

# **PSP 1099 Rockbank**

METROPOLITAN PLANNING AUTHORITY

## **Transport Modelling Report**

Revision C

1099/D/13/5518

3 September 2014



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## **PSP 1099 Rockbank**

Project no: SB20331  
Document title: Transport Modelling Report  
Revision: C  
Date: 3 September 2014  
Client name: Metropolitan Planning Authority  
Client no: 1099/D/13/5518  
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File name: SB20331 Rockbank PSP Modelling Report (Rev C).docx

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### **Document history and status**

| <b>Revision</b> | <b>Date</b> | <b>Description</b>        | <b>Review</b> | <b>Approved</b> |
|-----------------|-------------|---------------------------|---------------|-----------------|
| A               | 18 Jun 2014 | Draft report for comment  | CM            | CM              |
| B               | 26 Jun 2014 | Report for distribution   | CM            | CM              |
| C               | 3 Sep 2014  | Final version for release | CM            | CM              |
|                 |             |                           |               |                 |
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Appendix A: 2046 Model Results

Appendix B: 2026 Model Results

## **Important note about this report**

The sole purpose of this report and the associated services performed by Jacobs is to estimate future traffic and public transport travel in the Rockbank Precinct Structure Plan area in accordance with the scope of services set out in the contract between Jacobs and the Client. That scope of services, as described in this report, was developed with the Client.

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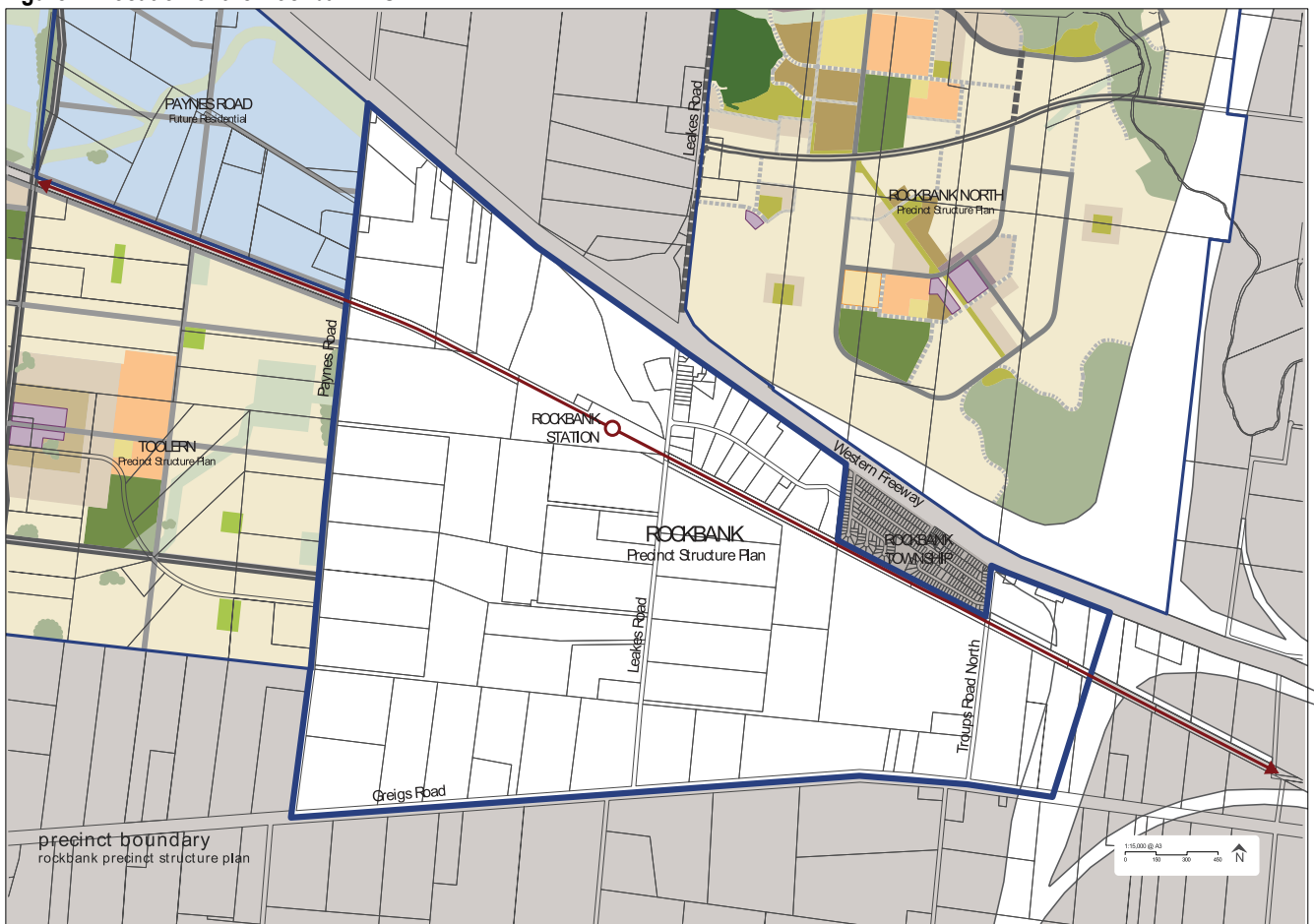
# 1. Introduction

## 1.1 Purpose

The Metropolitan Planning Authority (MPA) is currently developing the Precinct Structure Plan (PSP) for Rockbank (PSP 1099). The Rockbank PSP contains 750 hectares of land earmarked for future urban development, with intended construction of 8000-9000 dwellings (see Figure 1).

Key to the success of these developments will be the design of well-connected transport networks within Rockbank and good access to the surrounding road network. The purpose of this report is to describe the modelling of future travel associated with the Rockbank PSP, and to determine the suitability of the proposed road network to carry future traffic.

Figure 1: Location of the Rockbank PSP



## 1.2 Background to This Study

In 2012, the MPA commissioned a sub-regional transport model of the Western Growth Corridor (WGC) which was derived from the state government's Victorian Integrated Transport Model (VITM). The WGC model provided a more detailed zoning system and road network in the western suburbs to allow more refined modelling of land use, employment and transport in these PSPs. This initial model was developed for 2046 only.

Since the development of the original model and subsequent further planning of the western PSPs, the MPA has identified the need for the model's road and public transport networks to be modified to accommodate the latest land use and infrastructure assumptions.

The focus of this study will be to refine the 2046 ("ultimate") model and to develop a new 2026 ("interim") model. Outputs from both of these models will be used to assess the capacity of the proposed road network in the medium and long terms, and to assist in the design of key intersections in the Rockbank PSP.

## 1.3 Road Naming Convention

The interim road names for roads in the Rockbank PSP are shown in Figure 2. These are referred to in the discussion of model results in Chapter 3.

## 1.4 Glossary

The following terms have been used in this report:

**AM Peak:** The AM peak represents the weekday period from 7:00am to 9:00am

**Number of lanes:** The quoted number of lanes on a link generally refers to the total number of lanes in both directions. A two-lane two-way road therefore has a single lane in each direction.

**PM Peak:** The PM peak represents the weekday period from 3:00pm to 6:00pm.

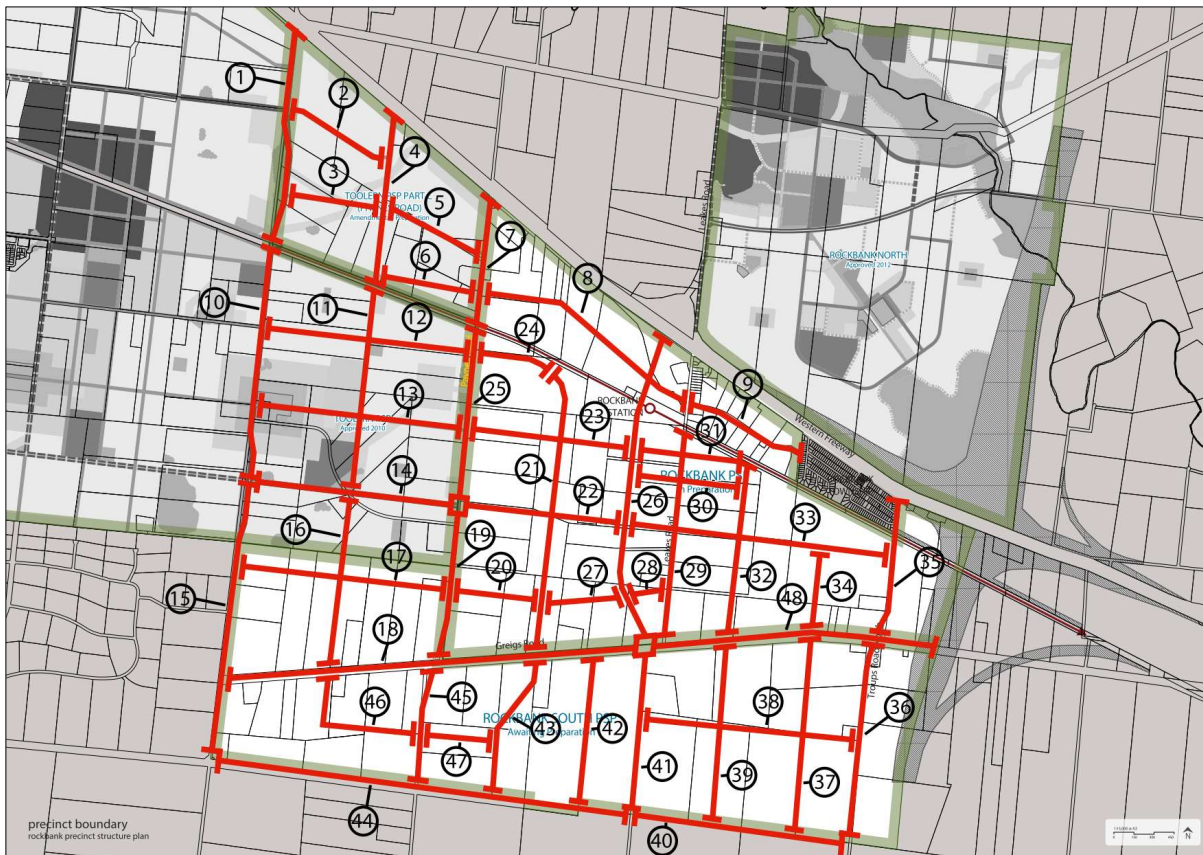
**Select-link analysis:** A method of analysing traffic movements by only showing the routes of trips that pass through a nominated link. A select-link analysis effectively shows the traffic catchment area for a given link.

**V/C ratio:** Volume-capacity ratio. This is the ratio of the traffic volume to the theoretical capacity of the road. A value close to 0.8 indicates the road is congested and the traffic on that road is expected to suffer significant delays. Technically, values greater than 1.0 should not be permitted, however if no other suitable routes are available, VITM will still allocate traffic to congested roads, resulting in V/C ratios greater than 1.0.

### Acronyms

- DTPLI – Department of Transport, Planning and Local Infrastructure
- MPA – Metropolitan Planning Authority
- WGC – Western Growth Corridor
- OMR – Outer Metropolitan Ring Road
- PSP – Precinct Structure Plan
- PTV – Public Transport Victoria
- VITM – Victorian Integrated Transport Model

Figure 2: Road Naming Convention – Rockbank PSP



| ROAD ID | ROAD NAME               | ROAD ID | ROAD NAME               |
|---------|-------------------------|---------|-------------------------|
| 1       | PR Mt Cottrell Road 1   | 25      | RB Paynes Road 2        |
| 2       | PR East West Road 1     | 26      | RB Leakes Arterial Road |
| 3       | PR East West Road 2     | 27      | RB East West Road 5     |
| 4       | PR North South Road 1   | 28      | RB East West Road 6     |
| 5       | PR Murray Road          | 29      | RB Leakes Road          |
| 6       | PR East West Road 3     | 30      | RB MTC East West Road 2 |
| 7       | Paynes Road 1           | 31      | RB MTC East West Road 1 |
| 8       | RB East West Road 1     | 32      | RB North South Road 2   |
| 9       | RB Westcott Parade      | 33      | RB East West Boulevard  |
| 10      | TN Mt Cottrell Road 2   | 34      | RB North South Road 3   |
| 11      | TN North South Road 1   | 35      | RB Troups Road North    |
| 12      | TN East West Road 1     | 36      | RS Troups Road South    |
| 13      | TN East West Road 2     | 37      | RS North South Road 5   |
| 14      | TN East West Arterial 1 | 38      | RS East West Road 4     |
| 15      | RS Mt Cottrell Road 3   | 39      | RS North South Road 4   |
| 16      | RS North South Road 1   | 40      | RS Harrison Road 1      |
| 17      | RS East West Road 1     | 41      | RS Downing Street       |
| 18      | RB Greigs Road          | 42      | RS North South Road 3   |
| 19      | RB Paynes Road 3        | 43      | RS North South Road 2   |
| 20      | RB East West Road 4     | 44      | RS Harrison Road 2      |
| 21      | RB North South Road 1   | 45      | RS Faulkners Road       |
| 22      | RB East West Arterial 2 | 46      | RS East West Road 2     |
| 23      | RB East West Road 3     | 47      | RS East West Road 3     |
| 24      | RB East West Road 2     | 48      | RB Greigs Arterial Road |

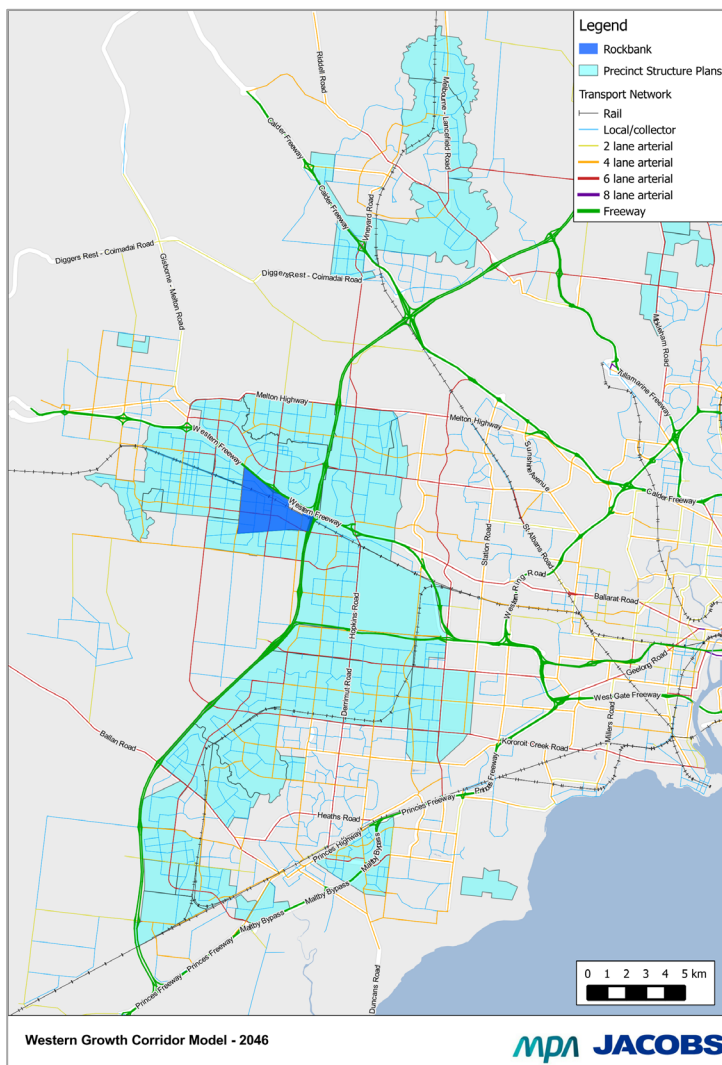
## 2. Modelling Process

### 2.1 Base Model

The basis for the Rockbank model was the 2046 GAA Western Growth Corridor model<sup>1</sup>. This model is an extension to the Melbourne-wide VITM strategic model and was developed to provide greater detail in the western corridor for precinct structure planning.

The region covered by the original Western Growth Corridor Model is shown in Figure 3.

Figure 3: 2046 Western Growth Corridor Base Model



The 2046 WGC model was updated to make it suitable for modelling the Rockbank PSP. The updates included:

- a revised zoning system;
- updated land use; and
- refinement of the transport network.

Each of these update processes are described in the following sections.

<sup>1</sup> The original 2046 Western Growth Corridor Model was developed by AECOM for the MPA in 2012.



## 2.2 Revisions to the Zoning System

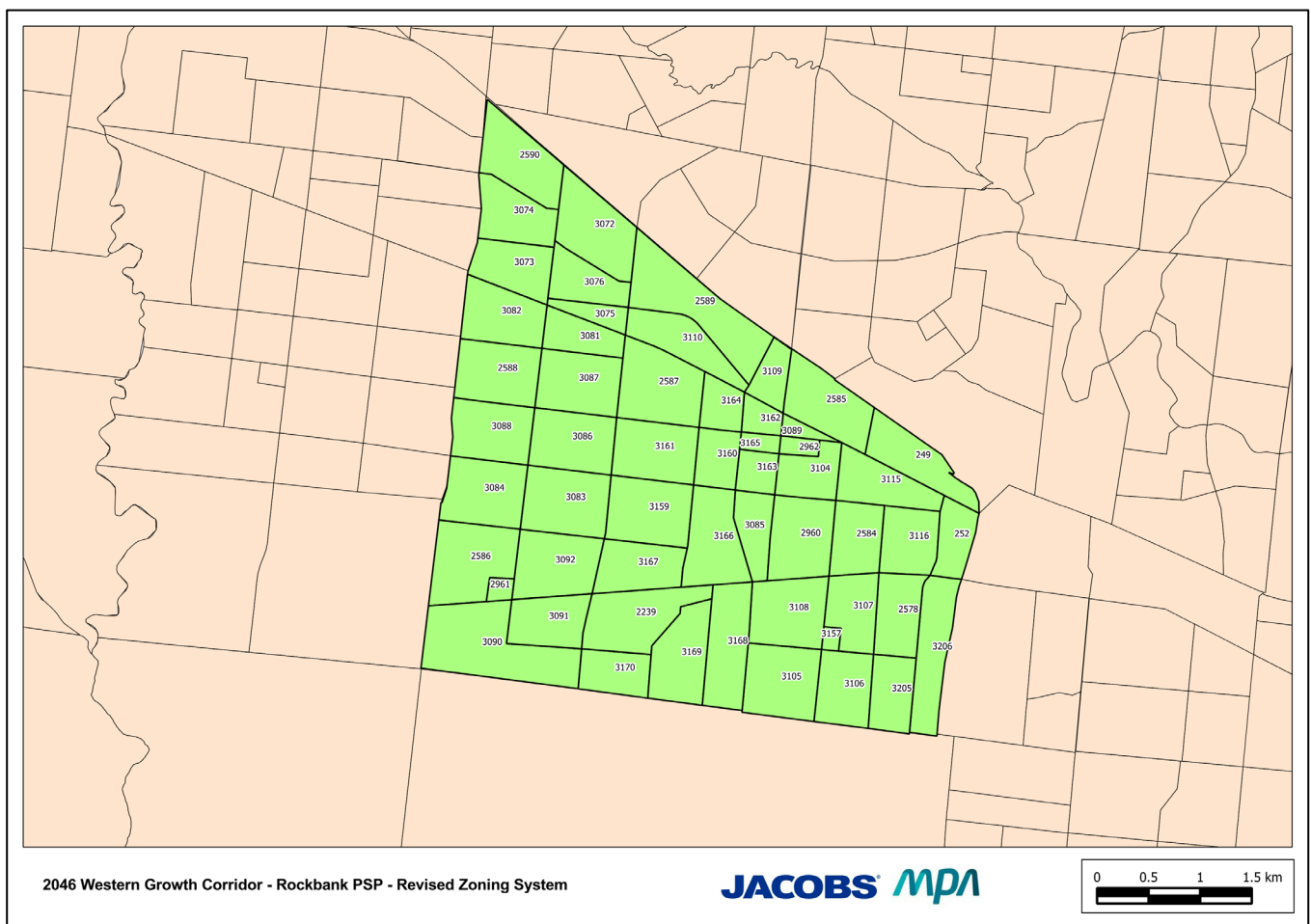
### 2.2.1 Candidate Region

A key requirement of this study was to introduce a more detailed and representative land use zoning system within and around the Rockbank PSP area. The zoning system represents the different types of land use and their spatial distribution, with individual zones connected to the surrounding road and public transport networks. In the VITM strategic model, traffic demand is assumed to originate from the centroid of each zone, with links known as centroid connectors feeding traffic to adjacent roads<sup>2</sup>. To provide further detail in an area, the zones can be disaggregated into smaller areas, providing a more fine-grained representation of land use and transport network access.

The original WGC model contained 19 zones for representing land use in the Rockbank PSP. For the purposes of this study, a wider area comprising the 19 Rockbank zones and 32 zones immediately adjacent to Rockbank (i.e. a region of 51 zones) were considered for further disaggregation.

In disaggregating zones in Rockbank, the MPA undertook a systematic review of the proposed land uses and road network. This ensured that zones were disaggregated in a logical manner and allowed individual zones to reflect particular land uses (e.g. town centres) and to be properly integrated with the road network. The revised zoning system created six additional zones as shown in Figure 4.

**Figure 4: Rockbank PSP Revised Zoning System**



<sup>2</sup> Centroid connectors are effectively a simplified representation of the local street network in a zone. More than one centroid connector can be connected to a zone centroid to distribute traffic to multiple points on the surrounding arterial road network.



## 2.3 Land Use Variables

### 2.3.1 Summary of Updates

The land use and demographic attributes used by the model include the number of households, population by age group, household structure (number of dependants), employment (number of retail and total jobs) and educational enrolments in each zone. The land use and demographic information specified in the original WGC model for the 51 zones in and around the Rockbank PSP is provided in Table 1.

**Table 1: Original land use and demographic variables for Rockbank (2046 Western Growth Corridor Model)**

| Zone | Population | Households | Employment |       | Enrolments |           |          |
|------|------------|------------|------------|-------|------------|-----------|----------|
|      |            |            | Retail     | Total | Primary    | Secondary | Tertiary |
| 249  | 447        | 163        | 0          | 16    | 0          | 0         | 0        |
| 252  | 723        | 264        | 0          | 26    | 0          | 0         | 0        |
| 2239 | 2,235      | 815        | 0          | 80    | 0          | 0         | 0        |
| 2578 | 3,361      | 1,226      | 0          | 120   | 0          | 0         | 0        |
| 2584 | 2,386      | 870        | 0          | 85    | 0          | 0         | 0        |
| 2585 | 1,680      | 613        | 0          | 100   | 450        | 0         | 0        |
| 2586 | 2,441      | 890        | 0          | 87    | 0          | 0         | 0        |
| 2587 | 1,982      | 723        | 0          | 71    | 0          | 0         | 0        |
| 2588 | 1,315      | 480        | 0          | 137   | 0          | 1,100     | 0        |
| 2589 | 1,995      | 728        | 0          | 71    | 0          | 0         | 0        |
| 2590 | 1,517      | 553        | 0          | 54    | 0          | 0         | 0        |
| 3072 | 1,789      | 652        | 0          | 64    | 0          | 0         | 0        |
| 3073 | 1,475      | 538        | 0          | 53    | 0          | 0         | 0        |
| 3074 | 1,509      | 550        | 0          | 54    | 0          | 0         | 0        |
| 3075 | 560        | 204        | 142        | 142   | 0          | 0         | 0        |
| 3076 | 977        | 356        | 0          | 75    | 450        | 0         | 0        |
| 3081 | 919        | 335        | 0          | 33    | 0          | 0         | 0        |
| 3082 | 1,562      | 570        | 0          | 56    | 0          | 0         | 0        |
| 3083 | 2,023      | 738        | 0          | 72    | 0          | 0         | 0        |
| 3084 | 1,893      | 691        | 0          | 68    | 0          | 0         | 0        |
| 3085 | 0          | 0          | 333        | 333   | 0          | 0         | 0        |
| 3086 | 1,782      | 650        | 0          | 64    | 0          | 0         | 0        |
| 3087 | 1,889      | 689        | 0          | 67    | 0          | 0         | 0        |
| 3088 | 877        | 320        | 0          | 101   | 850        | 0         | 0        |
| 3089 | 560        | 204        | 333        | 333   | 0          | 0         | 0        |
| 3090 | 2,230      | 813        | 0          | 80    | 0          | 0         | 0        |
| 3091 | 1,705      | 622        | 0          | 131   | 850        | 0         | 0        |
| 3092 | 1,868      | 681        | 0          | 67    | 0          | 0         | 0        |
| 3104 | 1,915      | 699        | 0          | 68    | 0          | 0         | 0        |
| 3105 | 2,299      | 838        | 0          | 82    | 0          | 0         | 0        |
| 3106 | 2,335      | 852        | 0          | 83    | 0          | 0         | 0        |
| 3107 | 560        | 204        | 333        | 333   | 0          | 0         | 0        |

Table 1 continued

|              |               |               |              |              |              |              |          |
|--------------|---------------|---------------|--------------|--------------|--------------|--------------|----------|
| 3108         | 1,440         | 525           | 0            | 121          | 850          | 0            | 0        |
| 3109         | 242           | 88            | 0            | 9            | 0            | 0            | 0        |
| 3110         | 767           | 280           | 0            | 27           | 0            | 0            | 0        |
| 3115         | 447           | 163           | 0            | 16           | 0            | 0            | 0        |
| 3116         | 844           | 308           | 0            | 30           | 0            | 0            | 0        |
| 3159         | 1,965         | 717           | 0            | 70           | 0            | 0            | 0        |
| 3160         | 148           | 54            | 0            | 5            | 0            | 0            | 0        |
| 3161         | 1,192         | 435           | 0            | 43           | 0            | 0            | 0        |
| 3162         | 560           | 204           | 1,415        | 1,415        | 0            | 0            | 0        |
| 3163         | 452           | 165           | 0            | 46           | 400          | 0            | 0        |
| 3164         | 170           | 62            | 0            | 6            | 0            | 0            | 0        |
| 3165         | 94            | 34            | 0            | 43           | 450          | 0            | 0        |
| 3166         | 2,883         | 1,052         | 0            | 103          | 0            | 0            | 0        |
| 3167         | 1,551         | 566           | 0            | 55           | 0            | 0            | 0        |
| 3168         | 1,957         | 714           | 0            | 70           | 0            | 0            | 0        |
| 3169         | 0             | 0             | 0            | 0            | 0            | 0            | 0        |
| 3170         | 1,213         | 443           | 0            | 43           | 0            | 0            | 0        |
| 3205         | 825           | 301           | 0            | 29           | 0            | 0            | 0        |
| 3206         | 1,096         | 400           | 0            | 39           | 0            | 0            | 0        |
| <b>Total</b> | <b>68,654</b> | <b>25,041</b> | <b>2,556</b> | <b>5,378</b> | <b>4,300</b> | <b>1,100</b> | <b>0</b> |

Updated population, employment and enrolment forecasts for Rockbank were provided by the MPA. These updated values used in the 2046 Ultimate Model are given in Table 2

Table 2: New land use and demographic variables for 2046 Rockbank model

| Zone | Population | Households | Employment |       | Enrolments |           |          |
|------|------------|------------|------------|-------|------------|-----------|----------|
|      |            |            | Retail     | Total | Primary    | Secondary | Tertiary |
| 249  | 1,588      | 567        | 0          | 16    | 0          | 0         | 0        |
| 252  | 474        | 169        | 0          | 8     | 0          | 0         | 0        |
| 2239 | 1,411      | 504        | 0          | 25    | 0          | 0         | 0        |
| 2578 | 1,000      | 357        | 0          | 18    | 0          | 0         | 0        |
| 2584 | 572        | 204        | 0          | 120   | 1,050      | 0         | 0        |
| 2585 | 1,624      | 580        | 0          | 49    | 250        | 0         | 0        |
| 2586 | 1,594      | 569        | 0          | 28    | 0          | 0         | 0        |
| 2587 | 900        | 321        | 0          | 61    | 450        | 0         | 0        |
| 2588 | 1,315      | 480        | 0          | 137   | 0          | 1,100     | 1,100    |
| 2589 | 3,531      | 1,261      | 0          | 68    | 0          | 0         | 0        |
| 2590 | 1,367      | 488        | 0          | 24    | 0          | 0         | 0        |
| 3072 | 1,369      | 489        | 0          | 64    | 450        | 0         | 0        |
| 3073 | 1,057      | 377        | 0          | 39    | 0          | 0         | 0        |
| 3074 | 951        | 340        | 0          | 57    | 600        | 0         | 0        |
| 3075 | 397        | 142        | 0          | 7     | 0          | 0         | 0        |
| 3076 | 850        | 304        | 67         | 15    | 0          | 0         | 0        |
| 3081 | 919        | 335        | 0          | 33    | 0          | 0         | 0        |
| 3082 | 1,562      | 570        | 0          | 56    | 0          | 0         | 0        |
| 3083 | 1,499      | 536        | 0          | 27    | 0          | 0         | 0        |
| 3084 | 1,419      | 507        | 0          | 25    | 0          | 0         | 0        |
| 3086 | 1,782      | 650        | 0          | 64    | 0          | 0         | 0        |
| 3087 | 1,889      | 689        | 0          | 67    | 0          | 0         | 0        |
| 3088 | 877        | 320        | 0          | 101   | 850        | 0         | 0        |
| 3090 | 2,410      | 861        | 0          | 113   | 450        | 0         | 0        |
| 3091 | 1,041      | 372        | 0          | 19    | 0          | 0         | 0        |
| 3092 | 1,429      | 510        | 0          | 66    | 600        | 0         | 0        |
| 3104 | 687        | 245        | 0          | 12    | 0          | 0         | 0        |
| 3105 | 1,263      | 451        | 0          | 93    | 450        | 0         | 0        |
| 3106 | 1,222      | 437        | 0          | 112   | 0          | 1,100     | 0        |
| 3107 | 1,023      | 365        | 0          | 18    | 0          | 0         | 0        |
| 3108 | 1,121      | 400        | 0          | 65    | 600        | 0         | 0        |
| 3109 | 637        | 228        | 0          | 11    | 0          | 0         | 0        |
| 3110 | 0          | 0          | 0          | 0     | 0          | 0         | 0        |
| 3115 | 1,507      | 538        | 0          | 27    | 0          | 0         | 0        |
| 3116 | 1,018      | 364        | 67         | 34    | 0          | 0         | 0        |

Table 2 continued

|      |       |     |    |    |   |   |   |
|------|-------|-----|----|----|---|---|---|
| 3159 | 1,518 | 542 | 67 | 58 | 0 | 0 | 0 |
|------|-------|-----|----|----|---|---|---|

|              |               |               |              |              |              |              |              |
|--------------|---------------|---------------|--------------|--------------|--------------|--------------|--------------|
| 3160         | 1,056         | 377           | 0            | 19           | 0            | 0            | 0            |
| 3161         | 1,420         | 507           | 0            | 25           | 0            | 0            | 0            |
| 3162         | 445           | 159           | 336          | 589          | 0            | 0            | 0            |
| 3163         | 439           | 157           | 0            | 8            | 0            | 0            | 0            |
| 3164         | 640           | 229           | 0            | 136          | 0            | 1,700        | 0            |
| 3165         | 251           | 90            | 168          | 280          | 0            | 0            | 0            |
| 3166         | 1,672         | 597           | 0            | 120          | 0            | 1,100        | 0            |
| 3167         | 891           | 318           | 0            | 16           | 0            | 0            | 0            |
| 3168         | 1,400         | 500           | 0            | 25           | 0            | 0            | 0            |
| 3169         | 0             | 0             | 0            | 0            | 0            | 0            | 0            |
| 3170         | 664           | 237           | 0            | 12           | 0            | 0            | 0            |
| 3205         | 981           | 350           | 0            | 18           | 0            | 0            | 0            |
| 3206         | 1,638         | 585           | 0            | 29           | 0            | 0            | 0            |
| 2960         | 1,535         | 548           | 0            | 27           | 0            | 0            | 0            |
| 2961         | 56            | 20            | 167          | 334          | 0            | 0            | 0            |
| 2962         | 573           | 205           | 84           | 140          | 0            | 0            | 0            |
| 3089         | 616           | 220           | 252          | 420          | 0            | 0            | 0            |
| 3157         | 56            | 20            | 167          | 348          | 0            | 0            | 0            |
| 3085         | 813           | 290           | 0            | 15           | 0            | 0            | 0            |
| <b>Total</b> | <b>59,969</b> | <b>21,481</b> | <b>1,375</b> | <b>4,298</b> | <b>5,750</b> | <b>5,000</b> | <b>1,100</b> |

The total change in population, employment and enrolment forecasts from the original WGC model are summarised in Table 3.

**Table 3: Total differences between existing and revised zone variables**

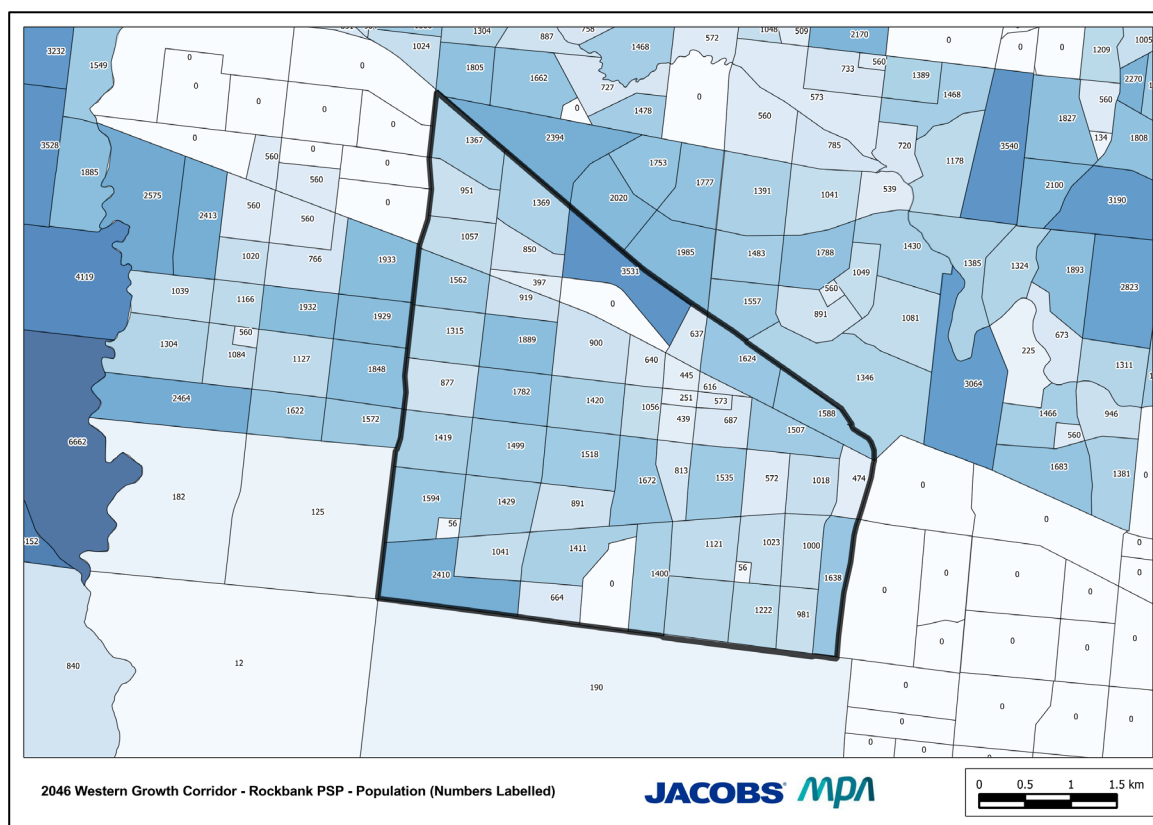
| Region         | Population | Households | Employment |       | Enrolments |           |          |
|----------------|------------|------------|------------|-------|------------|-----------|----------|
|                |            |            | Retail     | Total | Primary    | Secondary | Tertiary |
| Total Rockbank | -8,681     | -3,559     | -848       | -745  | +1,450     | +3,900    | +1,100   |

The following sections describe the changes made to population, household structure and employment in more detail.

### 2.3.2 Population Distribution

The revised distribution of the population is shown in Figure 5, showing the distribution of residential zones across Rockbank and the surrounding areas.

Figure 5: Updated population distribution in Rockbank at 2046 (persons)



### 2.3.3 Age Group Split

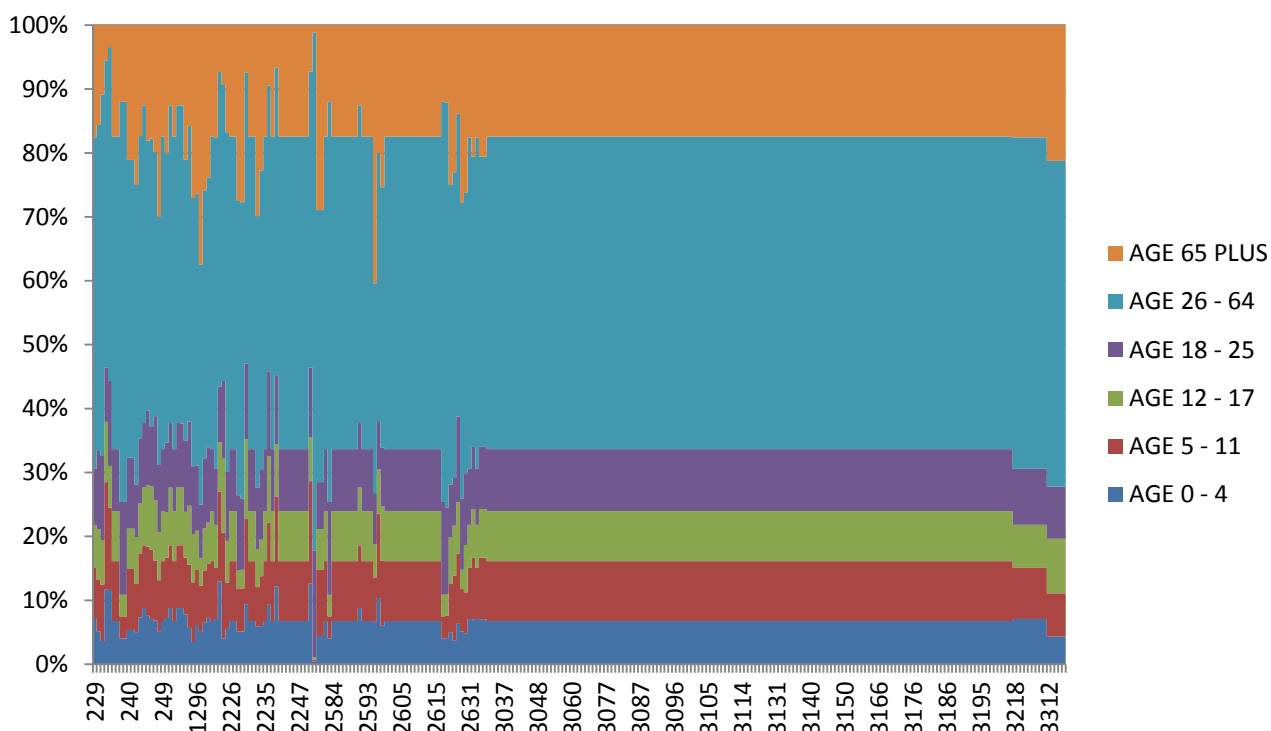
Population is further split into six age groups within the VITM structure. The age groups are:

- 0 – 4 years old
- 5 – 11 years old
- 12 – 17 years old
- 18 – 25 years old
- 26 – 64 years old
- 65 years plus

Figure 6 shows the assumed proportions of each age category for each of the zones in Melton in the 2046 WGC model. This indicates that the proportional splits within each zone are generally consistent across the municipality, with the exception of a small number of zones.



Figure 6: Proportional age group splits for zones in the Melton municipality (2046 WGC model)



The overall comparisons between zones in Rockbank and the entire Melton municipality are given in Table 4.

Table 4: Comparison of Rockbank and Melton age group splits (2046 WGC model)

| Age Group | Rockbank | City of Melton |
|-----------|----------|----------------|
| 0 - 4     | 7%       | 7%             |
| 5 - 11    | 9%       | 10%            |
| 12 - 17   | 8%       | 8%             |
| 18 - 25   | 10%      | 10%            |
| 26 - 64   | 49%      | 48%            |
| 65 +      | 17%      | 17%            |

Given the marginal differences between the proportions, the proportional splits used in the original Rockbank zones were adopted. Table 5 summarises the resulting number of persons in each age group for the wider 51-zone Rockbank area.

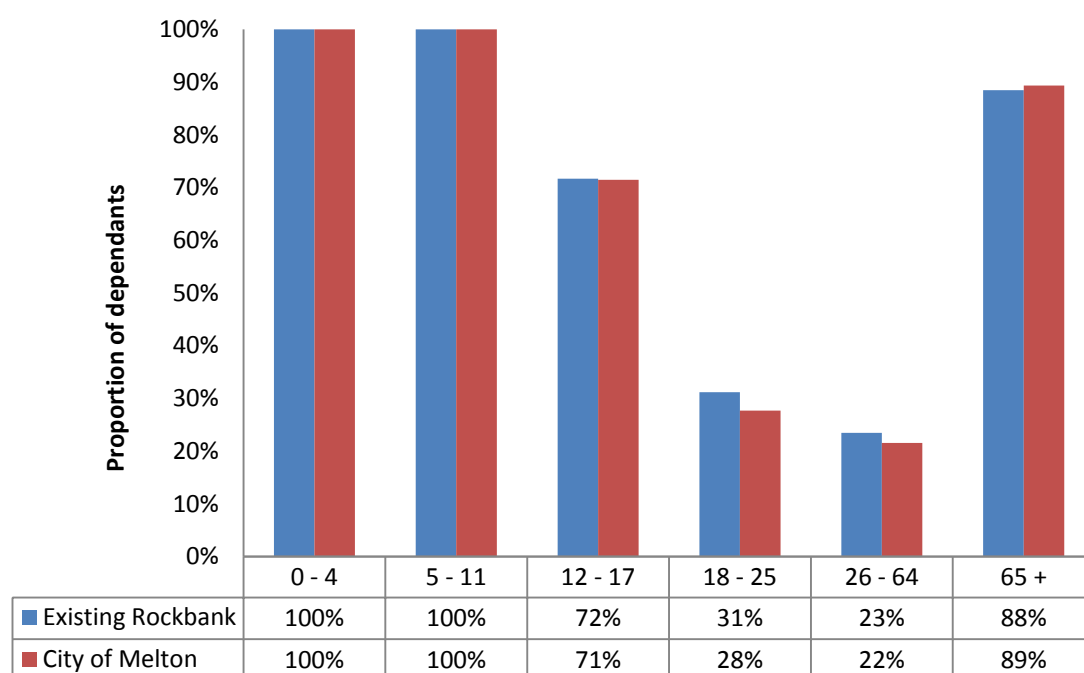
Table 5: Assumed population in Rockbank by age group (2046)

| Age Group    | 2046 Population |
|--------------|-----------------|
| 0 - 4        | 4,053           |
| 5 - 11       | 5,622           |
| 12 - 17      | 4,681           |
| 18 - 25      | 5,828           |
| 26 - 64      | 29,316          |
| 65 +         | 10,473          |
| <b>Total</b> | <b>59,973</b>   |

### 2.3.4 Household Structure

The number of dependants (e.g. children, non-working adults, carers) in each zone is an additional variable that influences household trip-making decisions. A comparison of household structure assumptions was made for zones in Rockbank and the entire City of Melton in the 2046 WGC model. The results are presented in Figure 7.

Figure 7: Assumed proportion of dependants by age group (2046 WGC model)

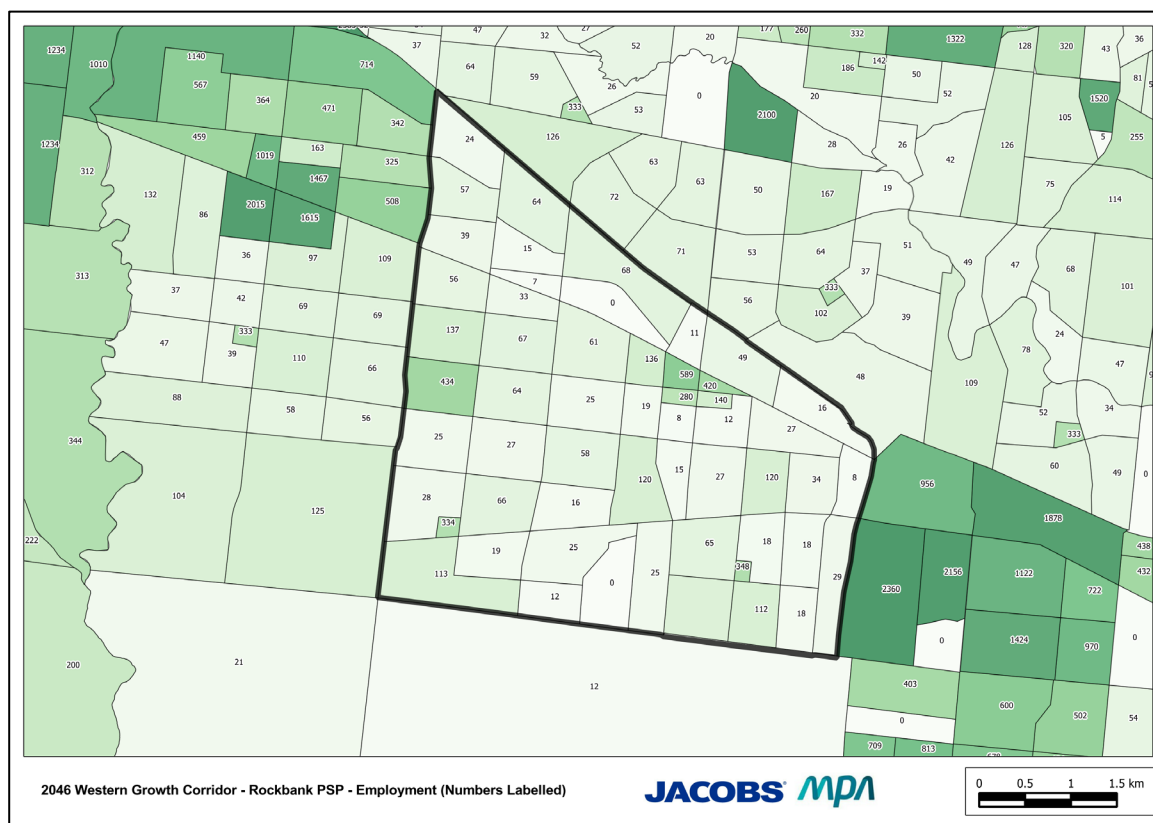


These results show very little difference between the proportion of dependants in each age group for Rockbank and Melton. The WGC model proportions for the Rockbank zones were therefore adopted in the updated Rockbank model.

### 2.3.5 Employment

Employment in Rockbank is concentrated in the central activity area, with minor employment scattered through the PSP, as shown in Figure 8. Total employment of 4,633 jobs is assumed for Rockbank in 2046.

Figure 8: Assumed employment distribution in the Rockbank 2046 WGC model (jobs)



### 2.3.6 Education

The MPA has specified notional locations and sizes of primary, secondary and tertiary schools in Rockbank. Table 6 summarises the total assumed enrolments for 2046 in Rockbank.

Table 6: Enrolments in Rockbank by education level (2046)

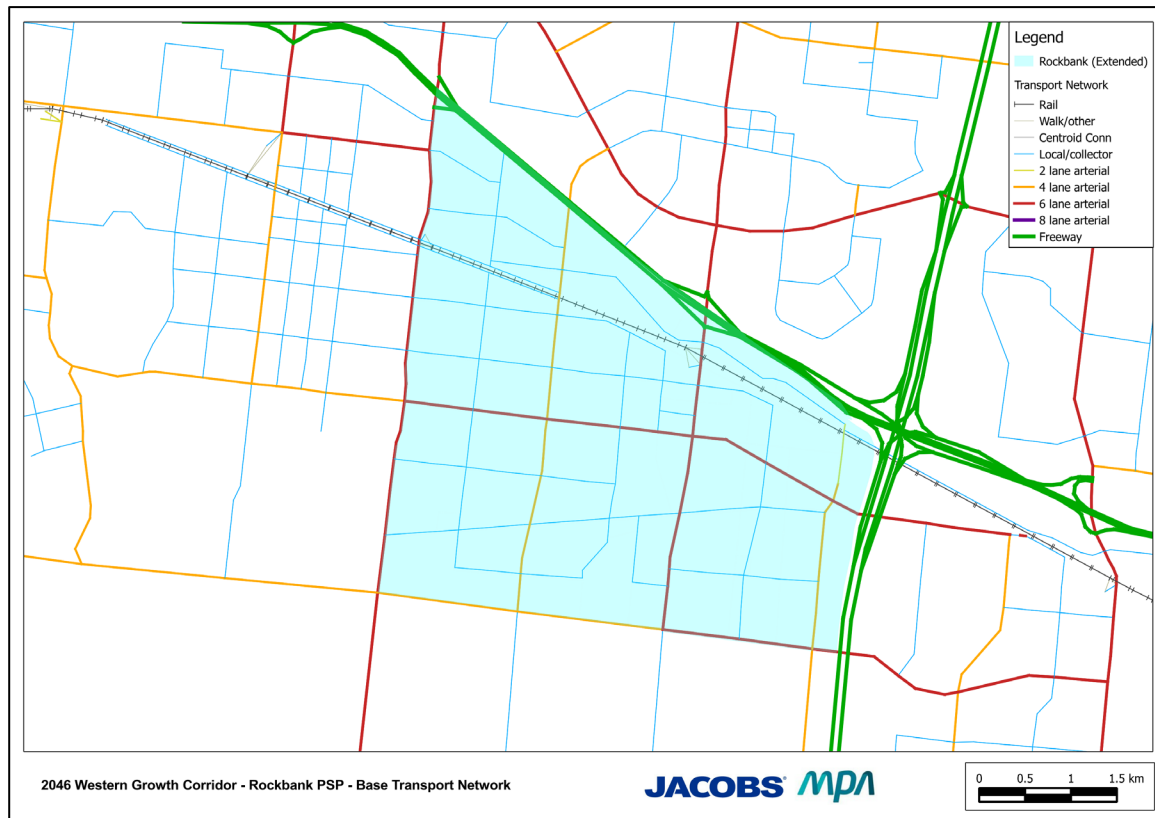
| Level        | Rockbank Enrolments (2046) |
|--------------|----------------------------|
| Primary      | 5,750                      |
| Secondary    | 5,000                      |
| Tertiary     | 1,100                      |
| <b>Total</b> | <b>11,850</b>              |

## 2.4 Transport Network

### 2.4.1 Road Network

The road network in the original 2046 WGC model in the Rockbank PSP was relatively well-developed, as shown in Figure 9.

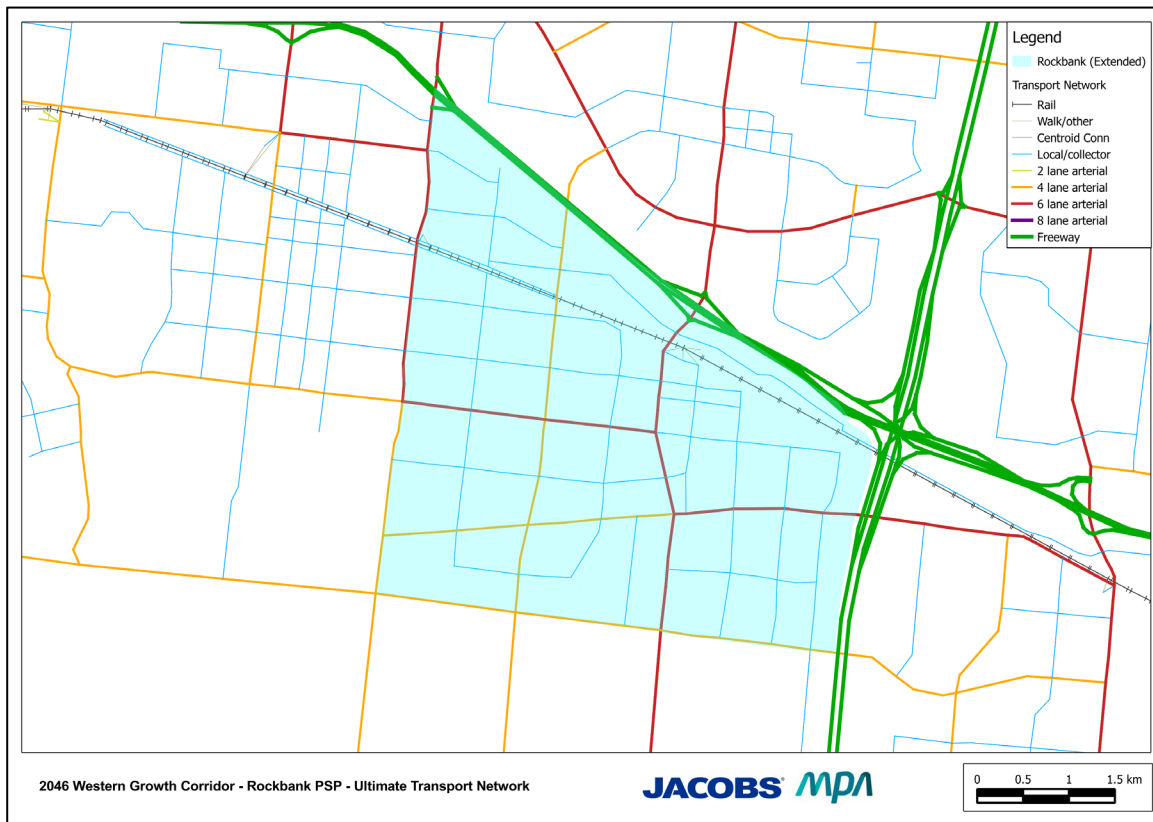
Figure 9: Original 2046 Western Growth Corridor model transport network



However, this original WGC model network required some revisions to incorporate some of the more recent proposed changes in the PSP. The changes included the realignment of Leakes Road from the Western Freeway to the southern Urban Growth Boundary (UGB), an east-west primary arterial from Mt Cottrell Road to Leakes Road, extensions to several north-south secondary arterial roads along existing Paynes Rd and Mt Cottrell Rd, and an east west secondary road along the boundary of the UGB at the southern edge of the PSP area. A number of additional collector roads were also included to provide better internal accessibility to the eastern parts of the PSP.

This revised network is shown in Figure 10.

Figure 10: Assumed 2046 road network

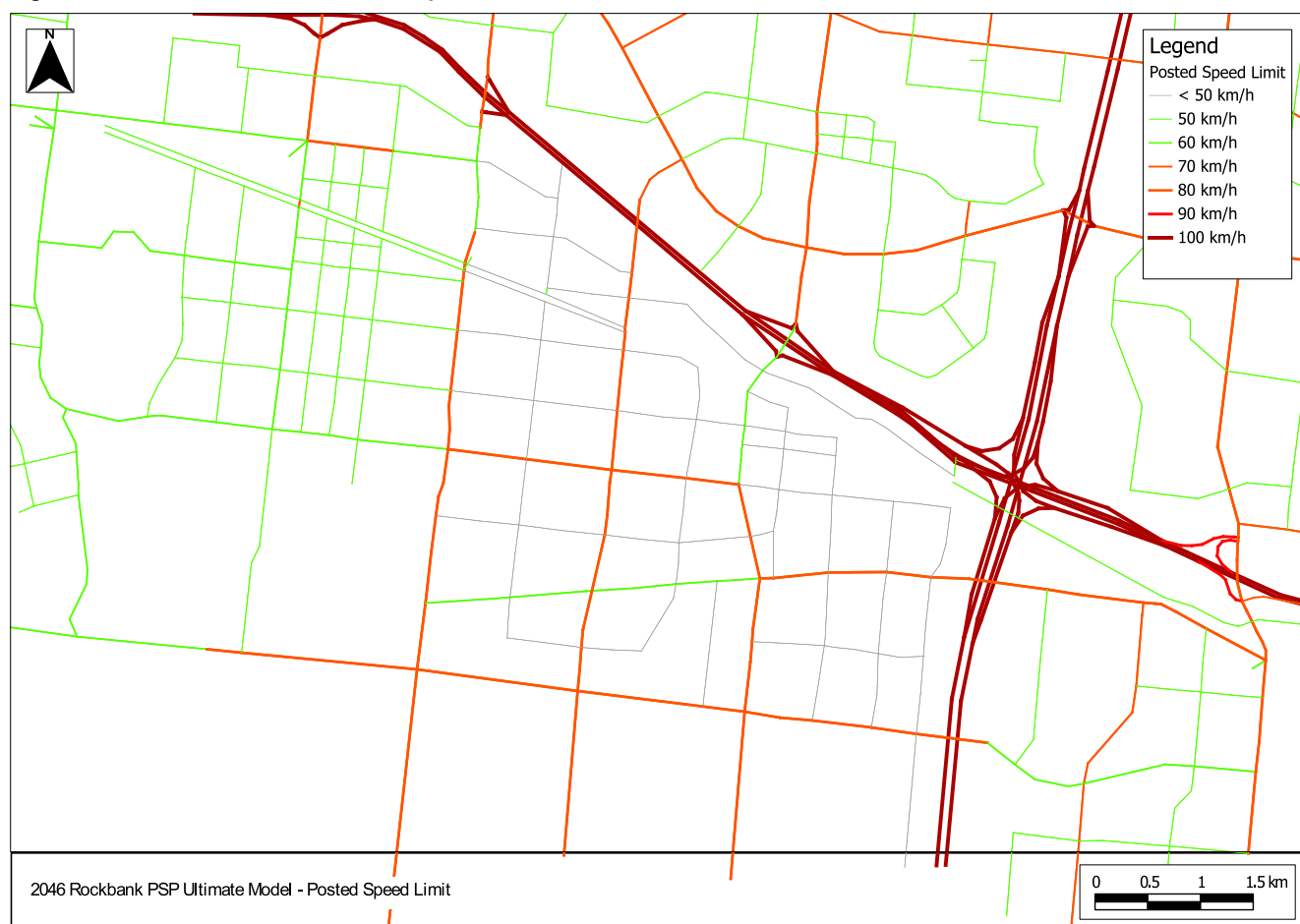


Primary arterial roads were assumed to be six lanes and have a speed limit of 80 km/h, except when adjoining the town centre, where 60 km/h speeds were used. Secondary roads were assumed to be four lanes and have a speed limit of 60 km/h, with the exception of Leakes Road overpass adjacent to the town centre, which was modelled as 60km/h. Local connector roads were assumed to be two lanes and have a speed limit of 50 km/h. In built-up areas, collectors had a reduced speed limit of 40 km/h. Local streets are not usually modelled in VITM due to the broad-brush strategic nature of the model. A map of assumed speeds is shown in Figure 11.

Several of the roads to the south of Rockbank (e.g. Downing Street and Mt Cottrell Road) were assumed to be arterial-standard roads for the purposes of the 2046 modelling. After the modelling was completed, stakeholders suggested that these roads will probably not be constructed to arterial standard, and instead will remain as local roads. The impacts of these network assumptions are discussed in section 3.2.1.



Figure 11: Assumed 2046 road network speeds



### 2.4.2 Public Transport Routes

The public transport network assumed in the ultimate Rockbank model is shown in Figure 12. This shows several standard bus and SmartBus routes that traverse the Rockbank precinct, as well as the Melton rail line serving Rockbank Station adjacent to Leakes Road. Stations were assumed at Deer Park, Caroline Springs, Hopkins Road, Rockbank, Toolern East, Toolern Road and Melton. No station has been included at Mt Atkinson.

These routes were derived from the original 2046 Western Growth Corridor model. A summary of service frequencies assumed for 2046 is shown in Table 7.

2046 Western Growth Corridor - Rockbank PSP - Public Transport Network

**JACOBS** **MPA**

0 0.5 1 1.5 km

Table 7 : Public Transport Headways – minutes (2046)

| MODE NAME LONGNAME |       |  | HEADWAY |            |         |          |
|--------------------|-------|--|---------|------------|---------|----------|
|                    |       |  | AM Peak | Inter-Peak | PM Peak | Off Peak |
| Metro Trains       | 1502  | MELTON - PAKENHAM EAST (METRO TUNNEL)                  | 7.5     | 10         | 7.5     | 10       |
|                    | 1504  | ROCKBANK - PAKENHAM EAST (METRO TUNNEL)                | 15      | 0          | 15      | 0        |
|                    | 1506  | PAKENHAM EAST - MELTON (METRO TUNNEL)                  | 7.5     | 10         | 7.5     | 10       |
|                    | 1508  | PAKENHAM EAST - ROCKBANK (METRO TUNNEL)                | 15      | 0          | 15      | 0        |
| V/Line Trains      | 1901  | MARSHALL - SOUTHERN CROSS (VIA RRL )                   | 15      | 60         | 30      | 60       |
|                    | 1903  | GEE LONG - SOUTHERN CROSS (VIA RRL )                   | 15      | 60         | 30      | 60       |
|                    | 1904  | BALLARAT - SOUTHERN CROSS (VIA RRL )                   | 15      | 30         | 30      | 30       |
|                    | 1905  | BLACK FOREST - SOUTHERN CROSS (VIA RRL )               | 10      | 30         | 15      | 30       |
|                    | 1909  | SOUTHERN CROSS - MARSHALL(VIA RRL )                    | 30      | 60         | 15      | 60       |
|                    | 1911  | SOUTHERN CROSS - GEE LONG (VIA RRL )                   | 30      | 60         | 15      | 60       |
|                    | 1912  | SOUTHERN CROSS - BALLARAT (VIA RRL )                   | 30      | 30         | 15      | 30       |
|                    | 1913  | SOUTHERN CROSS - BLACK FOREST (VIA RRL )               | 15      | 30         | 10      | 30       |
|                    | 1950  | WARRAMBOOL - SOUTHERN CROSS (VIA RRL )                 | 120     | 120        | 120     | 120      |
|                    | 1951  | SOUTHERN CROSS - WARRAMBOOL (VIA RRL )                 | 120     | 120        | 120     | 120      |
|                    | 1952  | ARARAT - SOUTHERN CROSS (VIA RRL )                     | 120     | 180        | 120     | 180      |
|                    | 1953  | SOUTHERN CROSS - ARARAT (VIA RRL )                     | 120     | 180        | 120     | 180      |
|                    | 1954  | MARYBOROUGH - SOUTHERN CROSS (VIA RRL )                | 120     | 180        | 120     | 180      |
|                    | 1955  | SOUTHERN CROSS - MARYBOROUGH (VIA RRL )                | 120     | 180        | 120     | 180      |
| Bus                | 456   | SUNSHINE - MELTON                                      | 25.7    | 25.7       | 25.7    | 25.7     |
|                    |       | MELTON - SUNSHINE                                      | 25.7    | 25.7       | 25.7    | 25.7     |
|                    | C1069 | SYDENHAM RS - CAROLINE SPRINGS (VIA TAYLORS HILL WEST) | 40      | 40         | 40      | 40       |
|                    |       | CAROLINE SPRINGS - SYDENHAM RS (VIA TAYLORS HILL WEST) | 40      | 40         | 40      | 40       |
|                    | C1073 | TOOLERN RS - WEST MELTON (VIA MELTON RS)               | 40      | 40         | 40      | 40       |
|                    |       | WEST MELTON - TOOLERN RS (VIA MELTON RS)               | 40      | 40         | 40      | 40       |
|                    | C1102 | CAROLINE SPRINGS TOWN CENTRE - CAROLINE SPRINGS RS     | 40      | 40         | 40      | 40       |
|                    |       | CAROLINE SPRINGS RS - CAROLINE SPRINGS TOWN CENTRE     | 40      | 40         | 40      | 40       |
|                    | C1103 | TARNEIT RS - PLUMPTON                                  | 40      | 40         | 40      | 40       |
|                    |       | PLUMPTON - TARNEIT RS                                  | 40      | 40         | 40      | 40       |
|                    | C1104 | CAROLINE SPRINGS - TOOLERN RS (VIA ROCKBANK RS)        | 40      | 40         | 40      | 40       |
|                    |       | TOOLERN RS - CAROLINE SPRINGS (VIA ROCKBANK RS)        | 40      | 40         | 40      | 40       |
|                    | C1117 | SYDENHAM RS - PLUMPTON (VIA TAYLORS HILL) (COMPLETE)   | 40      | 40         | 40      | 40       |
|                    |       | PLUMPTON - SYDENHAM RS (VIA TAYLORS HILL) (COMPLETE)   | 40      | 40         | 40      | 40       |
|                    | C1118 | ROCKBANK RS - ROCKBANK WEST (VIA PLUMPTON)             | 40      | 40         | 40      | 40       |
|                    |       | ROCKBANK WEST - ROCKBANK RS (VIA PLUMPTON)             | 40      | 40         | 40      | 40       |
|                    | C1119 | ROCKBANK RS - PLUMPTON (VIA LEADES RD)                 | 40      | 40         | 40      | 40       |
|                    |       | PLUMPTON - ROCKBANK RS (VIA LEADES RD)                 | 40      | 40         | 40      | 40       |
|                    | C1120 | TOOLERN RS - TOOLERN EAST RS (VIA NORTHERN TOOLERN)    | 40      | 40         | 40      | 40       |
|                    |       | TOOLERN EAST RS - TOOLERN RS (VIA NORTHERN TOOLERN)    | 40      | 40         | 40      | 40       |
|                    | C1121 | TOOLERN RS - TOOLERN EAST RS (VIA SOUTHERN TOOLERN)    | 40      | 40         | 40      | 40       |
|                    |       | TOOLERN EAST RS - TOOLERN RS (VIA SOUTHERN TOOLERN)    | 40      | 40         | 40      | 40       |
|                    | LD004 | MELTON - SYDENHAM (VIA MELTON HWY)                     | 15      | 15         | 15      | 15       |
|                    |       | SYDENHAM - MELTON (VIA MELTON HWY)                     | 15      | 15         | 15      | 15       |
|                    | LD123 | ROCKBANK)  | 15      | 15         | 15      | 15       |
|                    |       | ROCKBANK)  | 15      | 15         | 15      | 15       |
|                    | LD124 | ROCKBANK - TOOLERN LOOP (VIA MT COTTRELL AND PLUMPTON) | 15      | 15         | 15      | 15       |
|                    |       | TOOLERN - ROCKBANK LOOP (VIA MT COTTRELL AND PLUMPTON) | 15      | 15         | 15      | 15       |
|                    | LD131 | ROCKBANK RS - TOOLERN RS                               | 15      | 15         | 15      | 15       |
|                    |       | TOOLERN RS - ROCKBANK RS                               | 15      | 15         | 15      | 15       |
|                    | LD132 | TOOLERN - MELTON LOOP (COMPLETE)                       | 15      | 15         | 15      | 15       |
|                    |       | MELTON - TOOLERN LOOP (COMPLETE)                       | 15      | 15         | 15      | 15       |
| SmartBus           | 400   | LAVERTON - SUNSHINE                                    | 10      | 10         | 10      | 10       |
|                    |       | SUNSHINE - LAVERTON                                    | 10      | 10         | 10      | 10       |
|                    | SM130 | PLUMPTON - MELTON RS (VIA TOOLERN RS)                  | 10      | 10         | 10      | 10       |
|                    |       | MELTON RS - PLUMPTON (VIA TOOLERN RS)                  | 10      | 10         | 10      | 10       |
|                    | SM24  | ST ALBANS - ROCKBANK RS                                | 10      | 10         | 10      | 10       |
|                    |       | ROCKBANK RS - ST ALBANS                                | 10      | 10         | 10      | 10       |
|                    | SM25  | SYDENHAM - WERRIBEE EMPLOYMENT PRECINCT                | 10      | 10         | 10      | 10       |
|                    |       | WERRIBEE EMPLOYMENT PRECINCT - SYDENHAM                | 10      | 10         | 10      | 10       |
|                    | SM6   | SYDENHAM - MELTON (VIA NORTHERN TOOLERN)               | 10      | 10         | 10      | 10       |
|                    |       | MELTON - SYDENHAM (VIA NORTHERN TOOLERN)               | 10      | 10         | 10      | 10       |
|                    | SM7   | ROCKBANK - WERRIBEE                                    | 10      | 10         | 10      | 10       |
|                    |       | WERRIBEE - ROCKBANK                                    | 10      | 10         | 10      | 10       |

## 2.5 2026 Model Development

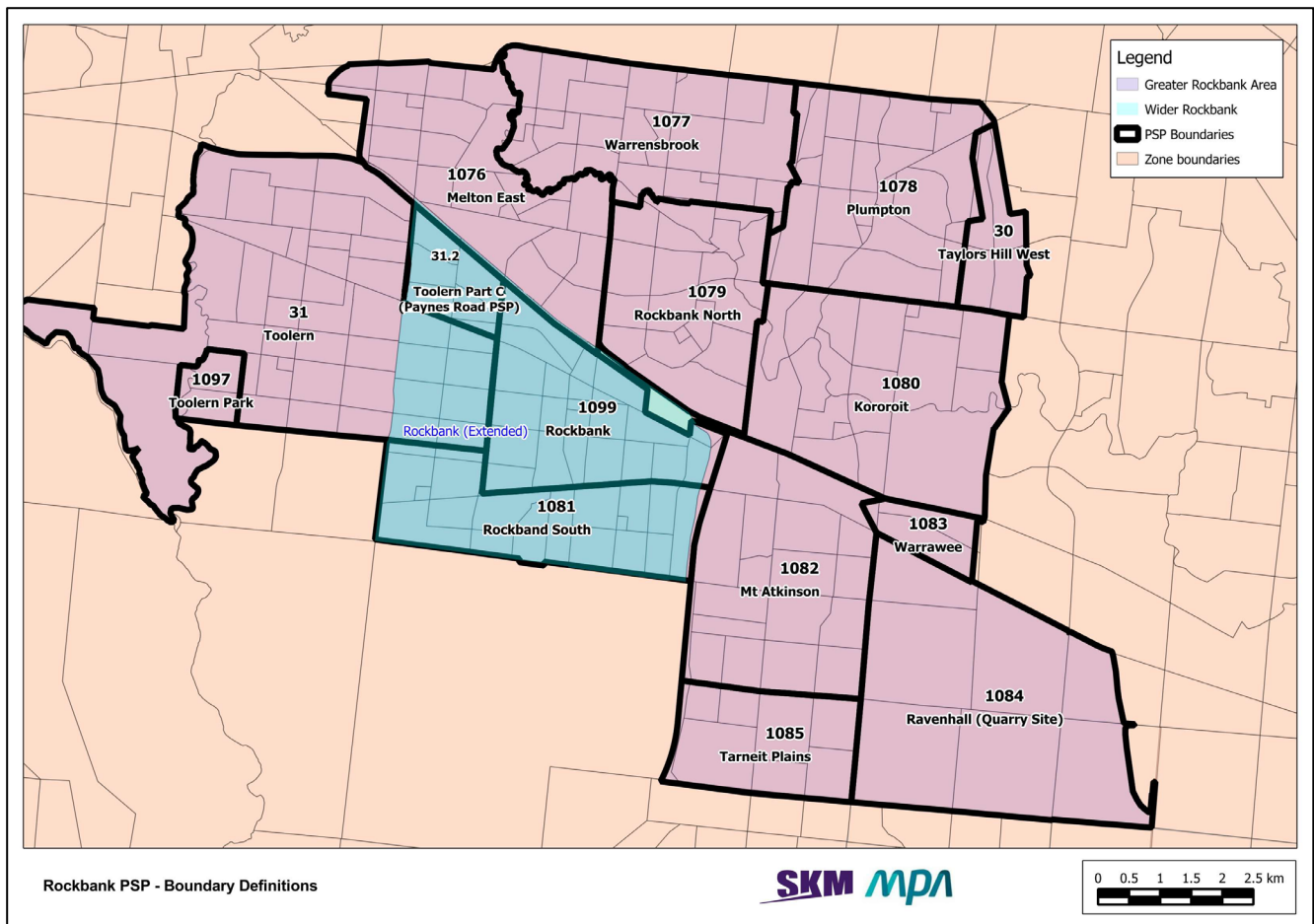
The original Western Growth Corridor model included land use assumptions and transport networks for 2046. To model interim conditions, a 206 model was developed using assumptions provided by the MPA and DTPLI.

### 2.5.1 Base Model

The development of the 2026 Rockbank model involved changes to the immediate Rockbank area, the surrounding growth areas and the broader metropolitan Melbourne network. In the following discussion, we refer to three main areas where land use and transport network changes were made:

- 1) **Wider Rockbank Area** – Rockbank, Rockbank South and parts of Toolern (see the blue area in Figure 13).
- 2) **Greater Rockbank Area** – the area including Rockbank and the immediately-adjacent PSPs (Figure 13)
- 3) **General Network** – Rest of Metropolitan Melbourne

Figure 13: Wider and Greater Rockbank Areas



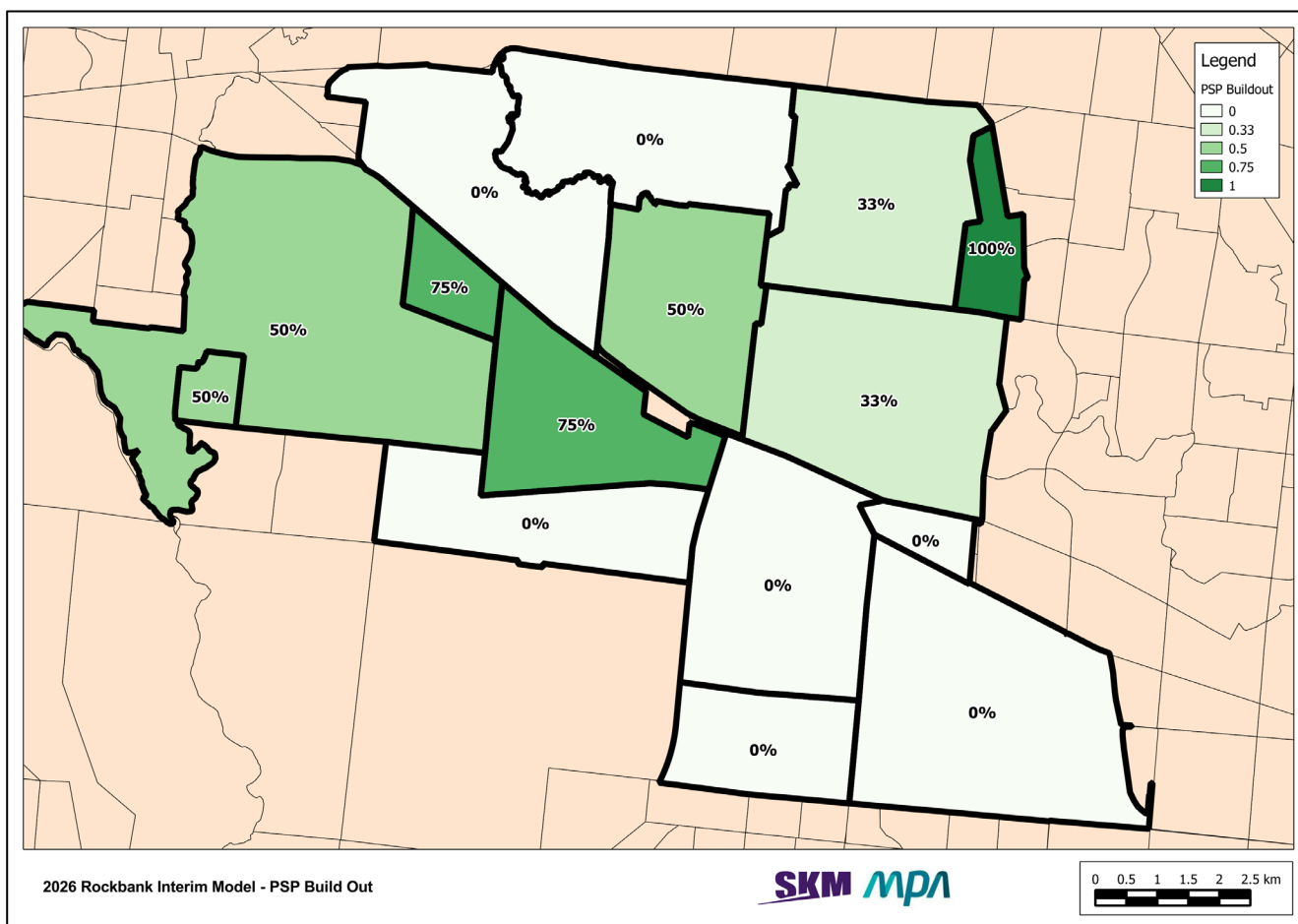
More detail was provided in the Greater Rockbank area, and more general changes were made to the wider network. The assumptions used for the road, public transport, land use, freight and external trips were hence developed separately for the two regions (see Table 8). Further explanation is provided in subsequent sections.

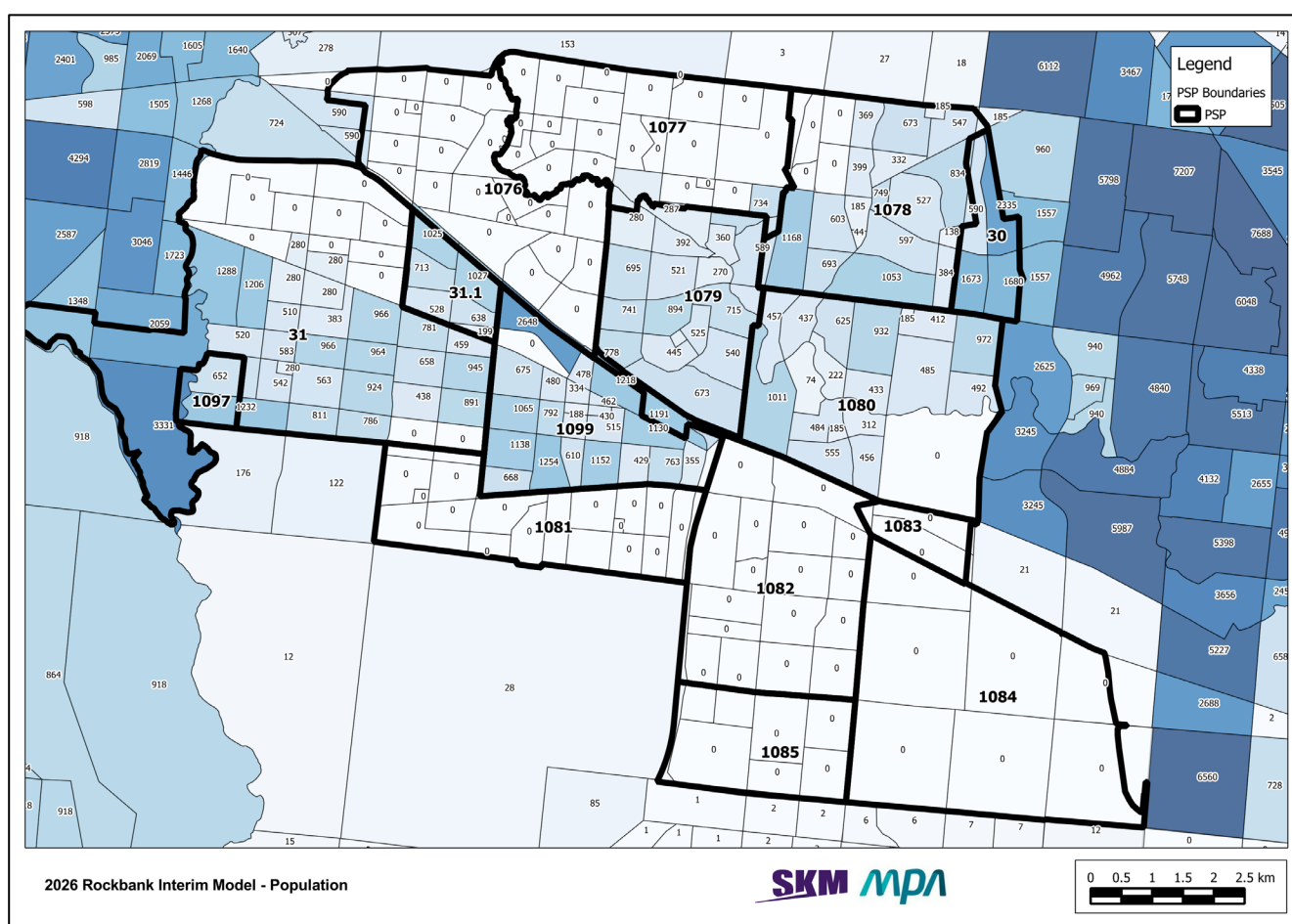
Table 8: 2026 Model Development Assumptions

| Input                    | Greater Rockbank Area  | General Network   |
|--------------------------|--|---|
| <b>Road Network</b>      | <ul style="list-style-type: none"> <li>All roads in Rockbank reduced to 1 lane in each direction</li> <li>All PSP's with some development at 2026 reduced to 1 lane</li> <li>PSP's with 0% Development reverted to existing conditions (2011)</li> </ul> | <ul style="list-style-type: none"> <li>Reverted to 2026 standard VITM network, maintaining extra detail in Western Growth Corridor</li> </ul>   |
| <b>Public Transport</b>  | <ul style="list-style-type: none"> <li>All bus routes removed, with SM130 smartbus the only bus service retained</li> </ul>  | <ul style="list-style-type: none"> <li>All 2046 bus routes that have an equivalent in 2021 VITM were retained, with headways taken from 2021</li> <li>All 2046 lines not in 2021 removed</li> <li>2021 bus services not in at 2046 added back in</li> </ul> |
|                          | 2021 VITM Train/Tram network and headways used   |   |
| <b>Land Use</b>          | <ul style="list-style-type: none"> <li>Applied percentage build outs to each PSP as specified by MPA</li> <li>These percentages applied to population, households, employment and enrollment figures</li> </ul>  | <ul style="list-style-type: none"> <li>Interpolated between 2021 and 2031 standard VITM to create an equivalent 2026 land use file and then disaggregated to correct zoning system</li> </ul>   |
| <b>Freight Matrix</b>    | Disaggregated 2026 VITM Freight Matrices to match our zoning system  |   |
| <b>External Matrices</b> | Interpolated 2021 and 2031 VITM External Matrices to create 2026 external matrices and then disaggregated to match zoning system   |   |

The assumed build-out of each of the PSPs at 2026 (as a proportion of ultimate development at 2046) is given in Figure 14.

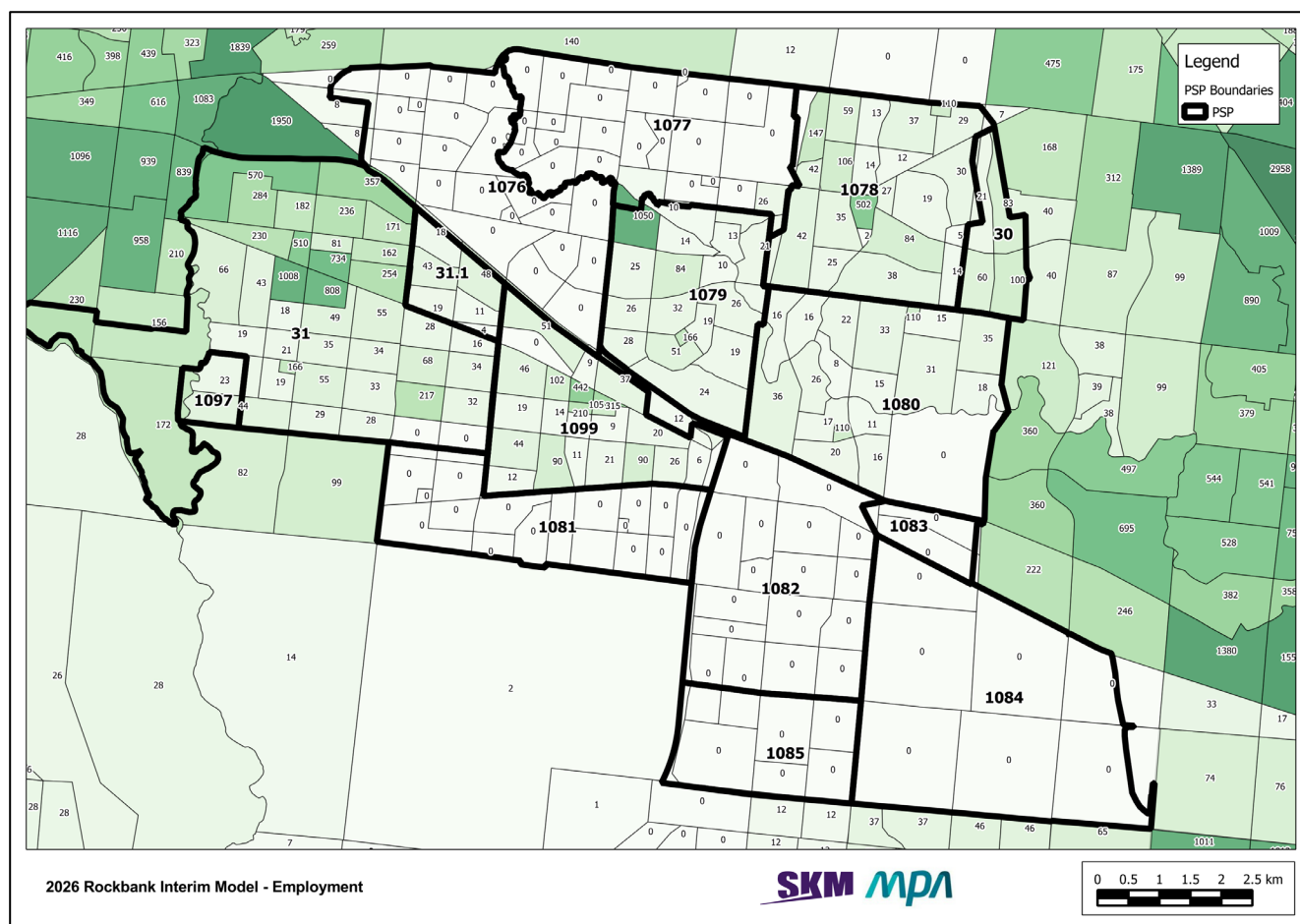
Figure 14: 2026 PSP Build Out Percentages







**Figure 16: 2026 Employment Distribution in the Greater Rockbank Area (jobs)**



### 2.5.3 Transport Network

The general road network used for the interim 2026 model was derived from the 2026 VITM reference network, with additional detail maintained in the Western Growth Corridor.

Inside the Greater Rockbank area, all roads from the 2046 WGC model were retained but reduced to a single lane in each direction. This was to reflect the lower level of development in this interim year and the reduced need for road network capacity.

The proposed road network for 2026 is given in Figure 17. Figure 18 shows the same network with the percentage of PSP build-out in 2026, indicating the higher level of network detail in the more developed areas.

Figure 17: 2026 Road Network

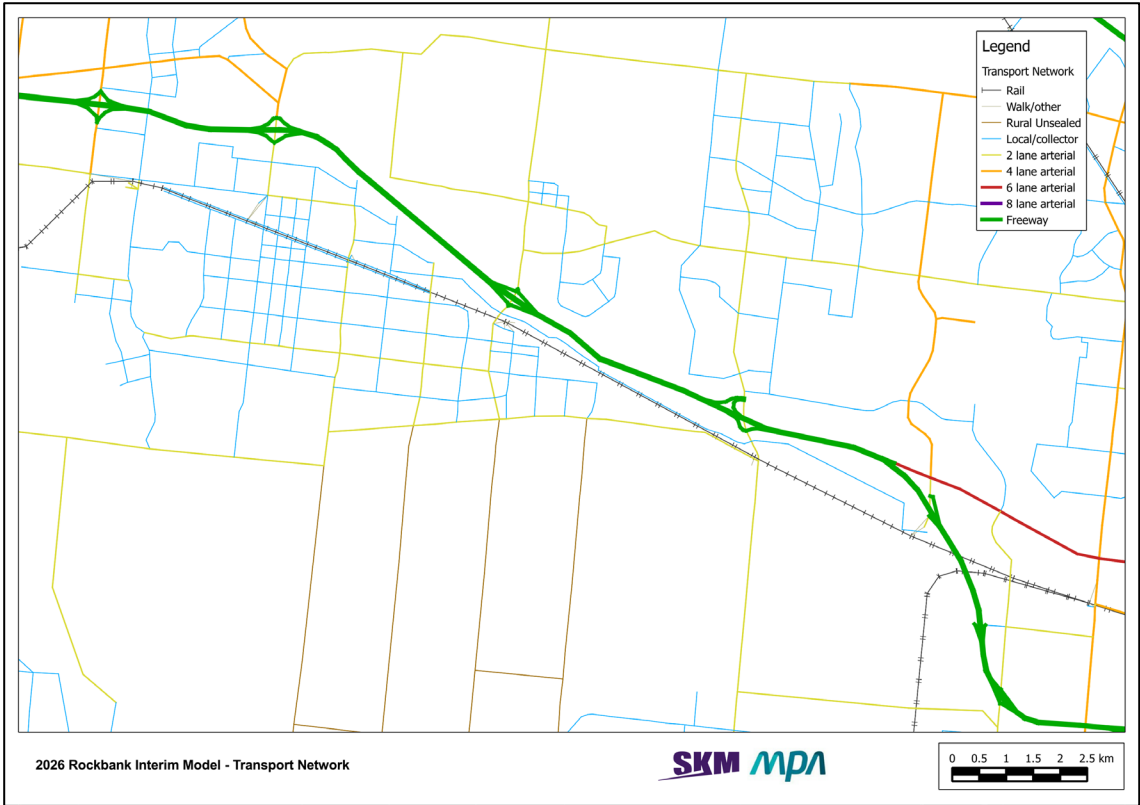


Figure 18: 2026 Road Network with PSP Build-outs

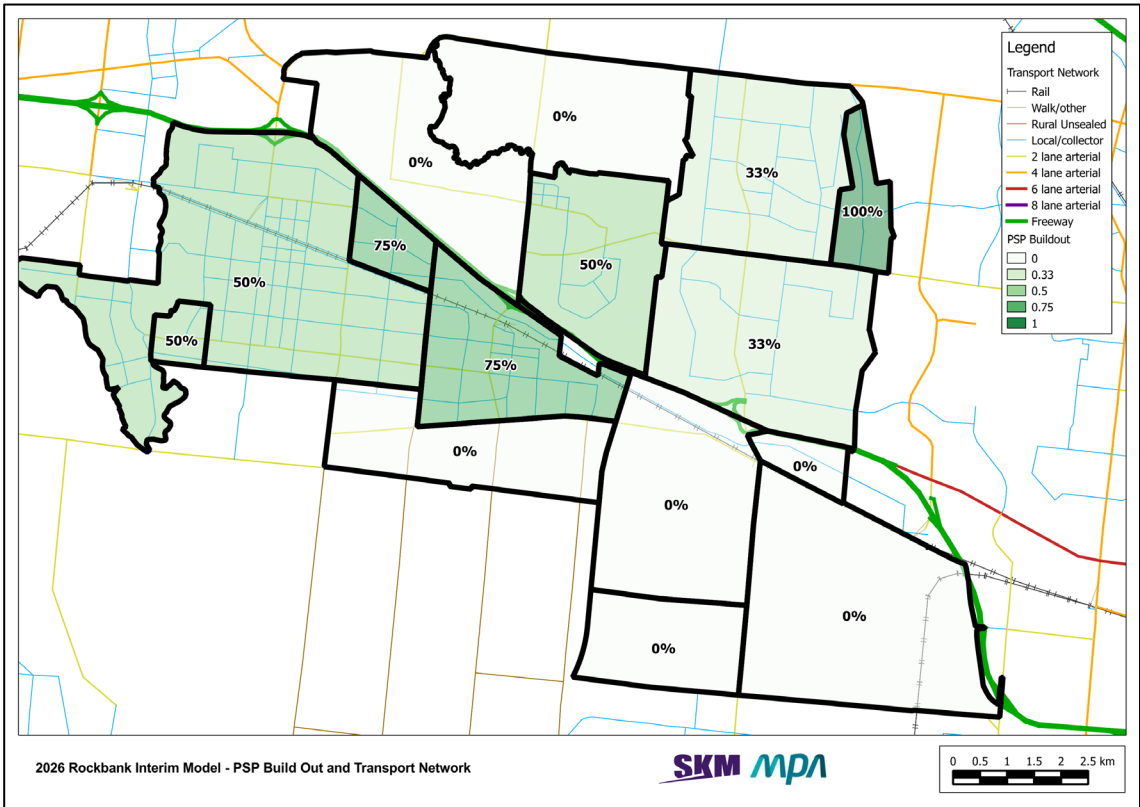
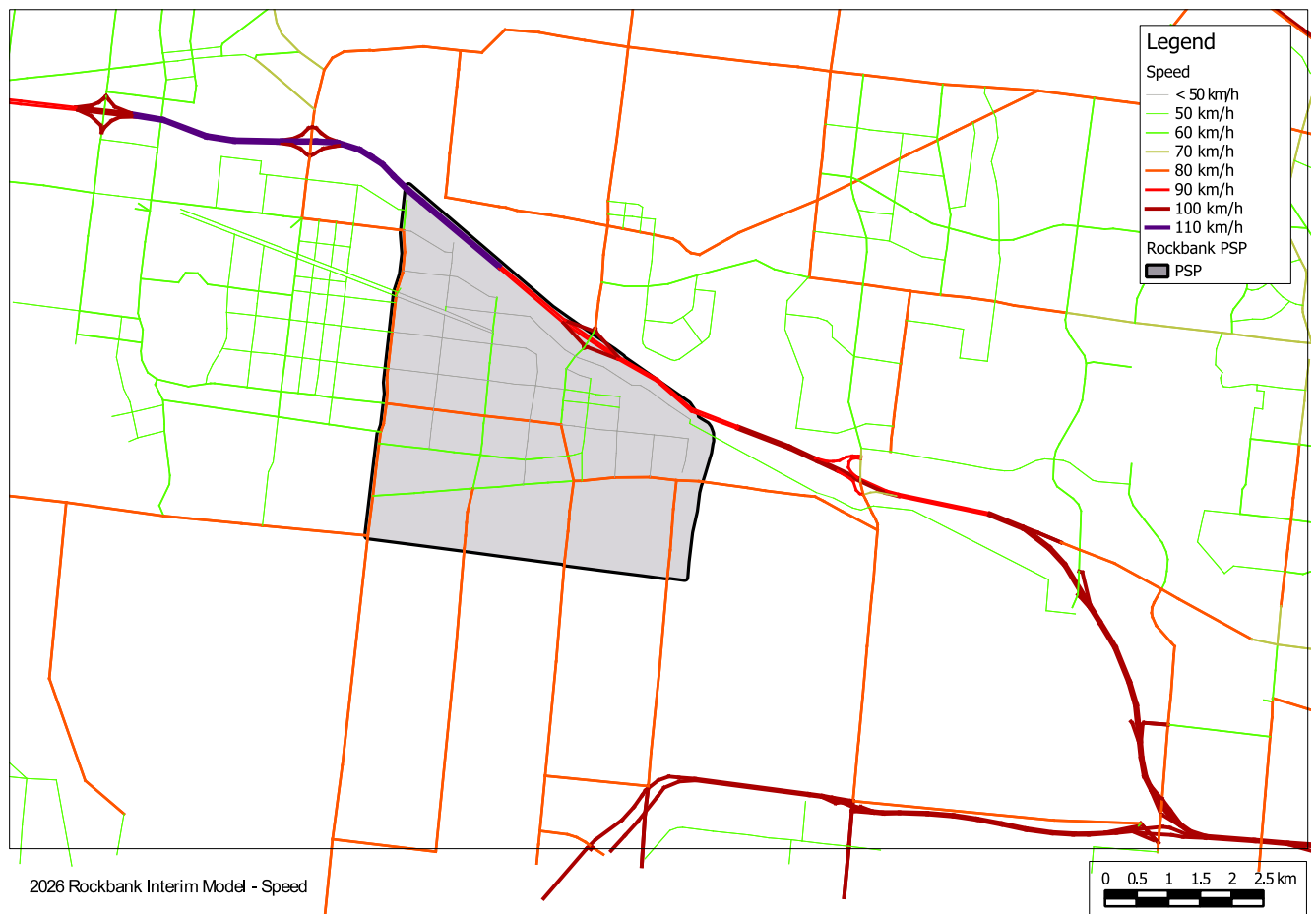




Figure 19: Assumed 2026 road network speeds



#### 2.5.4 Public Transport

Bus and train services in the 2026 model were based on the VITM 2021 public transport network and 2046 Western Growth Corridor model, with specific assumptions made about bus services within the Greater Rockbank area. Stations were assumed at Deer Park, Caroline Springs, Rockbank, Toolern Road and Melton. No station has been included at Mt Atkinson.

All bus services within the Greater Rockbank area were removed at 2026, except for the SM130 SmartBus. This assumption accounted for the view that it was unlikely for new services to be in place with relatively low levels of development at 2026.

The public transport network used in the 2026 model is shown in Figure 20. A summary of assumed public transport service frequencies is given in Table 9.

Figure 20: Public Transport Routes in the Interim Rockbank model (2026)

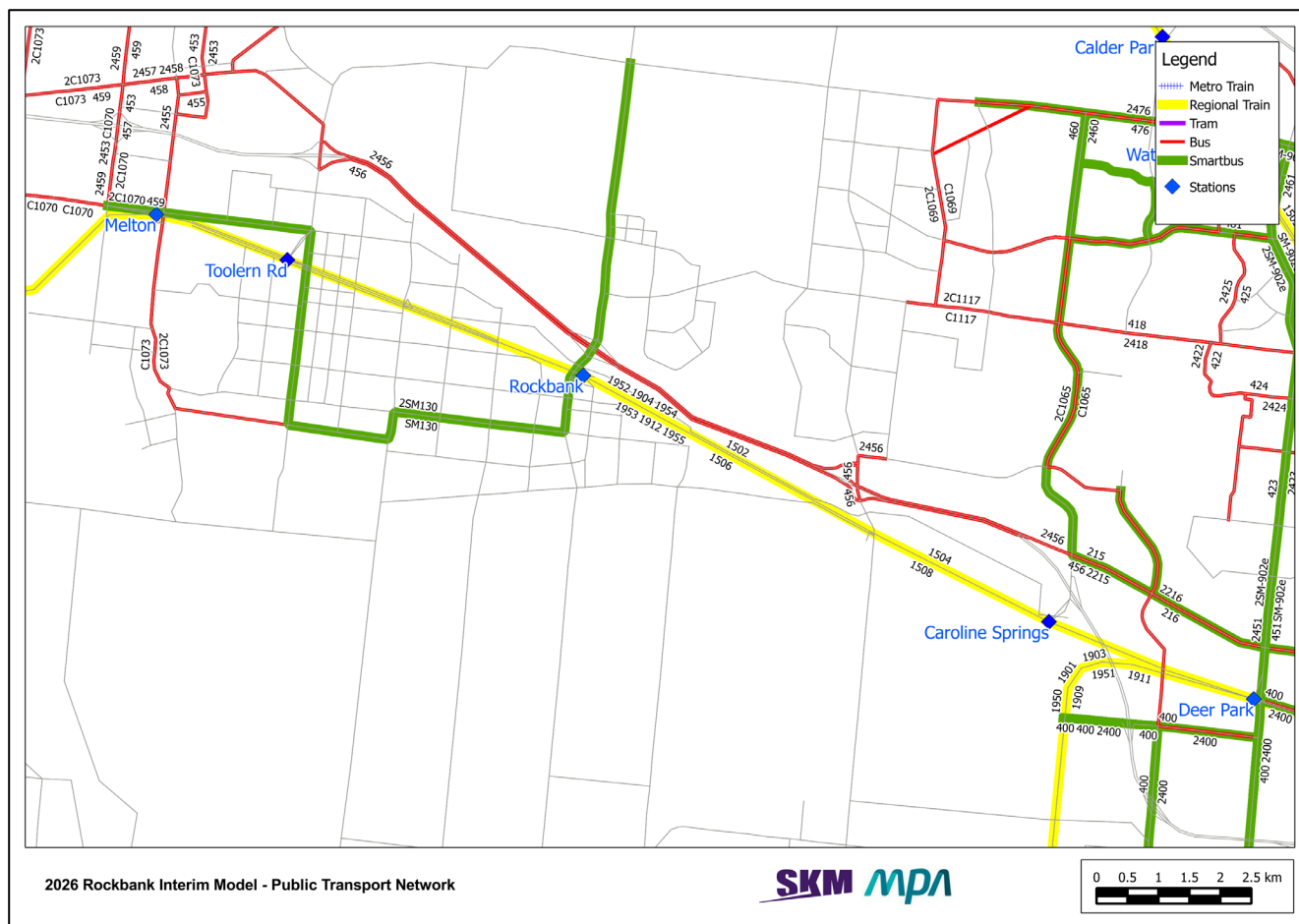


Table 9 : Public Transport Headways - minutes (2026)

| MODE          | NAME   | LONGNAME   | HEADWAY |            |         |          |
|---------------|--------|--|---------|------------|---------|----------|
|               |        |  | AM Peak | Inter-Peak | PM Peak | Off Peak |
| Metro Trains  | 1502   | MELTON - PAKENHAM EAST (METRO TUNNEL)                  | 8       | 15         | 8       | 15       |
|               | 1504   | ROCKBANK - PAKENHAM EAST (METRO TUNNEL)                | 15      | 0          | 15      | 0        |
|               | 1506   | PAKENHAM EAST - MELTON (METRO TUNNEL)                  | 8       | 15         | 8       | 15       |
|               | 1508   | PAKENHAM EAST - ROCKBANK (METRO TUNNEL)                | 15      | 0          | 15      | 0        |
| V/Line Trains | 1901   | MARSHALL - SOUTHERN CROSS (VIA RRL )                   | 20      | 60         | 30      | 60       |
|               | 1903   | GEELONG - SOUTHERN CROSS (VIA RRL )                    | 20      | 60         | 30      | 60       |
|               | 1904   | BALLARAT - SOUTHERN CROSS (VIA RRL )                   | 20      | 30         | 30      | 30       |
|               | 1909   | SOUTHERN CROSS - MARSHALL (VIA RRL )                   | 30      | 60         | 20      | 60       |
|               | 1911   | SOUTHERN CROSS - GEELONG (VIA RRL )                    | 30      | 60         | 20      | 60       |
|               | 1912   | SOUTHERN CROSS - BALLARAT (VIA RRL )                   | 30      | 30         | 20      | 30       |
|               | 1950   | WARRAMBOOL - SOUTHERN CROSS (VIA RRL )                 | 120     | 180        | 120     | 180      |
|               | 1951   | SOUTHERN CROSS - WARRAMBOOL (VIA RRL )                 | 120     | 180        | 120     | 180      |
|               | 1952   | ARARAT - SOUTHERN CROSS (VIA RRL )                     | 120     | 180        | 120     | 180      |
|               | 1953   | SOUTHERN CROSS - ARARAT (VIA RRL )                     | 120     | 180        | 120     | 180      |
|               | 1954   | MARYBOROUGH - SOUTHERN CROSS (VIA RRL )                | 120     | 180        | 120     | 180      |
|               | 1955   | SOUTHERN CROSS - MARYBOROUGH (VIA RRL )                | 120     | 180        | 120     | 180      |
| Bus           | 456    | SUNSHINE - MELTON                                      | 25.7    | 25.7       | 25.7    | 25.7     |
|               | 2456   | MELTON - SUNSHINE                                      | 25.7    | 25.7       | 25.7    | 25.7     |
|               | C1069  | SYDENHAM RS - CAROLINE SPRINGS (VIA TAYLORS HILL WEST) | 40      | 40         | 40      | 40       |
|               | 2C1069 | CAROLINE SPRINGS - SYDENHAM RS (VIA TAYLORS HILL WEST) | 40      | 40         | 40      | 40       |
|               | C1073  | TOOLERN RS - WEST MELTON (VIA MELTON RS)               | 40      | 40         | 40      | 40       |
|               | 2C1073 | WEST MELTON - TOOLERN RS (VIA MELTON RS)               | 40      | 40         | 40      | 40       |
|               | C1117  | SYDENHAM RS - PLUMPTON (VIA TAYLORS HILL) (COMPLETE)   | 40      | 40         | 40      | 40       |
|               | 2C1117 | PLUMPTON - SYDENHAM RS (VIA TAYLORS HILL) (COMPLETE)   | 40      | 40         | 40      | 40       |
| SmartBus      | 400    | LAVERTON - SUNSHINE                                    | 20      | 20         | 20      | 20       |
|               | 2400   | SUNSHINE - LAVERTON                                    | 20      | 20         | 20      | 20       |
|               | 476    | MOONEE PONDS - HILLSIDE                                | 15      | 15         | 15      | 15       |
|               | 2476   | HILLSIDE - MOONEE PONDS                                | 15      | 15         | 15      | 15       |
|               | SM130  | PLUMPTON - MELTON RS (VIA TOOLERN RS)                  | 10      | 10         | 10      | 10       |
|               | 2SM130 | MELTON RS - PLUMPTON (VIA TOOLERN RS)                  | 10      | 10         | 10      | 10       |

## 3. Scenario Testing

### 3.1 Definition of Scenarios

In addition to the reference case models for 2026 and 2046, three scenarios were modelled to test different network and land use assumptions.

Descriptions of each scenario, including the differences from the reference cases, are given in Table 10.

**Table 10: Scenario differences from reference year models**

| Scenario   | Year | Highway Network  | Public Transport | Land Use   |
|------------|------|--|------------------|--|
| Scenario 1 | 2026 | Additional left-in/left-out connections on Western Freeway at Mount Cottrell Road, Paynes Road and Troups Road North | No change        | No change  |
| Scenario 2 | 2026 | Maintain existing alignment of Leakes Road with existing level crossing  | No change        | No change  |
| Scenario 3 | 2046 | No change  | No change        | Housing development in Mt Atkinson PSP (in the reference case, no residential population was assumed, only employment) |

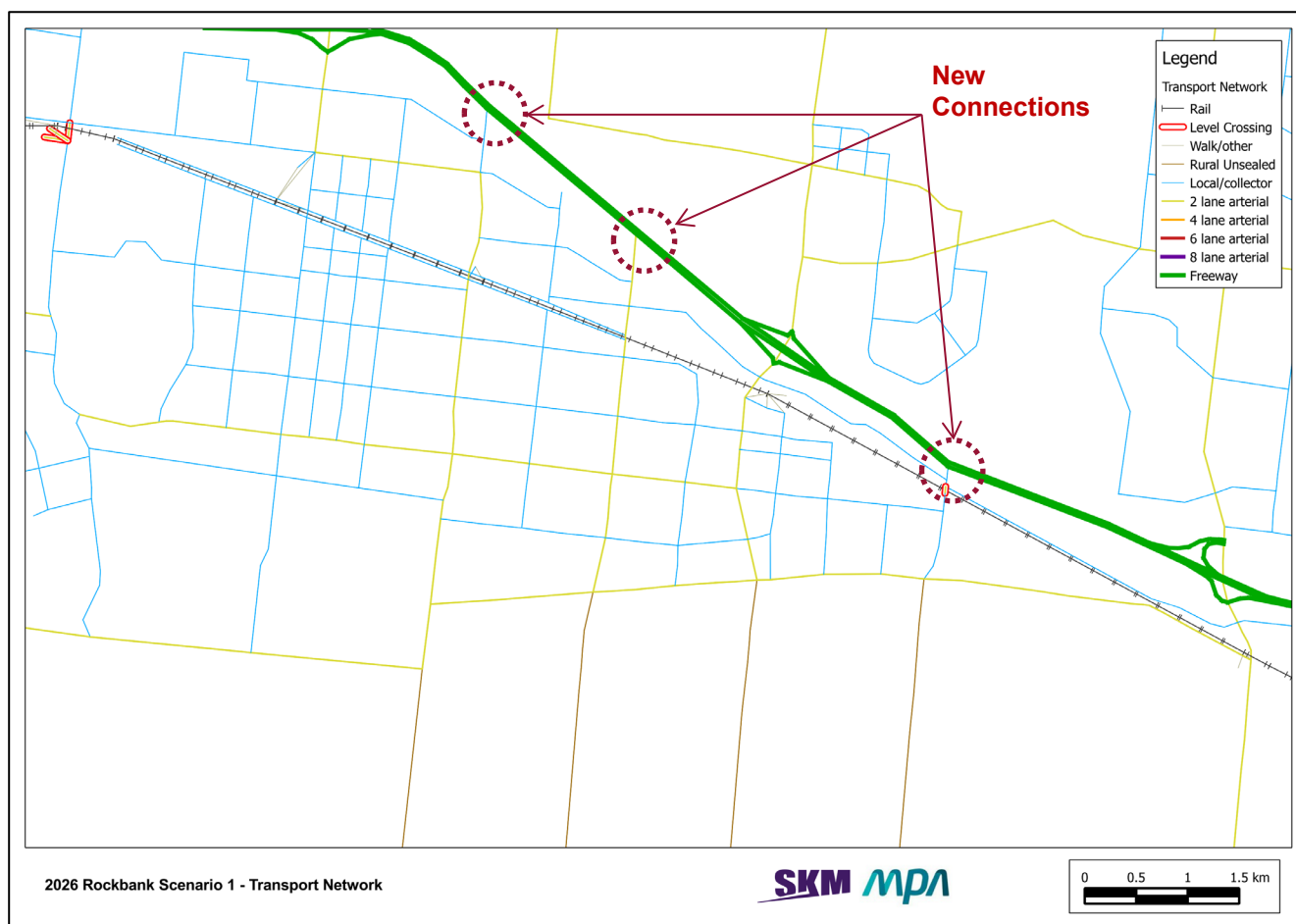
#### 3.1.1 Scenario 1: Additional Western Freeway Connections (2026)

The first scenario tested road connections from Rockbank to the Western Freeway at Mount Cottrell Road, Paynes Road and Troups Road North (see Figure 21). These connections (which presently exist) were removed in the reference case networks for 2026 and 2046.

The three reinstated connections were assumed to provide only left-in / left-out turns (i.e. with no breaks in the freeway median). The extension of Troups Road North from Rockbank crosses the Melton railway line and was assumed to be a level crossing at this point.

The purpose of these tests was to assess the impacts of improved accessibility from the Rockbank area and determine whether the connections would relieve congestion at the Leakes Road interchange which is the primary interchange providing freeway access to Rockbank.

Figure 21: 2026 Scenario 1 Road Network

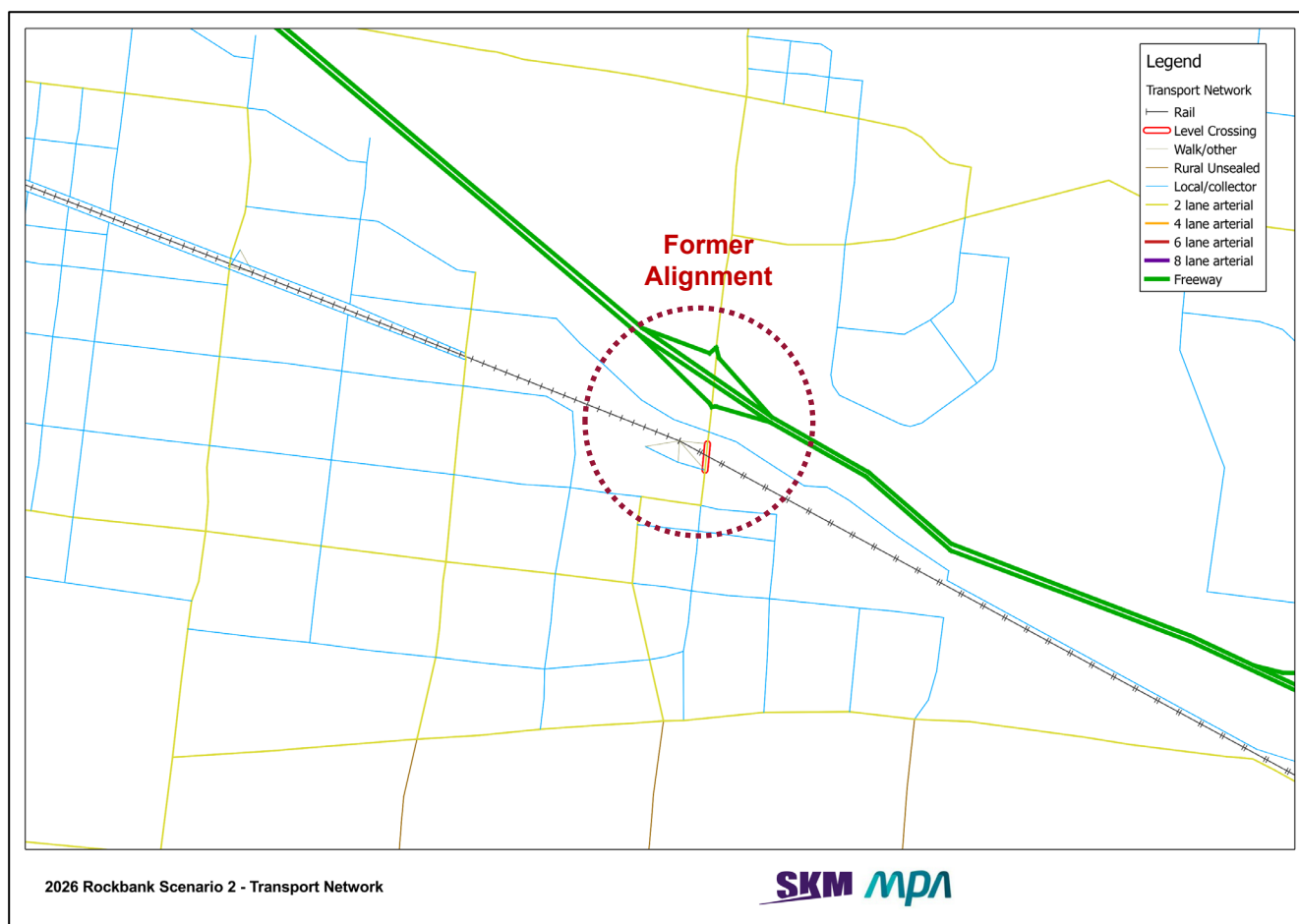


### 3.1.2 Scenario 2: Retention of Existing Leakes Road Alignment (2026)

The second scenario tested the situation where the Leakes Road overpass remains on its existing alignment, with a level crossing at the Melton railway line. The network for this scenario is shown in Figure 22.

The purpose of testing this scenario was to determine the impact on traffic flows if the eventual new alignment of Leakes Road and removal of the level crossing do not occur by 2026.

Figure 22: 2026 Scenario 2 Road Network



### 3.1.3 Scenario 3: Mt Atkinson Development (2046)

The third scenario tested the impact of additional residential development in the Mt Atkinson PSP. In the 2046 reference scenario, Mt Atkinson had been generally assumed to have no resident population, only commercial development.

The revised employment, households and population figures for Mt Atkinson are given in Table 11. The transport network for Scenario 3 was assumed to be the same as in the ultimate 2046 scenario (i.e. no station assumed at Mt Atkinson).

Table 11: 2046 Scenario 3 Land Use Revisions for Mt Atkinson PSP

| Zone | Employment |         | Dwellings | Population |
|------|------------|---------|-----------|------------|
|      | Original   | Revised | Revised   | Revised    |
| 3182 | 956        | 1243    | 0         | 0          |
| 2583 | 1879       | 2443    | 420       | 1176       |
| 2577 | 2360       | 3470    | 1512      | 4233       |
| 3208 | 2156       | 2400    | 1008      | 2822       |
| 3207 | 0          | 0       | 0         | 0          |
| 2582 | 1122       | 1459    | 900       | 2520       |
| 3211 | 1424       | 1851    | 850       | 2380       |
| 3209 | 723        | 940     | 300       | 840        |
| 3210 | 970        | 1261    | 0         | 0          |
| 3119 | 403        | 524     | 0         | 0          |
| 3118 | 0          | 0       | 0         | 0          |
| 3123 | 600        | 780     | 800       | 2240       |
| 3122 | 502        | 653     | 0         | 0          |
| 3120 | 709        | 921     | 0         | 0          |
| 3121 | 813        | 1057    | 0         | 0          |
| 254  | 678        | 881     | 0         | 0          |
| 3124 | 494        | 642     | 0         | 0          |

## 3.2 2046 Modelling Results

The outputs from the modelling of the 2046 reference case model and the 2046 Scenario 3 model are provided in this section. These results give an indication of the network requirements at 2046, to sustain the forecast development within the precincts.

The following sections summarise traffic volumes, volume capacity ratios, select link analyses and public transport patronage. A full set of outputs for the 2046 model runs can be found in Appendix A.

### 3.2.1 Traffic Volumes

#### Reference Case

Forecast daily traffic volumes in the Rockbank area for 2046 are shown in Figure 23. Leakes Road attracts the largest amount of traffic in Rockbank, catering for approximately 40,000 vehicles per day in its northern section. The east-west arterial also attracts moderate amounts of traffic with approximately 30,000 vehicles per day. The eastern section of Greigs Road caters for approximately 18,000 vehicles per day.

As noted in section 2.4.1, several of the roads to the south of Rockbank (e.g. Downing Street and Mt Cottrell Road) were assumed to be arterial-standard roads for the purposes of the 2046 modelling. After the modelling was completed, stakeholders suggested that these roads will probably not be constructed to arterial standard, and instead will remain as local roads. If these southern road connections were to be downgraded in this way, then actual traffic volumes on these roads are likely to be quite low, with traffic patterns expected to be similar to those shown in Figure 36. In this case, the east-west arterials (notably Greigs Road and Harrison Road) are

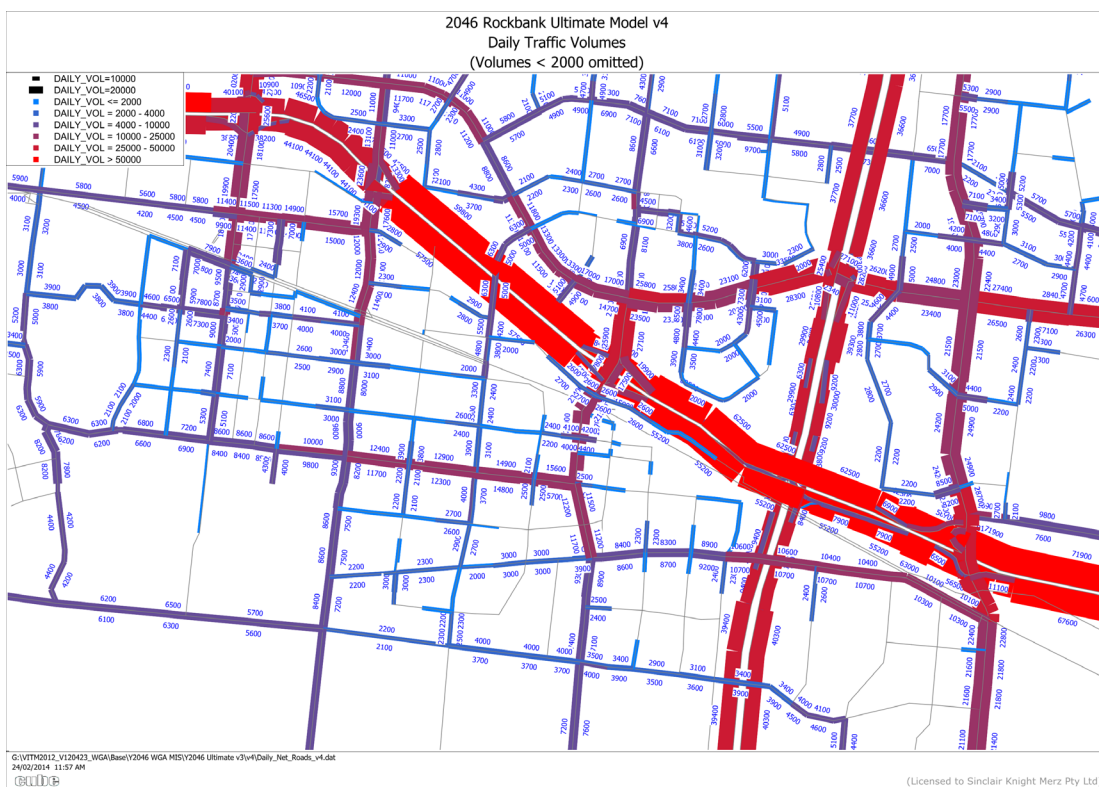


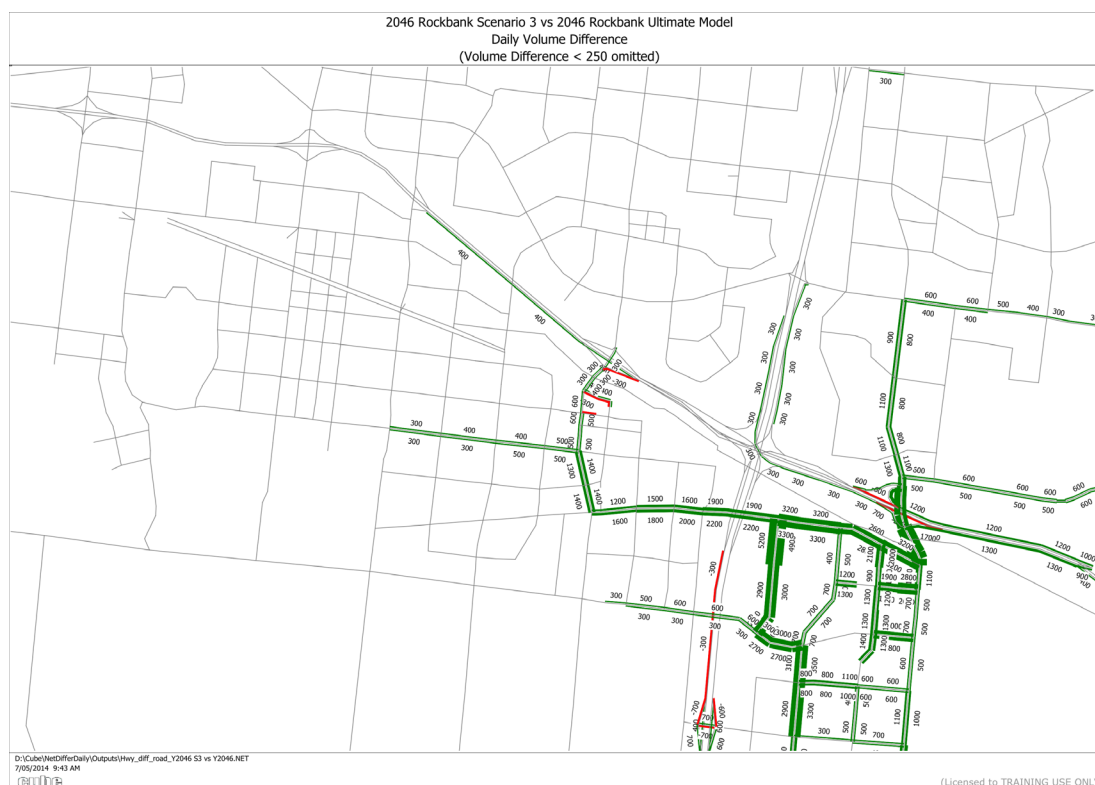
likely to attract greater volumes as traffic disperses to the east and west in order to find alternative routes. The volume-capacity plots in section 3.2.2 indicate that there will be sufficient capacity to accommodate the likely re-routing of traffic.

### Scenario 3

With the increase in the Mt Atkinson PSP population in Scenario 3, additional traffic was generated to and from Mt Atkinson. This change in traffic is shown in the volume difference plot in Figure 24. Approximately 4,000 vehicles per day from Mt Atkinson are attracted to and from the Rockbank PSP via Greigs Road. A significant proportion of this traffic accesses Rockbank Station. Only a small amount of Mt Atkinson traffic uses Rockbank

Figure 23: 2046 Reference Case Model – Daily Traffic Volumes



**Figure 24: 2046 Reference Case vs 2046 Scenario 3 – Daily Traffic Volume Differences**

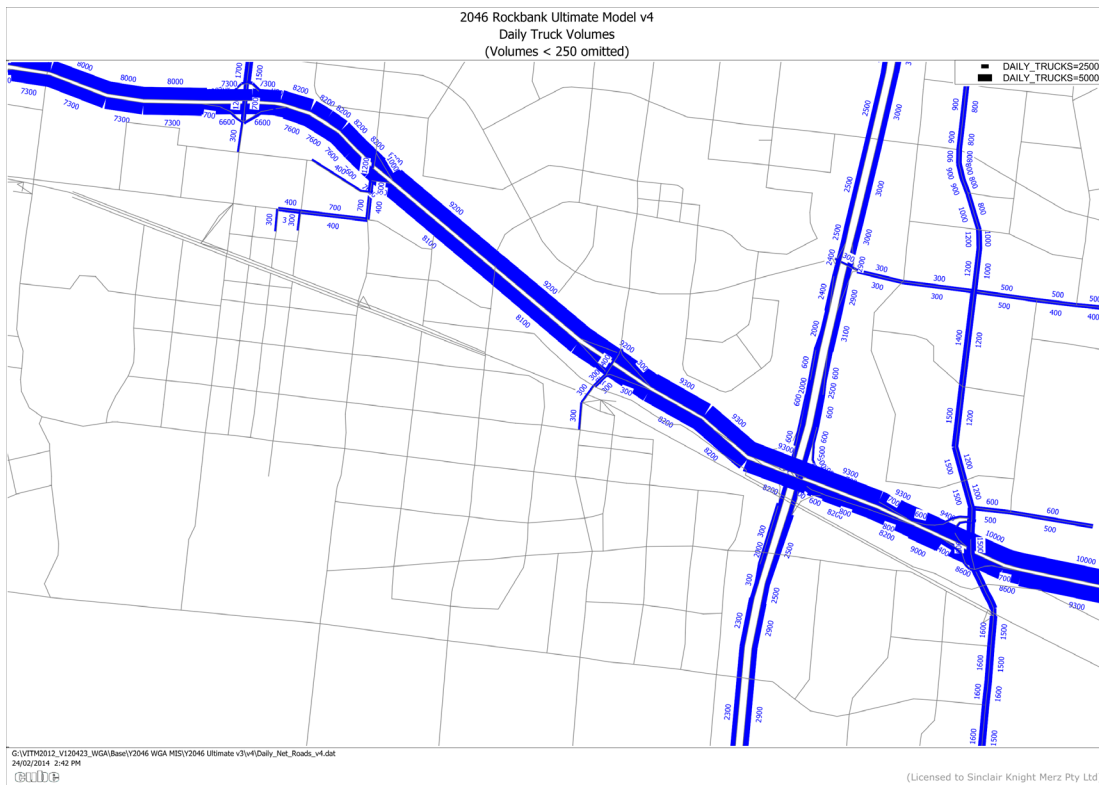
as a through route to access the Western Freeway and destinations to the west. Westbound traffic from Mt Atkinson is able to use the Hopkins Road interchange to access the Western Freeway more conveniently.

The hourly traffic volumes modelled during the AM and PM peak hours for the reference case and Scenario 3 models are given in Appendix A.

### Truck Volumes

Daily truck volumes for the 2046 reference case model show that very little truck traffic goes through Rockbank. This is also observed in Scenario 3, with negligible changes in truck volumes observed between the reference case model and Scenario 3.

Figure 25: 2046 Reference Case Model – Daily Truck Volumes



### 3.2.2 Volume to Capacity Ratios

#### Definitions

Volume to capacity ratios (V/C) indicate the approximate level of congestion on links in the road network, by comparing the forecast volume of vehicles using a link by the link's theoretical capacity. In the following diagrams, five V/C levels have been defined as given in Table 12.

Table 12: V/C Ratio Ranges and Conditions

| V/C Range | Condition             | Colour |
|-----------|-----------------------|--------|
| < 0.6     | Not congested         | Green  |
| 0.6 – 0.8 | Approaching congested | Yellow |
| 0.8 – 1.0 | Congested             | Orange |
| 1.0 – 1.2 | Very Congested        | Red    |
| > 1.2     | Highly Congested      | Black  |

#### AM Peak

The V/C ratios for the 2046 reference case model in the AM peak shows that the Rockbank area is relatively uncongested, with isolated sections of some road links becoming slightly congested (see Figure 26). The access road from Leakes Road to Rockbank Station appears to show relatively high levels of congestion, but this is due to the limitations in the way that railway station car park access is modelled in VITM. Traffic travelling northbound on the Leakes Road overpass, with V/C ratios between 0.8 and 1.0. This is also observed on a section of the East West Road to the south of the station and a short section of Paynes Road.

Similar conditions are also observed for the 2046 Scenario 3 model, with the only observable difference being slightly increased congestion around the station park-and-ride site and town centre. Scenario 3 conditions can be seen in Figure 27 and a comparison of Scenario 3 with the reference case is shown in Figure 28.

### **PM Peak**

The V/C ratios for the 2046 reference case model in the PM peak also indicate that the Rockbank area is relatively uncongested, with similar conditions to the AM peak. However, slightly more congestion is observed around the Leakes Road overpass and adjacent to the town centre than in the AM peak. The east-west roads adjacent to the rail line also exhibit congested conditions near Leakes Road. Additional isolated points of congestion are also present throughout Rockbank.

Similar conditions are also observed for the 2046 Scenario 3 model, with the main observable difference being slightly more congestion on Leakes Road adjacent to the station, as can be seen in Figure 30 and Figure 31.

Figure 26: 2046 Reference Case Model – V/C Ratio Plot (AM Peak)

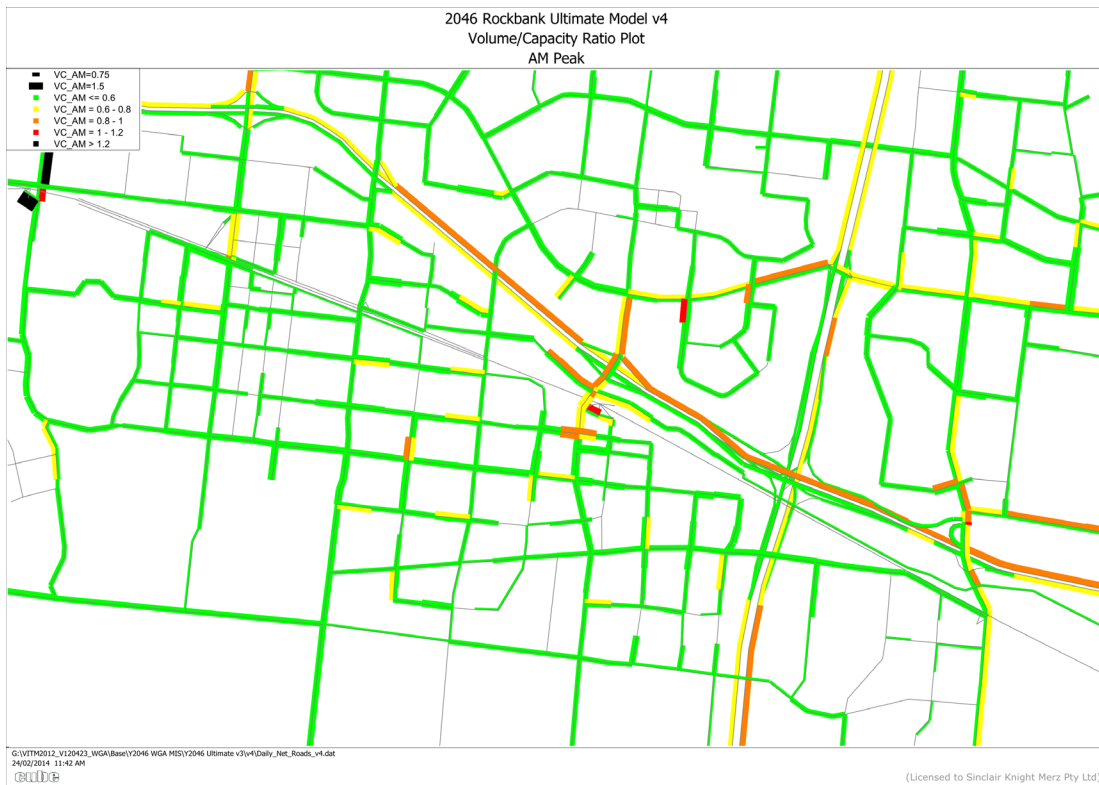


Figure 27: 2046 Scenario 3 Model – V/C Ratio Plot (AM Peak)

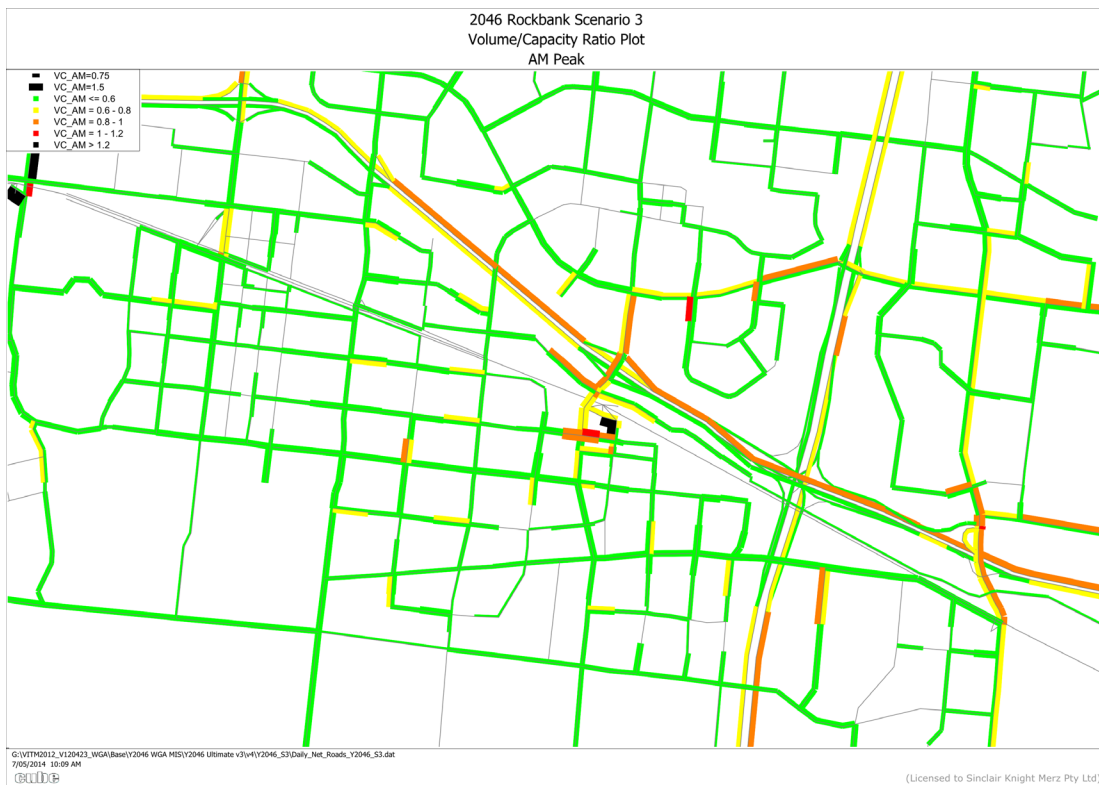


Figure 28: 2046 Reference Case vs 2046 Scenario 3 – VC Change Plot

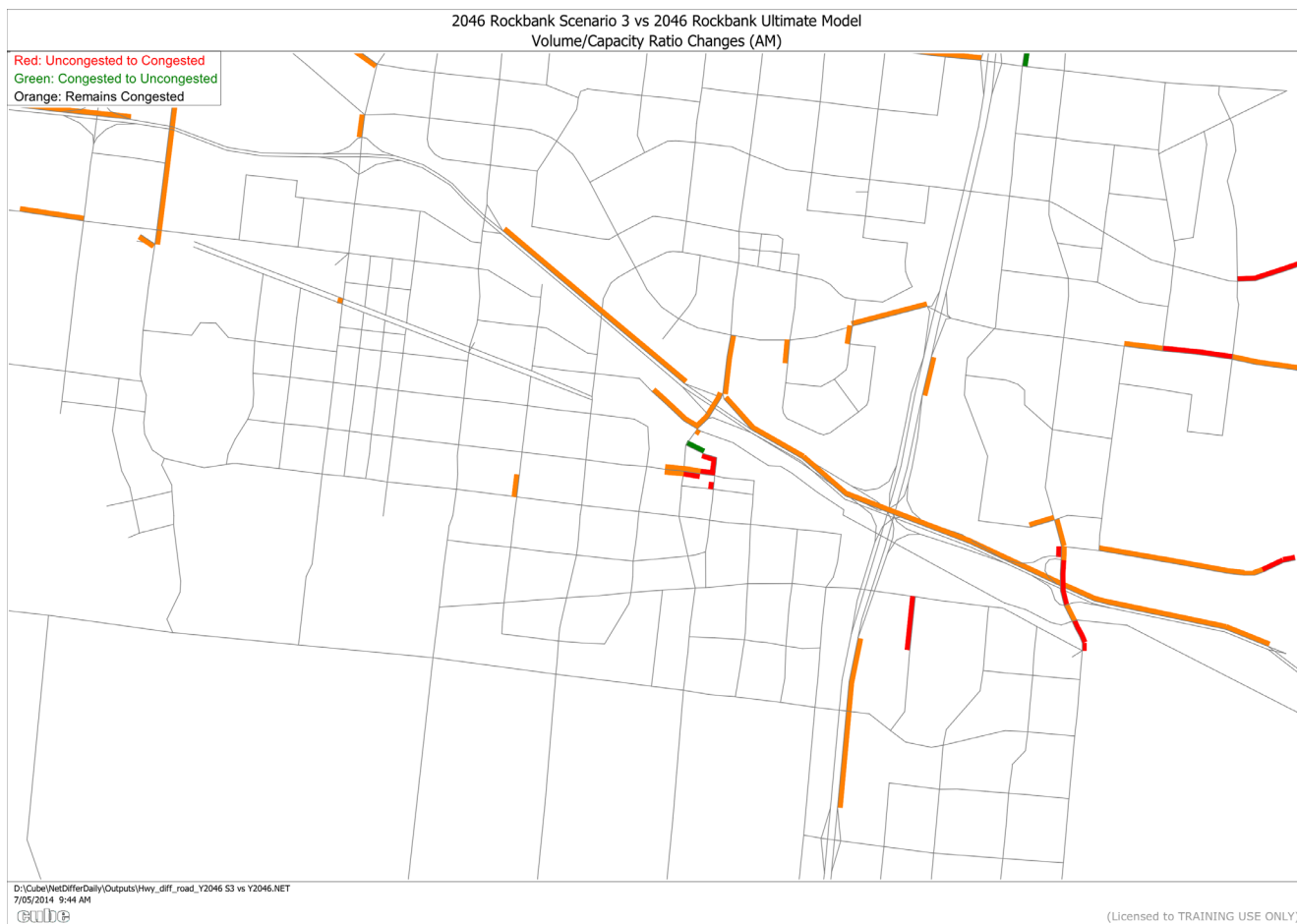




Figure 29: 2046 Reference Case Model – V/C Ratio Plot (PM Peak)

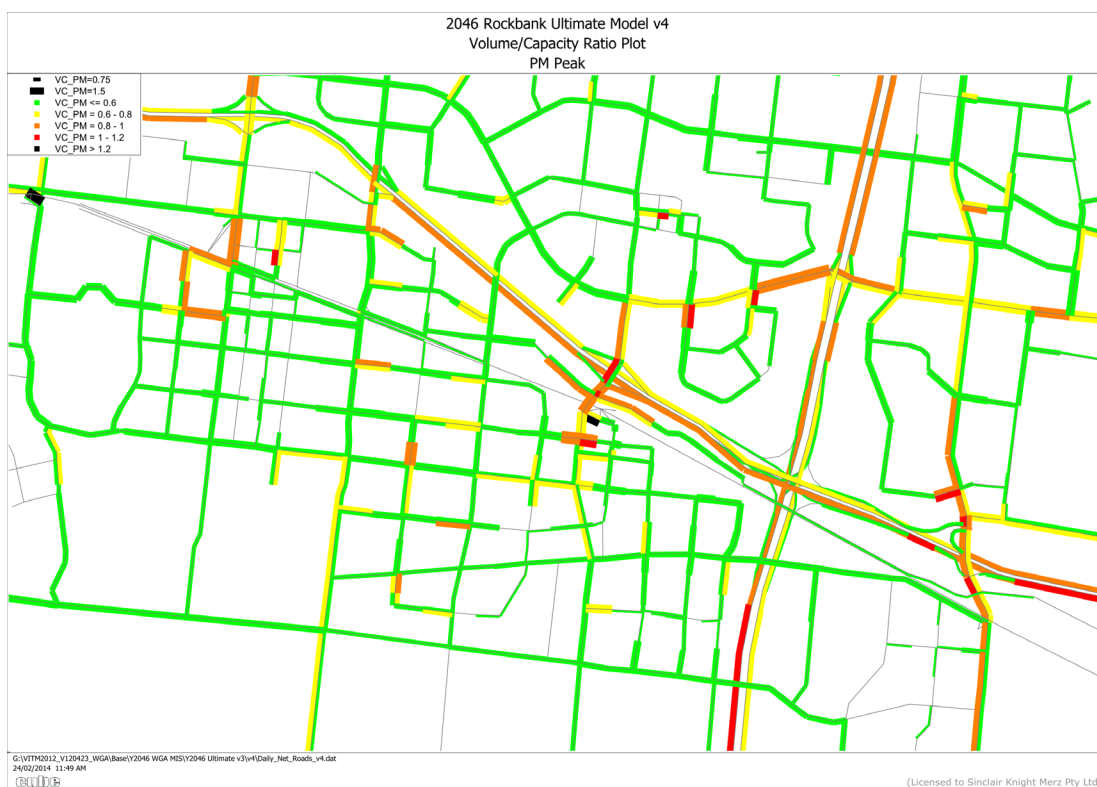


Figure 30: 2046 Scenario 3 Model – V/C Ratio Plot (PM Peak)

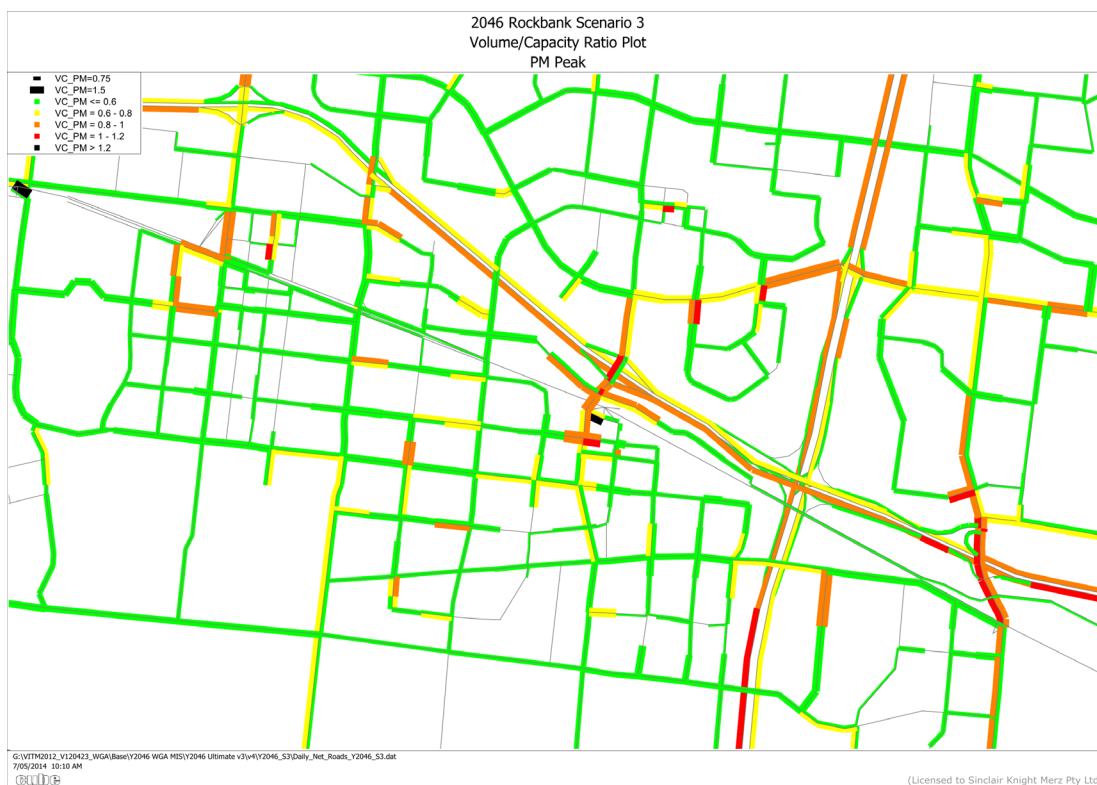
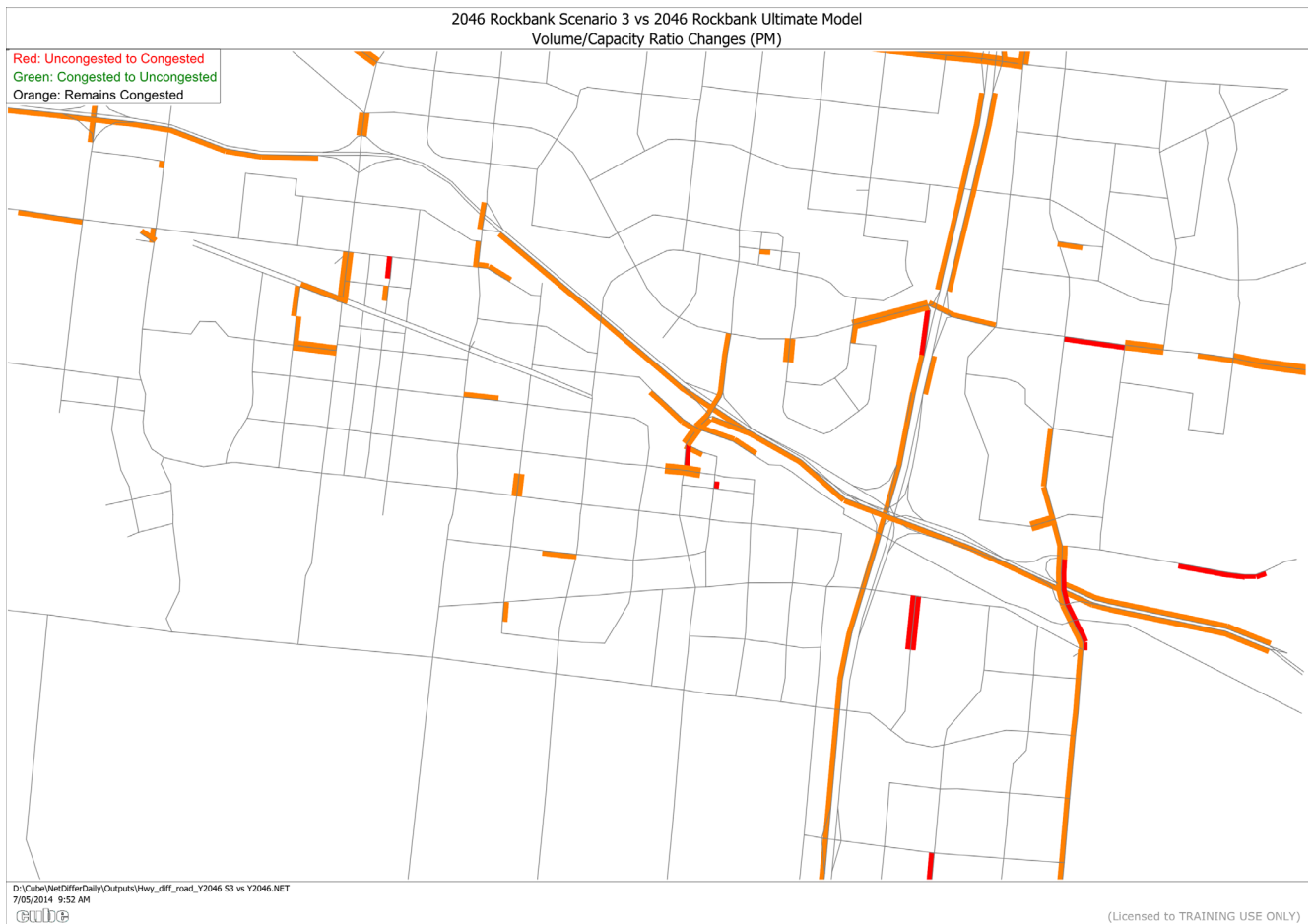




Figure 31: 2046 Reference Case vs 2046 Scenario 3 – VC Change Plot



### 3.2.3 Select-Link Analysis

Select-link analyses show the routes of trips that pass through nominated links in the road network. A select-link analysis effectively shows the traffic catchment area for a given link.

For this study, four links were used in the select-link analyses. These links are located on the Leakes Road Overpass, East-West Arterial 2, Leakes Road South and Greigs Road and are denoted in the following figures in red.

#### Leakes Road Overpass

The select link analysis on the Leakes Road Overpass shows in the 2046 reference case model that all traffic using the overpass travelling southbound into Rockbank is bound for destinations in Rockbank (see Figure 32). This shows that Rockbank does not attract north-south through traffic. Furthermore, traffic travelling to and from Rockbank primarily uses the overpass to access the Western Freeway, the Outer Metropolitan Ring Road (OMR) and Taylors Road. The model suggests that the most popular route to the OMR from Rockbank is via the arterial road network rather than the longer route via the Western Freeway.

#### Leakes Road South

The Leakes Road South select-link analysis demonstrates that this section of Leakes Road primarily provides a connection between the East-West Arterial 2 and Greigs Road, reinforcing this link's role as a primary arterial in the road hierarchy.

## Greigs Road

The Greigs Road select-link analysis shows that access to the western area of Rockbank is preferred from the Hopkins Road interchange on the Western Freeway.

## Scenario 3

The select link plots for the 2046 Scenario 3 model all exhibit similar results to the 2046 reference case model and are provided in Appendix A.

**Figure 32: 2046 Reference Case Model – Select Link Plot – Leakes Road Overpass**

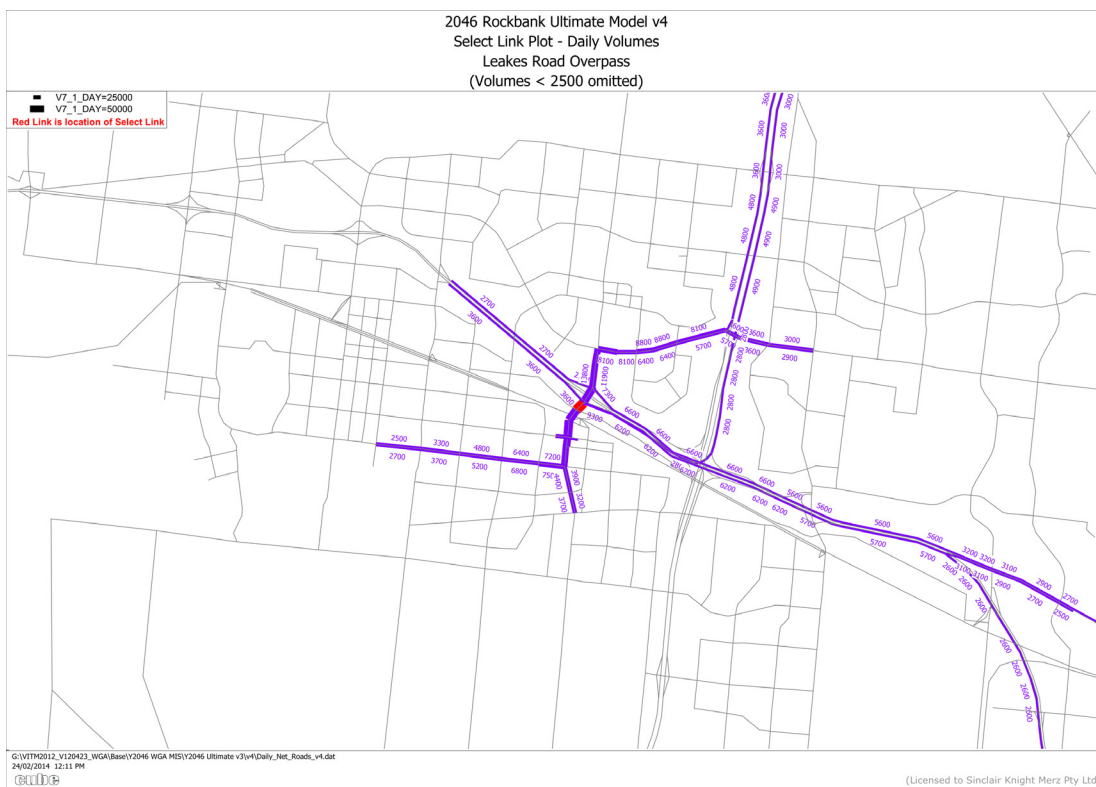


Figure 33: 2046 Reference Case Model – Select Link Plot – Leakes Road South

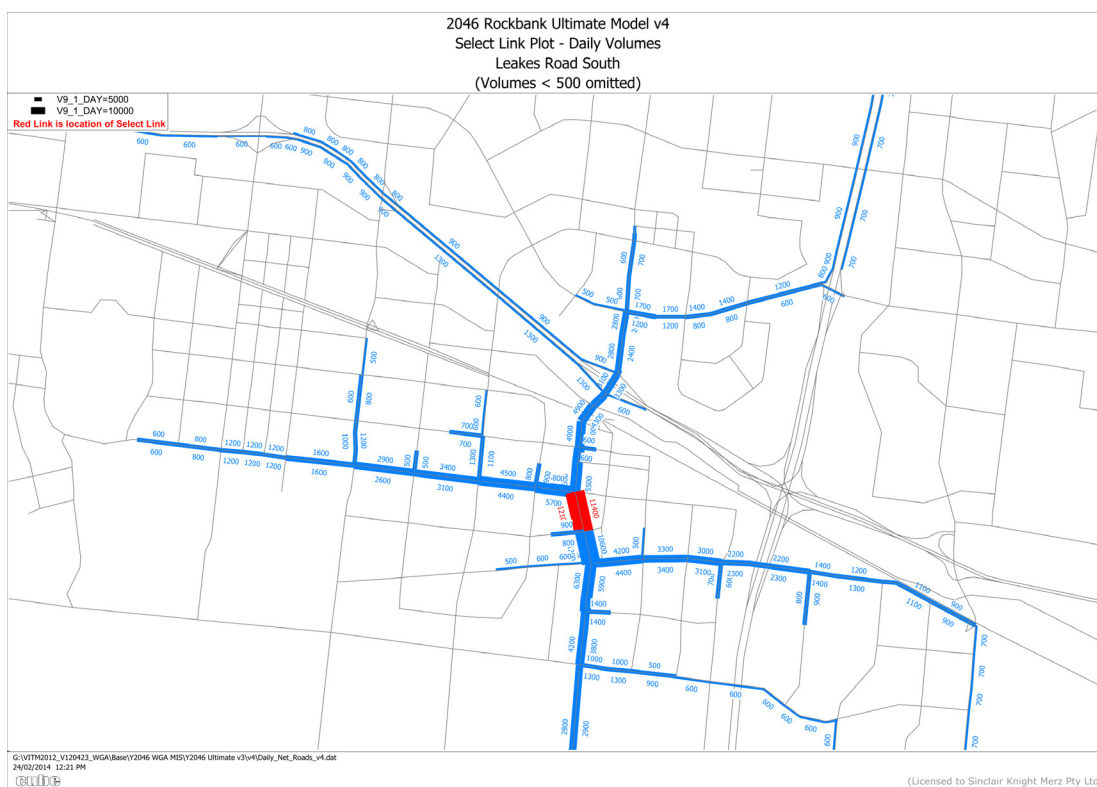
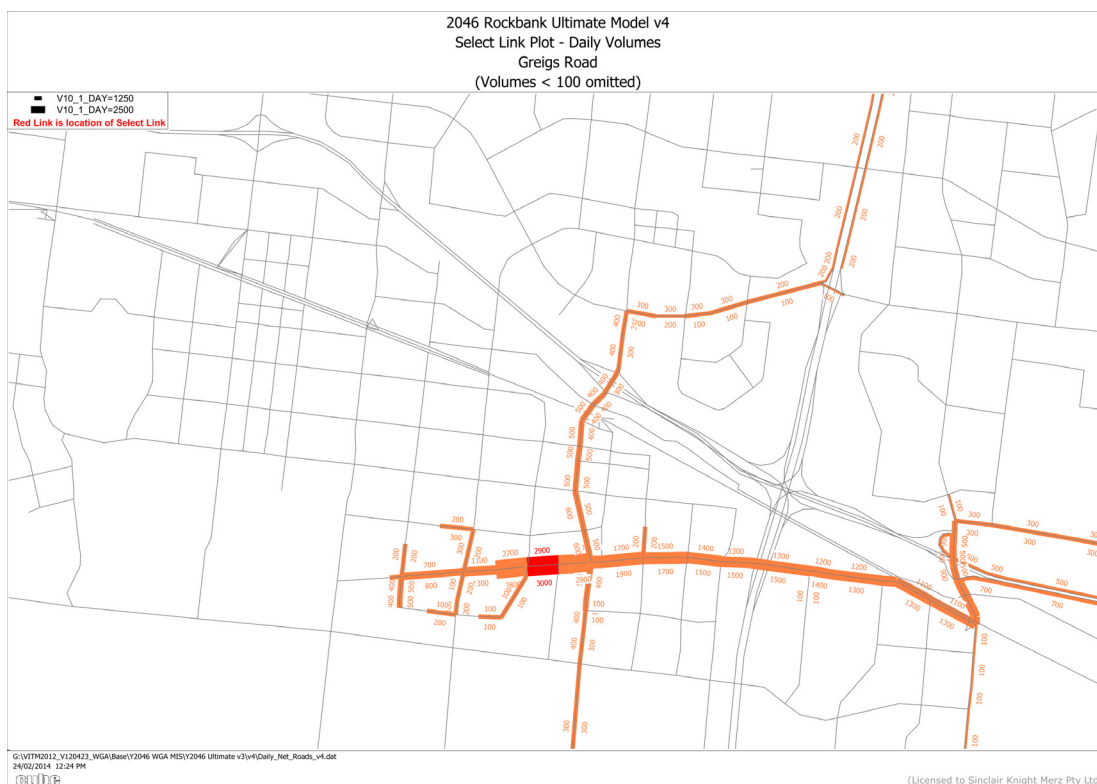


Figure 34: 2046 Reference Case Model – Select Link Plot – Greigs Road



### 3.2.4 Public Transport

Nine bus services travel through the Rockbank PSP in the 2046 reference case model, with identical services provided in the 2046 Scenario 3 model. These services include seven regular bus services and two SmartBus services. Metropolitan train services on the Melton line stop at Rockbank.

Passenger boardings on these bus and train services for the 2046 reference case model are given in Table 13 and shown graphically in Figure 14.

The Rockbank to Werribee SmartBus service is the most popular of the bus services and attracts over 7,100 boardings per day (two-way). Rockbank station caters for 5,700 boardings per day with nearly 45% of these (2,500) in the AM Peak.

**Table 13: 2046 Reference Case model – Public Transport Boardings by Time Period and direction**

| Bus Boardings (per direction) by route                 |           |              |              |              |              |              |
|--|-----------|--------------|--------------|--------------|--------------|--------------|
| Description  | Bus Route | AM           | IP           | PM           | OP           | DAILY        |
| ROCKBANK - WERRIBEE                                    | SM7       | 411          | 1,326        | 1,267        | 477          | 3,480        |
| PLUMPTON - MELTON RS (VIA TOOLERN RS)                  | SM130     | 198          | 220          | 222          | 100          | 740          |
| ROCKBANK - TOOLERN LOOP (VIA MT COTTRELL AND PLUMPTON) | LD124     | 155          | 140          | 49           | 37           | 381          |
| ROCKBANK RS - ROCKBANK WEST (VIA PLUMPTON)             | C1118     | 18           | 24           | 34           | 16           | 92           |
| CAROLINE SPRINGS - TOOLERN RS (VIA ROCKBANK RS)        | C1104     | 60           | 54           | 39           | 14           | 167          |
| TOOLERN - MELTON LOOP (COMPLETE)                       | LD132     | 279          | 346          | 397          | 205          | 1,227        |
| TOOLERN RS - TOOLERN EAST RS (VIA SOUTHERN TOOLERN)    | C1121     | 8            | 26           | 162          | 50           | 247          |
| TOOLERN - MELTON LOOP (COMPLETE)                       | LD132     | 279          | 346          | 397          | 205          | 1,227        |
| TOOLERN RS - TOOLERN EAST RS (VIA NORTHERN TOOLERN)    | C1120     | 1            | 4            | 25           | 7            | 37           |
| <b>TOTAL</b>   |           | <b>1,408</b> | <b>2,484</b> | <b>2,593</b> | <b>1,111</b> | <b>7,597</b> |

| Description  | Bus Route | AM           | IP           | PM           | OP           | DAILY        |
|--|-----------|--------------|--------------|--------------|--------------|--------------|
| WERRIBEE - ROCKBANK                                    | 2SM7      | 592          | 1,964        | 628          | 436          | 3,620        |
| MELTON RS - PLUMPTON (VIA TOOLERN RS)                  | 2SM130    | 183          | 213          | 314          | 124          | 834          |
| TOOLERN - ROCKBANK LOOP (VIA MT COTTRELL AND PLUMPTON) | 2LD124    | 18           | 47           | 211          | 77           | 352          |
| ROCKBANK WEST - ROCKBANK RS (VIA PLUMPTON)             | 2C1118    | 11           | 11           | 3            | 3            | 27           |
| TOOLERN RS - CAROLINE SPRINGS (VIA ROCKBANK RS)        | 2C1104    | 23           | 26           | 84           | 28           | 161          |
| MELTON - TOOLERN LOOP (COMPLETE)                       | 2LD132    | 269          | 318          | 359          | 191          | 1,137        |
| TOOLERN EAST RS - TOOLERN RS (VIA SOUTHERN TOOLERN)    | 2C1121    | 116          | 89           | 15           | 22           | 242          |
| MELTON - TOOLERN LOOP (COMPLETE)                       | 2LD132    | 269          | 318          | 359          | 191          | 1,137        |
| TOOLERN EAST RS - TOOLERN RS (VIA NORTHERN TOOLERN)    | 2C1120    | 17           | 15           | 2            | 4            | 38           |
| <b>TOTAL</b>   |           | <b>1,500</b> | <b>2,998</b> | <b>1,975</b> | <b>1,075</b> | <b>7,548</b> |

  
| Bus Boardings (2 way volumes) |  |  |  |  |  |  |
| Description | Bus Route | AM | IP | PM | OP | DAILY |
| ROCKBANK - WERRIBEE | SM7 | 1,003 | 3,289 | 1,896 | 912 | 7,100 |
| PLUMPTON - MELTON RS (VIA TOOLERN RS) | SM130 | 381 | 433 | 536 | 224 | 1,574 |
| ROCKBANK - TOOLERN LOOP (VIA MT COTTRELL AND PLUMPTON) | LD124 | 173 | 187 | 260 | 113 | 733 |
| ROCKBANK RS - ROCKBANK WEST (VIA PLUMPTON) | C1118 | 29 | 35 | 37 | 19 | 119 |
| CAROLINE SPRINGS - TOOLERN RS (VIA ROCKBANK RS) | C1104 | 83 | 80 | 123 | 42 | 328 |
| TOOLERN - MELTON LOOP (COMPLETE) | LD132 | 548 | 663 | 756 | 396 | 2,364 |
| TOOLERN RS - TOOLERN EAST RS (VIA SOUTHERN TOOLERN) | C1121 | 124 | 115 | 178 | 72 | 489 |
| TOOLERN - MELTON LOOP (COMPLETE) | LD132 | 548 | 663 | 756 | 396 | 2,364 |
| TOOLERN RS - TOOLERN EAST RS (VIA NORTHERN TOOLERN) | C1120 | 18 | 19 | 27 | 10 | 74 |
| **TOTAL** |  | **2,908** | **5,483** | **4,568** | **2,186** | **15,145** |
  
| Train Boardings |  |  |  |  |  |  |
| Train Line | Station | AM | IP | PM | OP | DAILY |
| Melton Line | Sunshine | 6,243 | 7,893 | 3,808 | 2,515 | 20,459 |
|  | Ardeer | 207 | 309 | 88 | 86 | 691 |
|  | Deer Park | 3,782 | 4,104 | 998 | 1,213 | 10,098 |
|  | Caroline Springs | 1,555 | 1,088 | 114 | 231 | 2,988 |
|  | Rockbank | 2,527 | 2,281 | 329 | 567 | 5,703 |
|  | Toolern Road | 2,042 | 1,823 | 326 | 481 | 4,671 |
|  | Melton | 15,076 | 7,283 | 824 | 1,922 | 25,105 |
| **TOTAL** |  | **31,431** | **24,782** | **6,487** | **7,016** | **69,716** |

Figure 35: 2046 Reference Case model – Public Transport Boardings



With the addition of development in the Mt Atkinson PSP in the 2046 Scenario 3 model, public transport patronage increases slightly. Cumulatively, there is a 5% increase in bus boardings, mostly carried by the Rockbank to Werribee SmartBus service. The remaining growth is on the Caroline Springs to Toolern Railway Station bus and the Rockbank Railway Station to Rockbank West bus which service Mt Atkinson.

There is also an increase of 6% in boardings at Rockbank station, from additional commuters from Mt Atkinson.

Public transport boardings in the 2046 Scenario 3 model run are given in Appendix A.

### 3.3 2026 Modelling Results

The outputs from the modelling of the 2026 model and the 2026 Scenario 1 and Scenario 2 models are provided in this section. These results give an indication of interim network requirements, prior to full build-out of the precinct at 2046.

As for the 2046 results, traffic volumes, volume capacity ratios, select-link analyses and public transport patronage are presented for 2026. The full set of outputs for the 2026 model runs can be found in Appendix B.

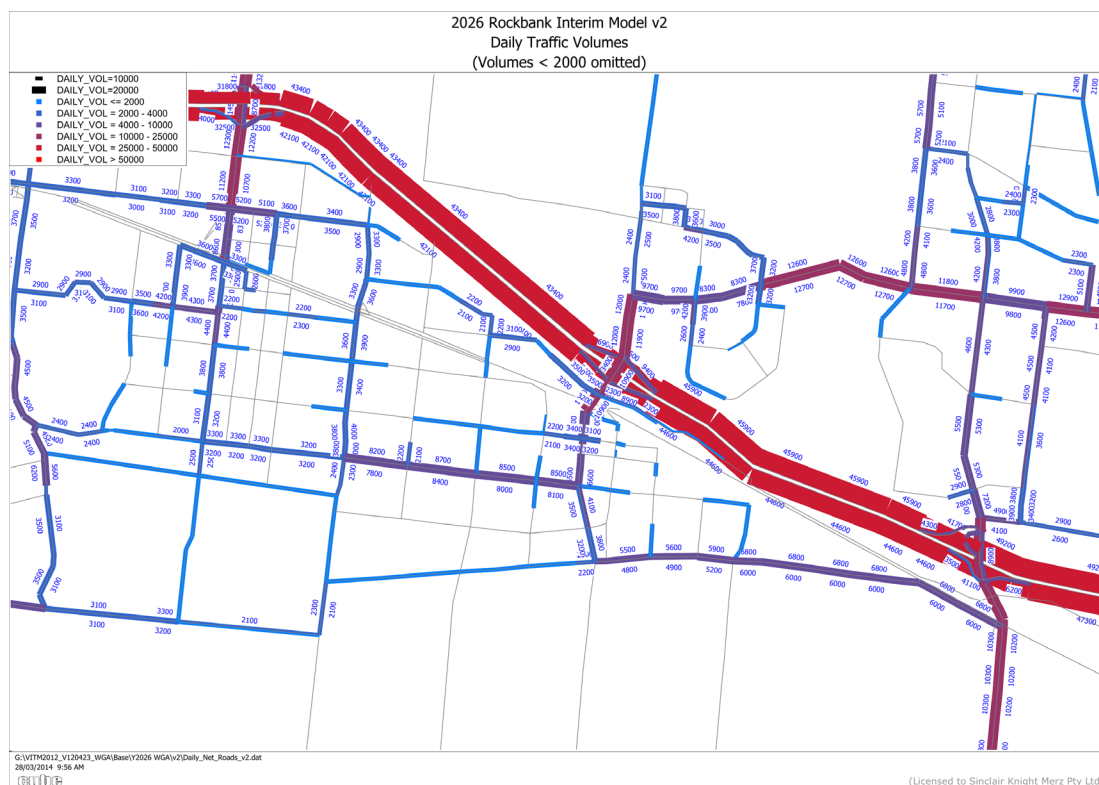
#### 3.3.1 Traffic Volumes

##### Reference Case

Forecast daily traffic volumes for 2026 are shown in Figure 36. Leakes Road carries approximately 20,000 vehicles per day at the Western Freeway overpass. The east-west arterial to the west of Leakes Road also attracts moderate amounts of traffic, catering for over 16,000 vehicles per day. The eastern section of Greigs Road carries about 12,000 vehicles per day.

The hourly traffic volumes modelled during the AM and PM peak hours for the three 2026 models are given in Appendix B

Figure 36: 2026 Reference Case Model – Daily Traffic Volumes

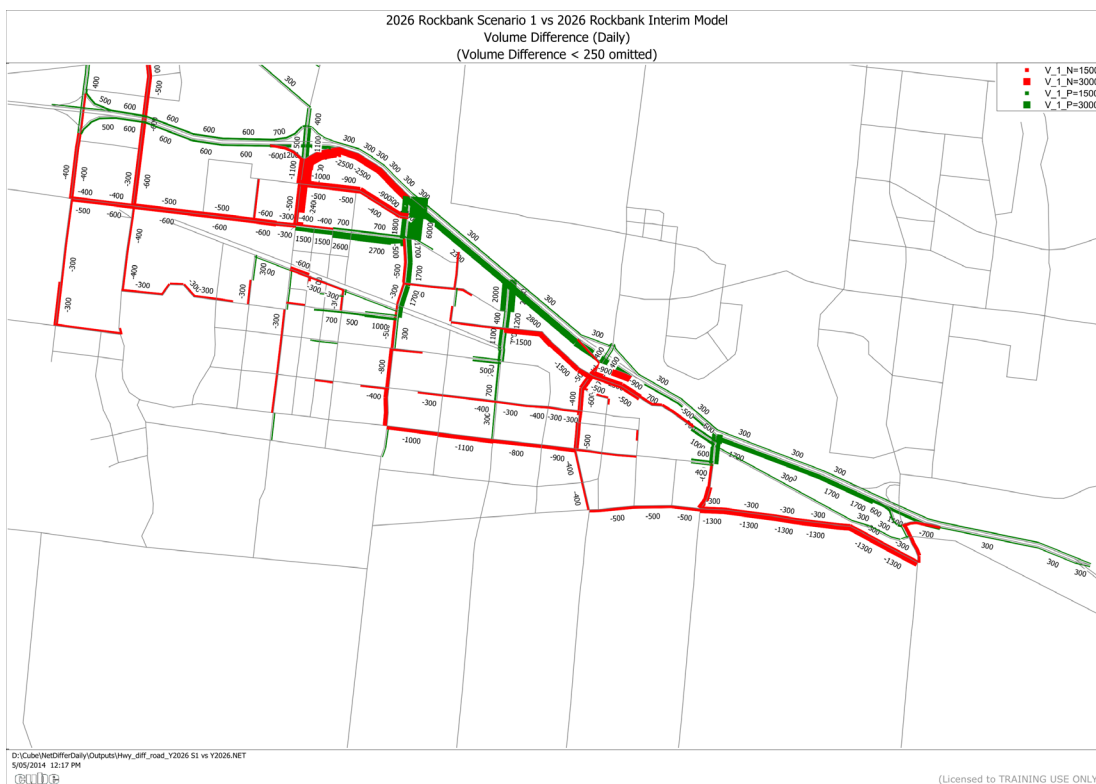




## Scenario 1

Scenario 1, with the addition of three left-in / left-out connections on to the Western Freeway, results in a change in distribution of traffic within Rockbank. Traffic is attracted to these new connections, reducing volumes slightly at the Leakes Road interchange, as well as at Ferris Road and Hopkins Road. Mount Cottrell Road attracts approximately 7,100 vehicles per day turning left from the Western Freeway to access Rockbank and 2,300 turning left out of Rockbank on to the Western Freeway. This movement is being used as a shortcut to destinations in Melton and reduces the traffic that otherwise would have used Ferris Road. Paynes Road also attracts approximately 4,600 vehicles per day, with Troups Road North attracting 3,200 vehicles per day.

**Figure 37: 2026 Reference Case vs 2026 Scenarios 1 – Daily Traffic Volume Differences**



## Scenario 2

With the retention of the existing Leakes Road alignment and level crossing, only localised changes in traffic volumes were observed (see Figure 38). A small reduction of 700 vehicles per day occurred at the freeway overpass, possibly due to the longer travel time associated with the level crossing in this scenario.



Figure 38: 2026 Reference Case vs 2026 Scenarios 2 – Daily Traffic Volume Differences



Daily truck volumes for the 2026 reference case model show that very little truck traffic goes through Rockbank. This is also observed in both Scenario 1 and Scenario 2.

Figure 39: 2026 Reference Case Model – Daily Truck Volumes



### 3.3.2 Volume to Capacity Ratios

#### AM Peak

The V/C ratios for the AM peak for the 2026 reference case model show that Rockbank is relatively uncongested, except for Leakes Road and Greigs Road.

High levels of congestion occur around the Leakes Road overpass, which has been modelled as a two-lane secondary arterial of 60 km/h in 2026. Vehicles travelling eastbound along the road immediately to the north of the railway line and west of Leakes Road also experiencing congested conditions.

Eastbound traffic on Greigs Road travelling through Mt Atkinson also experiences congested conditions to Hopkins Road.

The additional connections from the Western Freeway provided in Scenario 1 provide some relief to eastbound traffic on Greigs Road, with alternative access via Troups Road north. This can be seen in Figure 41 and Figure 42.

Scenario 2 does not exhibit any material changes in the V/C ratios in and around Rockbank, with congestion levels on the old and new Leakes Road alignment being virtually identical.

#### PM Peak

The V/C ratios for the 2026 reference case model in the PM peak indicate slightly more congestion than during the AM peak (see Figure 43).

As for the AM peak, high levels of congestion are observed in both directions on and around the Leakes Road freeway overpass. The east-west roads adjacent to the rail line also exhibit congested conditions near Leakes Road.

Traffic travelling westbound along Greigs Road experiences congested conditions between Hopkins Road and Leakes Road, with V/C ratios close to 1.0 along most of this section. A section of the east-west arterial is also congested to the west of Leakes Road.

The additional connections from the Western Freeway provide very little congestion relief (see Figure 44 and Figure 45), but slightly improve conditions on the routes running parallel to the railway line.

As for the AM Peak, Scenario 2 does not exhibit any material changes to the V/C ratios in and around Rockbank.

Figure 40: 2026 Reference Case Model – V/C Ratio Plot (AM Peak)

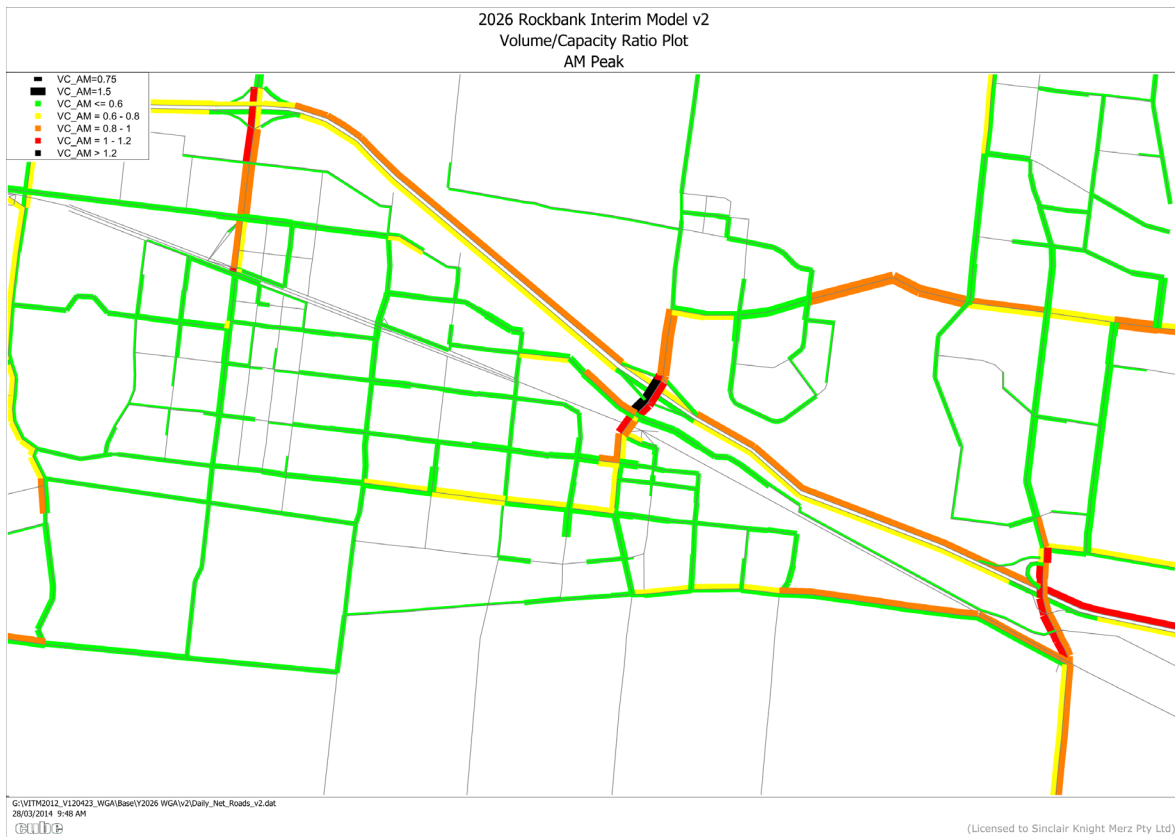


Figure 41: 2026 Scenario 1 Model – V/C Ratio Plot (AM Peak)



Figure 42: 2026 Reference Case vs 2026 Scenario 1 – VC Change Plot

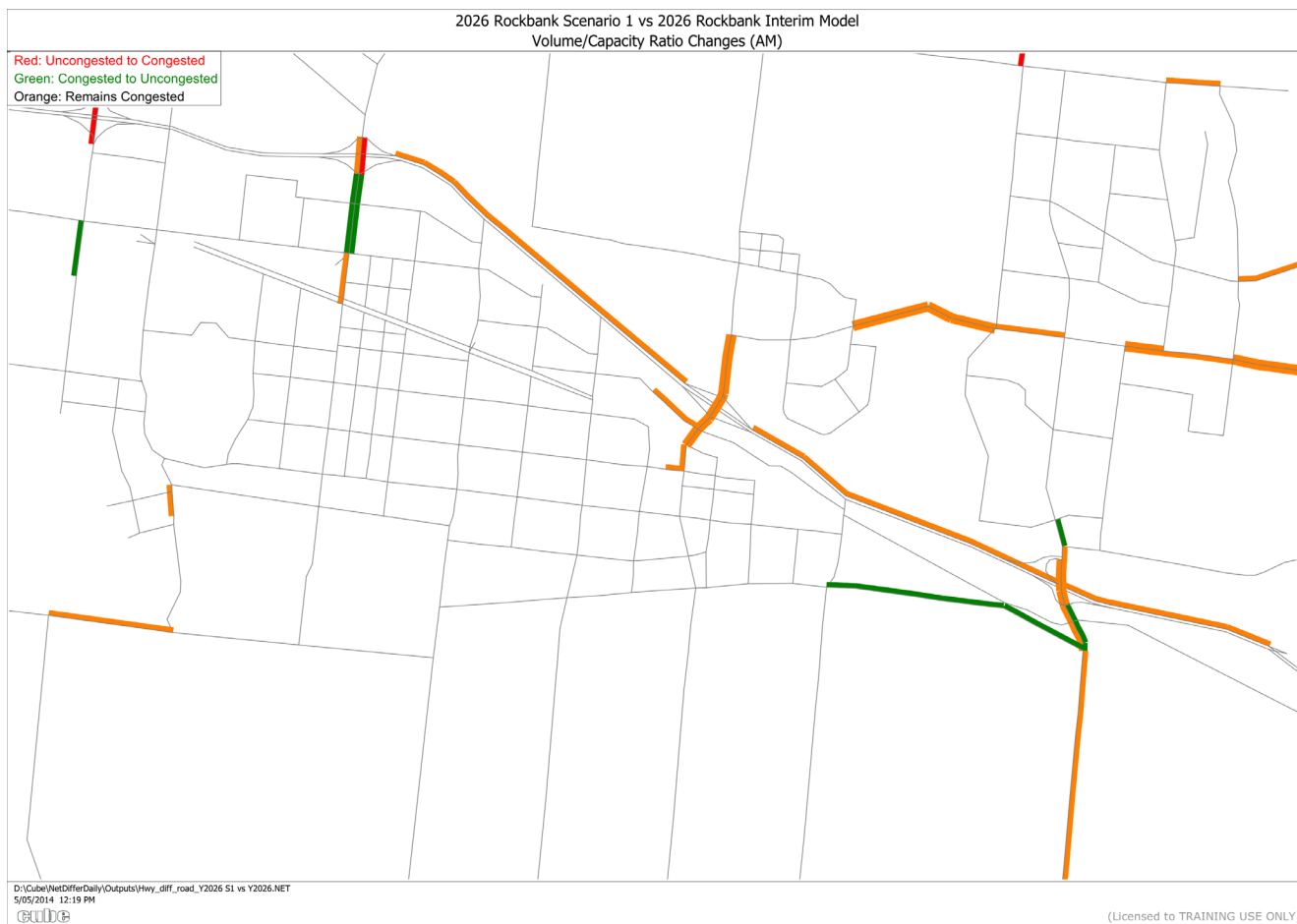


Figure 43: 2026 Reference Case Model – V/C Ratio Plot (PM Peak)

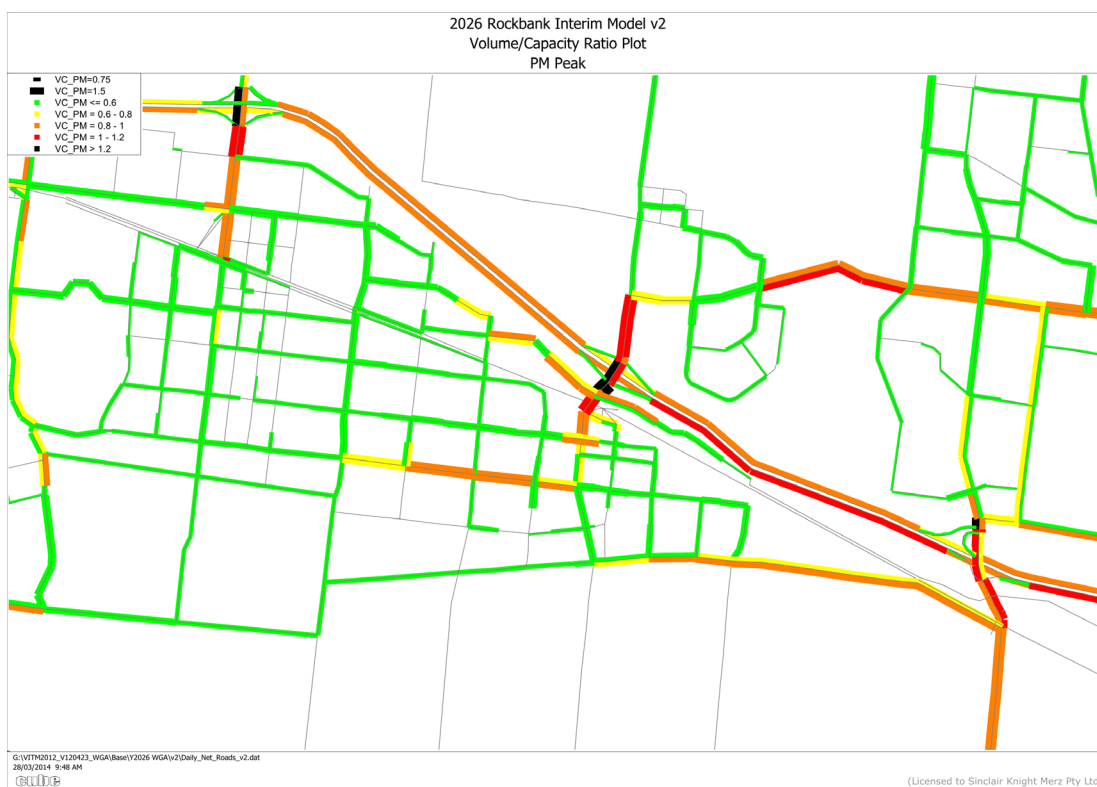


Figure 44: 2026 Scenario 1 Model – V/C Ratio Plot (PM Peak)

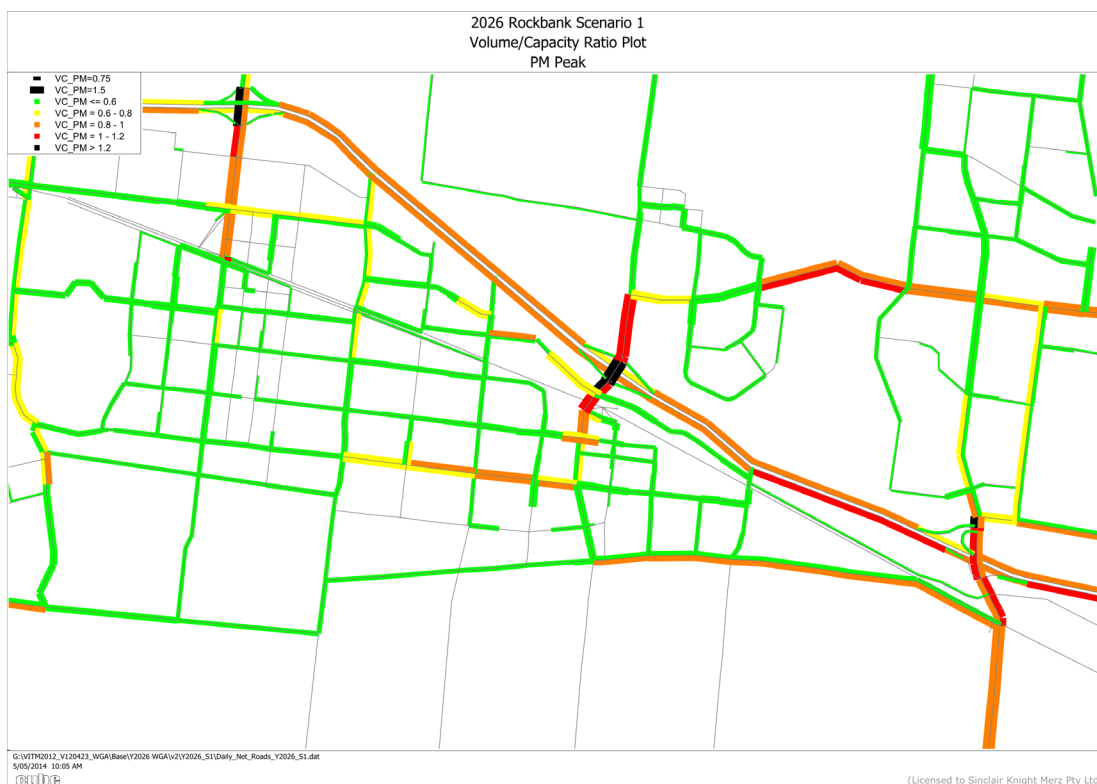
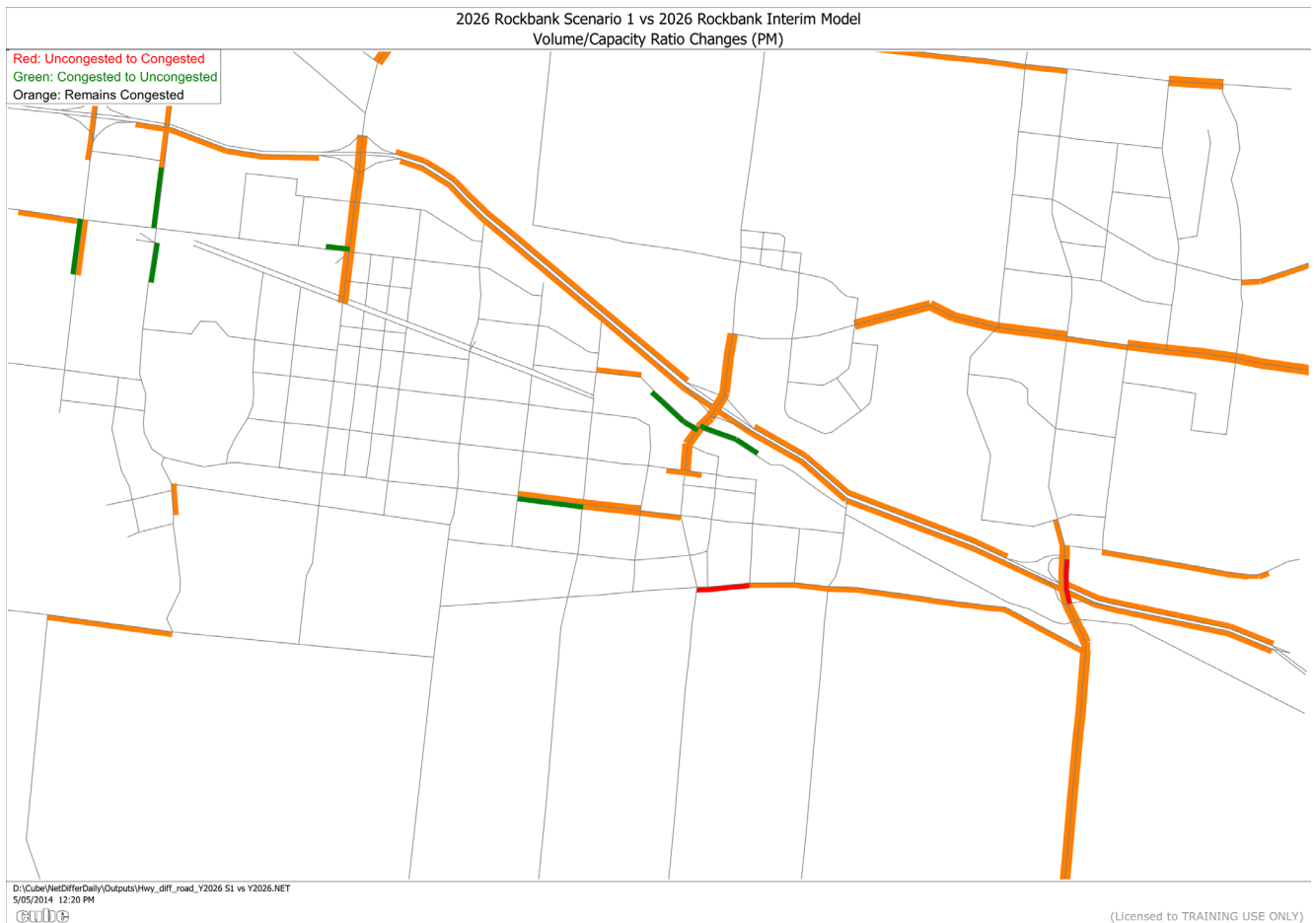


Figure 45: 2026 Reference Case vs 2026 Scenario 1 – VC Change Plot



### 3.3.3 Select-Link Analysis

#### Leakes Road Overpass

Southbound traffic using the Leakes Road overpass is primarily bound for destinations in Rockbank (see Figure 46). Additionally, northbound traffic originating from Rockbank tends to use the overpass to gain access to the Western Freeway and Taylors Road.

#### Leakes Road South

The Leakes Road South select-link analysis demonstrates that this section of Leakes Road primarily provides a connection between the East-West Arterial 2 and Greigs Road, reinforcing this link's role as a primary arterial in the road hierarchy.

#### Greigs Road

The Greigs Road select-link analysis shows that this road fulfils an east-west distribution function and provides access between the Western Freeway and areas south west of Rockbank.

#### Scenarios 1 and 2

The select-link plots for 2026 Scenario 1 and 2 exhibit the same characteristics as the 2026 reference case plots, with no material changes observed in the two scenarios.

Figure 46: 2026 Reference Case Model – Select Link Plot – Leakes Road Overpass



Figure 47: 2026 Reference Case Model – Select Link Plot – Leakes Road South





Figure 48: 2026 Reference Case Model – Select Link Plot – Greigs Road



### 3.3.4 Public Transport

Due to relatively small amounts of development assumed in 2026, only a very limited bus network is provided for Rockbank. This comprises a single SmartBus service from Plumpton to Melton Station via Rockbank Station. Identical public transport services are provided in Scenarios 1 and 2.

The patronage from these bus and train services for the 2026 reference case model is given in Table 14 and Figure 49.

The Plumpton to Melton SmartBus service attracts approximately 1,000 boardings per day, relatively evenly distributed over each time period. Rockbank Station caters for approximately 2,500 train boardings per day, of which 43% (1,100) are in the AM peak.

Table 14: 2026 Reference Case Model – Public Transport Boardings by Time Period and direction

| Bus Boardings (per direction) by route                 |           |            |            |            |           |            |
|--|-----------|------------|------------|------------|-----------|------------|
| Description  | Bus Route | AM         | IP         | PM         | OP        | DAILY      |
| ROCKBANK - WERRIBEE                                    | SM7       | -          | -          | -          | -         | -          |
| PLUMPTON - MELTON RS (VIA TOOLERN RS)                  | SM130     | 123        | 126        | 154        | 71        | 474        |
| ROCKBANK - TOOLERN LOOP (VIA MT COTTRELL AND PLUMPTON) | LD124     | -          | -          | -          | -         | -          |
| ROCKBANK RS - ROCKBANK WEST (VIA PLUMPTON)             | C1118     | -          | -          | -          | -         | -          |
| CAROLINE SPRINGS - TOOLERN RS (VIA ROCKBANK RS)        | C1104     | -          | -          | -          | -         | -          |
| TOOLERN - MELTON LOOP (COMPLETE)                       | LD132     | -          | -          | -          | -         | -          |
| TOOLERN RS - TOOLERN EAST RS (VIA SOUTHERN TOOLERN)    | C1121     | -          | -          | -          | -         | -          |
| TOOLERN - MELTON LOOP (COMPLETE)                       | LD132     | -          | -          | -          | -         | -          |
| TOOLERN RS - TOOLERN EAST RS (VIA NORTHERN TOOLERN)    | C1120     | -          | -          | -          | -         | -          |
| <b>TOTAL</b>   |           | <b>123</b> | <b>126</b> | <b>154</b> | <b>71</b> | <b>474</b> |

| Description  | Bus Route | AM         | IP         | PM         | OP        | DAILY      |
|--|-----------|------------|------------|------------|-----------|------------|
| WERRIBEE - ROCKBANK                                    | 2SM7      | -          | -          | -          | -         | -          |
| MELTON RS - PLUMPTON (VIA TOOLERN RS)                  | 2SM130    | 142        | 163        | 187        | 79        | 570        |
| TOOLERN - ROCKBANK LOOP (VIA MT COTTRELL AND PLUMPTON) | 2LD124    | -          | -          | -          | -         | -          |
| ROCKBANK WEST - ROCKBANK RS (VIA PLUMPTON)             | 2C1118    | -          | -          | -          | -         | -          |
| TOOLERN RS - CAROLINE SPRINGS (VIA ROCKBANK RS)        | 2C1104    | -          | -          | -          | -         | -          |
| MELTON - TOOLERN LOOP (COMPLETE)                       | 2LD132    | -          | -          | -          | -         | -          |
| TOOLERN EAST RS - TOOLERN RS (VIA SOUTHERN TOOLERN)    | 2C1121    | -          | -          | -          | -         | -          |
| MELTON - TOOLERN LOOP (COMPLETE)                       | 2LD132    | -          | -          | -          | -         | -          |
| TOOLERN EAST RS - TOOLERN RS (VIA NORTHERN TOOLERN)    | 2C1120    | -          | -          | -          | -         | -          |
| <b>TOTAL</b>   |           | <b>142</b> | <b>163</b> | <b>187</b> | <b>79</b> | <b>570</b> |

| Bus Boardings (2 way volumes)                          |           |            |            |            |            |              |
|--|-----------|------------|------------|------------|------------|--------------|
| Description  | Bus Route | AM         | IP         | PM         | OP         | DAILY        |
| ROCKBANK - WERRIBEE                                    | SM7       | -          | -          | -          | -          | -            |
| PLUMPTON - MELTON RS (VIA TOOLERN RS)                  | SM130     | 265        | 289        | 340        | 151        | 1,044        |
| ROCKBANK - TOOLERN LOOP (VIA MT COTTRELL AND PLUMPTON) | LD124     | -          | -          | -          | -          | -            |
| ROCKBANK RS - ROCKBANK WEST (VIA PLUMPTON)             | C1118     | -          | -          | -          | -          | -            |
| CAROLINE SPRINGS - TOOLERN RS (VIA ROCKBANK RS)        | C1104     | -          | -          | -          | -          | -            |
| TOOLERN - MELTON LOOP (COMPLETE)                       | LD132     | -          | -          | -          | -          | -            |
| TOOLERN RS - TOOLERN EAST RS (VIA SOUTHERN TOOLERN)    | C1121     | -          | -          | -          | -          | -            |
| TOOLERN - MELTON LOOP (COMPLETE)                       | LD132     | -          | -          | -          | -          | -            |
| TOOLERN RS - TOOLERN EAST RS (VIA NORTHERN TOOLERN)    | C1120     | -          | -          | -          | -          | -            |
| <b>TOTAL</b>   |           | <b>265</b> | <b>289</b> | <b>340</b> | <b>151</b> | <b>1,044</b> |

| Train Boardings |                  |               |               |              |              |               |
|-----------------|------------------|---------------|---------------|--------------|--------------|---------------|
| Train Line      | Station          | AM            | IP            | PM           | OP           | DAILY         |
| Melton Line     | Sunshine         | 3,677         | 3,776         | 2,358        | 1,278        | 11,088        |
|                 | Ardeer           | 166           | 232           | 70           | 60           | 528           |
|                 | Deer Park        | 2,728         | 2,442         | 434          | 594          | 6,197         |
|                 | Caroline Springs | 1,406         | 915           | 73           | 216          | 2,610         |
|                 | Rockbank         | 1,074         | 998           | 157          | 243          | 2,471         |
|                 | Toolern Road     | 754           | 648           | 148          | 168          | 1,719         |
|                 | Melton           | 7,751         | 6,523         | 698          | 1,667        | 16,639        |
| <b>TOTAL</b>    |                  | <b>17,555</b> | <b>15,534</b> | <b>3,939</b> | <b>4,226</b> | <b>41,253</b> |

Figure 49:2026 Reference Case Model – Public Transport Boardings



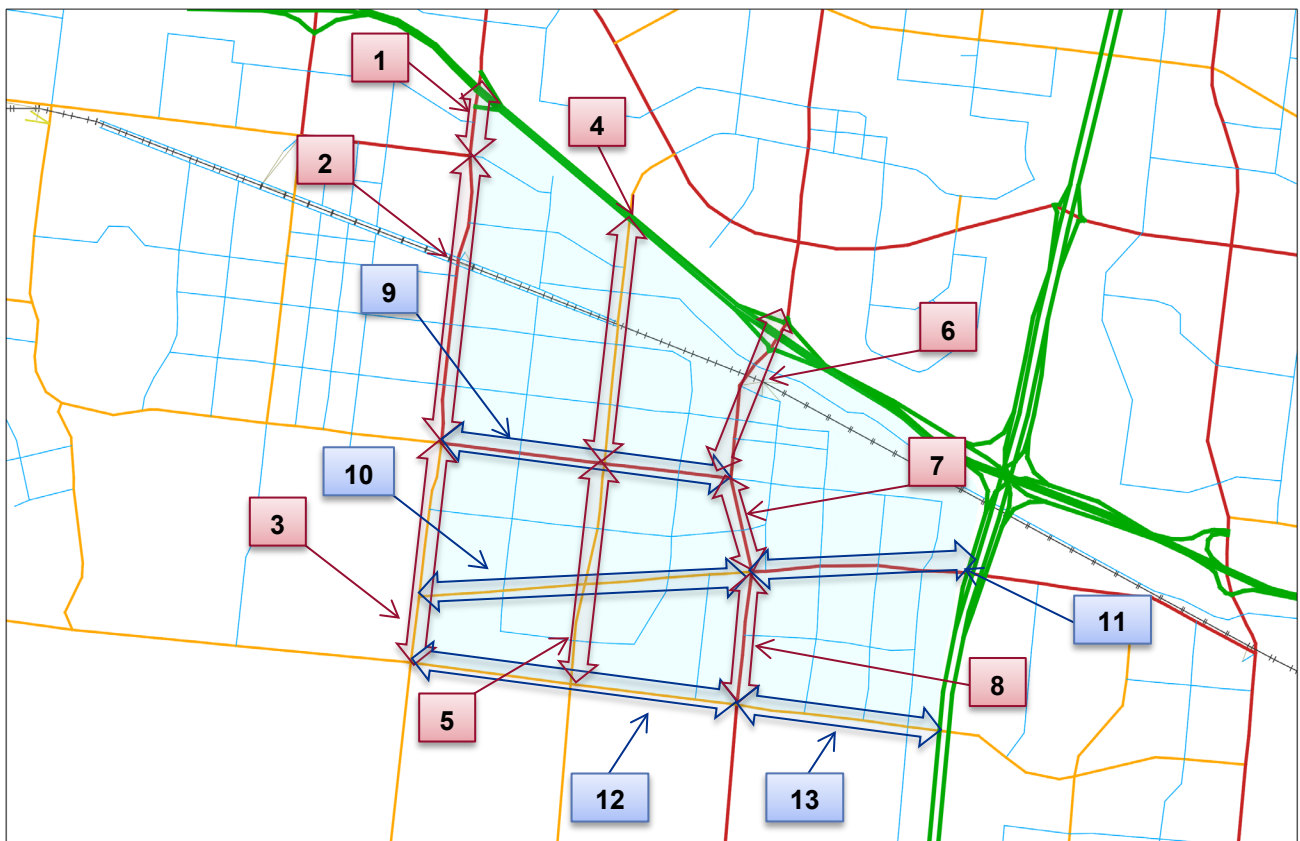
Negligible changes are observed in public transport patronage in Scenario 1 and Scenario 2. The SmartBus service receives no increase in scenario 1, but achieves a slight increase in scenario 2.

## 4. Recommendations

Based on the findings of the previous chapters, this chapter recommends the minimum road capacities needed to accommodate forecast traffic volumes in Rockbank in 2026 and 2046. The recommendations are based on the volume-capacity ratios generated in each of the reference case models.

Thirteen sections of the arterial road network were assessed as shown in Figure 50. The numeric identifier attached to each road is referenced in the tables below.

**Figure 50: Locations of Capacity Assessments**



The recommended number of lanes on each road section is given in Table 15 (2046) and Table 16 (2026). The 2026 assessment omits Harrison Road (which is assumed not to be built by 2026) and the southern section of Leakes Road (which is assumed to remain as an unsealed road in 2026). Lane specifications refer to total lanes for both directions.

Table 15: Recommended 2046 road lanes

| #  | Road Name           | Modelled Lanes | Modelled VC (AM) | Modelled VC (PM) | Recommended Lanes |
|----|---------------------|----------------|------------------|------------------|-------------------|
| 1  | Mount Cottrell Road | 6              | 0.50             | 0.88             | 6                 |
| 2  | Mount Cottrell Road | 6              | 0.36             | 0.57             | 4                 |
| 3  | Mount Cottrell Road | 4              | 0.40             | 0.71             | 4                 |
| 4  | Paynes Road         | 4              | 0.31             | 0.48             | 2*                |
| 5  | Paynes Road         | 4              | 0.20             | 0.23             | 2*                |
| 6  | Leakes Road         | 6              | 0.85             | 1.03             | 6                 |
| 7  | Leakes Road         | 6              | 0.49             | 0.61             | 4                 |
| 8  | Leakes Road         | 6              | 0.32             | 0.43             | 4                 |
| 9  | East West Arterial  | 6              | 0.60             | 0.71             | 6                 |
| 10 | Greigs Road         | 4              | 0.31             | 0.32             | 2*                |
| 11 | Greigs Road         | 6              | 0.57             | 0.57             | 4                 |
| 12 | Harrison Road       | 4              | 0.34             | 0.34             | 2*                |
| 13 | Harrison Road       | 4              | 0.32             | 0.44             | 2*                |

\* Note: Arterial roads assessed as two lanes may require widening in some sections to accommodate turning traffic.

Table 16: Recommended 2026 road lanes

| #  | Road Name           | Modelled Lanes | Modelled VC (AM) | Modelled VC (PM) | Recommended Lanes |
|----|---------------------|----------------|------------------|------------------|-------------------|
| 1  | Mount Cottrell Road | 2              | 0.09             | 0.27             | 2                 |
| 2  | Mount Cottrell Road | 2              | 0.40             | 0.59             | 2                 |
| 3  | Mount Cottrell Road | 2              | 0.33             | 0.32             | 2                 |
| 4  | Paynes Road         | 2              | 0.20             | 0.26             | 2                 |
| 5  | Paynes Road         | 2              | 0.11             | 0.14             | 2                 |
| 6  | Leakes Road         | 2              | 1.43             | 1.63             | 4                 |
| 7  | Leakes Road         | 2              | 0.38             | 0.46             | 2                 |
| 9  | East West Arterial  | 2              | 0.72             | 0.85             | 2                 |
| 10 | Greigs Road         | 2              | 0.25             | 0.39             | 2                 |
| 11 | Greigs Road         | 2              | 0.71             | 0.86             | 2                 |