parks and<br/>land for<br/>communit<br/>y facilities<br/>network<br/>(EP/net<br/>dev ha)</b> | <b>Stormwat<br/>er<br/>network<br/>(imp<br/>ha/net dev<br/>ha)</b> |
| Precinct CF2<br>community<br>facilities                                              | Community<br>purpose                                                        | 0.24                                                      | 0                                                                   | 43.0                                                                                      | 27.0                                                  | 240.0                                                   | 0.0                                                                                             | 0.5                                                                |
| Precinct CF3<br>educational<br>establishments                                        | Community<br>purpose<br>(secondary<br>school/colleg<br>e/primary<br>school) | 0.2                                                       | 0                                                                   | 100.0                                                                                     | 94.0                                                  | 400.0                                                   | 0.0                                                                                             | 0.5                                                                |
| Precinct CF4<br>emergency<br>services                                                | Community<br>purpose                                                        | 0.2                                                       | 0                                                                   | 36.0                                                                                      | 23.0                                                  | 200.0                                                   | 0.0                                                                                             | 0.9                                                                |
| Precinct CF5<br>places of worship                                                    | Community<br>purpose                                                        | 0.24                                                      | 0                                                                   | 43.0                                                                                      | 27.0                                                  | 240.0                                                   | 0.0                                                                                             | 0.5                                                                |
| Precinct CF6<br>infrastructure                                                       | (no density outcome nominated)                                              |                                                           |                                                                     |                                                                                           |                                                       |                                                         |                                                                                                 |                                                                    |

| Planned density and demand generation rate for a trunk infrastructure network |                                           |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
|-------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------|
| Column 1<br>Area<br>classification                                            | Column 2<br>LGIP<br>developme<br>nt types | Column 3<br>Planned density <sup>6</sup>       |                                                          | Column 4<br>Demand generation rate for a trunk infrastructure network <sup>1</sup> |                                             |                                               |                                                                                    |                                                        |
|                                                                               |                                           | Total<br>non-<br>residenti<br>al plot<br>ratio | Residenti<br>al density<br>(dwelling<br>s/net dev<br>ha) | Water<br>supply<br>network<br>(EP/net dev<br>ha)                                   | Sewerage<br>network<br>(EP / net<br>dev ha) | Transport<br>network<br>(vpd / net<br>dev ha) | Parks and<br>land for<br>communit<br>y facilities<br>network<br>(EP/net<br>dev ha) | Stormwat<br>er<br>network<br>(imp<br>ha/net dev<br>ha) |
| Precinct CF7<br>future<br>transport/green<br>space/trail<br>corridors         | (no density outcome nominated)            |                                                |                                                          |                                                                                    |                                             |                                               |                                                                                    |                                                        |
| Precinct CF8<br>Commonwealth<br>facilities                                    | Community<br>purpose                      | 0.1                                            | 0                                                        | 18.0                                                                               | 11.0                                        | 100.0                                         | 0.0                                                                                | 0.1                                                    |
| Precinct CF9<br>passenger ferry<br>terminals                                  | Community<br>purpose                      | 0.1                                            | 0                                                        | 18.0                                                                               | 11.0                                        | 100.0                                         | 0.0                                                                                | 0.9                                                    |