

Reference: #13S1210200

2 September 2015

JST Pty Ltd  
Level 2, 72 Macquarie Street  
PARRAMATTA NSW 2150

**Attention: Mr. Tom Copping**

Dear Tom

**RE: BONDS SPINNING MILLS, PENDLE HILL –  
SUPPLEMENTARY TRAFFIC ASSESSMENT**

**1. Introduction**

GTA Consultants had previously prepared a traffic and transport report in April 2014 for redevelopment of the Bonds Spinning Mills in Pendle Hill to incorporate approximately 1,600 new dwellings and 6,000m<sup>2</sup> of retail, including an approximately 4,000m<sup>2</sup> supermarket.

Subsequently, the Holroyd City Council has requested additional information on 20 June 2015. In July 2015, a revised masterplan was prepared by PTW Architects to incorporate approximately 1,700 new dwellings and 6,000m<sup>2</sup> retail area. Carparking is to be provided with a basement carpark.

As per the Council's letter dated 20 June 2014, the following items are addressed in the chapters specified below.

**Table 1: Council's Comments**

| Issues Raised by Council                                                                                                                                                                                                                                                                                                                                                                                                | Addressed in Chapter(s) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Item 1. The 40:60 in/out split for residential during the PM Peak shall be further justified. Alternatively the more traditional 70:30 split can be applied.                                                                                                                                                                                                                                                            | Section 5               |
| Item 2. The retail traffic distribution split between Gilba Road and Magowar Road should be reviewed considering Gilba Road is the higher order road and carries a more traffic than Magowar Road. It is more likely that the split is reversed (i.e. Gilba Road - 30% and Magowar Road - 5%).                                                                                                                          | Section 5               |
| Item 3. The 1% per annum linear growth rate applied to background traffic is considered too low. The assessment of the future scenario shall consider the proposed intensification of the Pendle Hill Town Centre based on the recently updated Holroyd DCP and LEP and previous studies undertaken.                                                                                                                    | Section 5               |
| Item 4. The intersection modelling shall be extended to include the intersection of:<br>i. Great Western Highway with Jones Street<br>ii. Cumberland Highway with Dunmore Street<br>iii. Cumberland Highway with Smith Street<br>iv. Gilba Road with Pendle Way<br>v. Wentworth Avenue with Goodall Street (if required by Parramatta City Council)<br>vi. others as required by the Roads and Maritime Services (RMS). | Section 2 & 5           |

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| Issues Raised by Council                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Addressed in Chapter(s)                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| It is acknowledged that traffic generated by the proposed rezoning is unlikely to have an impact on the overall performance of these intersections however, minor traffic volume increases can make a difference to low priority movements (e.g. right turns, side roads) particularly at intersections which are saturated.<br>In addition, the RMS will not increase green times on the side roads (i.e. Dunmore Street and Jones Street) as their aim is to maintain traffic flow along the highway. Therefore, any increase in traffic will likely increase delay queue lengths on the side road which will need to be addressed. |                                                                                                                                                                                                                                                      |
| Item 5. The Sidra modelling output summary shall include DOS and Queue Lengths.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Tables 2, 5 & 6                                                                                                                                                                                                                                      |
| Item 6. The proposed access intersection treatments on Jones Street and Dunmore Street shall be detailed and assessed in regard to traffic (traffic modelling), road safety, loss of on-street parking and pedestrians.                                                                                                                                                                                                                                                                                                                                                                                                               | Conceptual layouts are shown in Attachment 4                                                                                                                                                                                                         |
| Item 7. An assessment of the Environmental Capacities of local and collector roads shall be undertaken to determine the impact on road safety and residential amenity. Based on the traffic generation analysis, Jones Street, Dunmore Street and possibly Smith Street will be above the limits. Measures to manage speed and maintain residential amenity shall be provided.                                                                                                                                                                                                                                                        | Section 5<br>Table 7                                                                                                                                                                                                                                 |
| Item 8. The rezoning includes new access intersections and modification to existing intersections which will result in loss of on-street parking. Any loss of on-street parking will need to be detailed and addressed.                                                                                                                                                                                                                                                                                                                                                                                                               | It should be noted that a significant number of new on street parking spaces will be created within the new internal roads, which will more than compensate for loss of parking at the site entries.<br>Conceptual layouts are shown in Attachment 4 |
| Item 9. Any changes to traffic signs (including parking restrictions), line marking and traffic devices are subject to the approval of the Holroyd Traffic Committee. Concept designs shall be prepared in accordance with Australian Standards, Austroads and RMS Supplements for reporting to the Holroyd Traffic Committee when issues have been resolved and further details have been provided.                                                                                                                                                                                                                                  | Conceptual layouts are shown in Attachment 4                                                                                                                                                                                                         |
| Item 10. The rezoning is a traffic generating development under SEPP (Infrastructure) 2007 and includes modification to signalised intersections which are subject to RMS approval. Therefore the proposal shall be referred to the RMS as soon as possible.                                                                                                                                                                                                                                                                                                                                                                          | The proposal will be referred to RMS during agency consultation stage.                                                                                                                                                                               |
| Item 11. Off-street parking including visitor parking shall be in accordance with Council's DCP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Section 4                                                                                                                                                                                                                                            |

As this report provides supplementary traffic assessment to the submitted traffic report, this should be read in conjunction with GTA's Traffic and Transport Report<sup>1</sup> dated 30/04/14 (refer to Attachment 1).

## 2. Existing Conditions

We have undertaken additional intersection counts and queuing surveys at the following intersections to address Council's issue (refer to Item 4):

- Great Western Highway – Jones Street
- Great Western Highway – Pendle Way
- Cumberland Highway – Dunmore Street
- Cumberland Highway – Smith Street

<sup>1</sup> Bonds Spinning Mills Pendle Hill, Traffic and Transport Report, GTA Consultants, 30/04/14

- Gilba Road – Pendle Way
- Wentworth Avenue – Goodall Street.

The surveys were conducted on a Saturday 14 February 2015 between 11AM and 1PM and on Thursday 19 February 2015 between 4PM and 6PM. These periods coincide with the previous analyses submitted to council.

The intersection turning movement diagrams for Thursday PM and Saturday midday peak hours including the six intersections surveyed for the original traffic report are included in Attachment 2A.

Table 2 presents a summary of the existing operation of the study intersections with full results provided in Attachment 3A.

**Table 2: Existing – Sidra Results**

| Intersection                        | Controls   | Peak | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile Queuing | Level of Service (LOS) |
|-------------------------------------|------------|------|----------------------------|---------------------|-------------------------------------|------------------------|
| Jones Street/ Rogers Street         | Priority   | PM   | 0.14                       | 8                   | 7                                   | A                      |
|                                     |            | Sat  | 0.11                       | 7                   | 4                                   | A                      |
| Jones Street/ Oatlands Street       | Priority   | PM   | 0.16                       | 8                   | 6                                   | A                      |
|                                     |            | Sat  | 0.11                       | 7                   | 4                                   | A                      |
| Jones Street/ Smith Street          | Roundabout | PM   | 0.32                       | 11                  | 14                                  | A                      |
|                                     |            | Sat  | 0.21                       | 10                  | 8                                   | A                      |
| Jones Street/ Dunmore Street        | Roundabout | PM   | 0.63                       | 15                  | 43                                  | A                      |
|                                     |            | Sat  | 0.39                       | 12                  | 18                                  | A                      |
| Goodall Street/ Dunmore Street      | Signals    | PM   | 0.76                       | 18                  | 79                                  | B                      |
|                                     |            | Sat  | 0.48                       | 16                  | 44                                  | B                      |
| Pendle Way/ Dunmore Street          | Signals    | PM   | 0.65                       | 18                  | 73                                  | B                      |
|                                     |            | Sat  | 0.65                       | 15                  | 41                                  | B                      |
| Great Western Highway/ Jones Street | Signals    | PM   | 0.62                       | 20                  | 157                                 | B                      |
|                                     |            | Sat  | 0.59                       | 23                  | 102                                 | B                      |
| Cumberland Highway/ Dunmore Street  | Signals    | PM   | 0.83                       | 38                  | 276                                 | C                      |
|                                     |            | SAT  | 0.86                       | 38                  | 183                                 | C                      |
| Cumberland Highway/ Smith Street    | Signals    | PM   | 0.86                       | 16                  | 123                                 | B                      |
|                                     |            | SAT  | 0.64                       | 17                  | 127                                 | B                      |
| Pendle Way/ Gilba Road              | Priority   | PM   | 0.85                       | 41                  | 43                                  | C                      |
|                                     |            | SAT  | 0.86                       | 39                  | 46                                  | C                      |
| Goodall Street/ Wentworth Avenue    | Signals    | PM   | 0.73                       | 26                  | 112                                 | B                      |
|                                     |            | SAT  | 0.86                       | 27                  | 104                                 | B                      |
| Cumberland Highway/ Pendle Way      | Signals    | PM   | 0.93                       | 43                  | 191                                 | D                      |
|                                     |            | SAT  | 0.99                       | 42                  | 134                                 | C                      |

Table 2 indicates that all intersections currently operate satisfactorily with Level of Service (LoS) C or better, except Cumberland Highway/Pendle Way intersection.

Cumberland Highway/Pendle Way intersection operates near capacity (i.e. LoS D) during the Thursday PM peak period. It is expected that the majority of intersections along the arterial road would operate at or near capacity during the commuter peak periods. Hence,

intersections operating at Level of Service D during peak periods are generally considered acceptable.

### 3. Development Proposal

Following the submission of the Concept Master Plan in 2014, the proposed development mix has been revised.

Table 3 presents the indicative development mix as provided by the Concept Masterplan as submitted to Council (adopted in the original GTA traffic report) against the current building envelopes as amended.

**Table 3: Proposed Development Mix**

| Use                | Units/ GFA          |                     |
|--------------------|---------------------|---------------------|
|                    | Previous Proposal   | Current Proposal    |
| <b>Residential</b> |                     |                     |
| -Dwellings         | 1,600 units*        | 1,700 units*        |
| <b>Retail</b>      |                     |                     |
| -Supermarket       | 4,000m <sup>2</sup> | 3,141m <sup>2</sup> |
| -Specialty retail  | 2,000m <sup>2</sup> | 2,823m <sup>2</sup> |

NOTE: \* - Unit numbers are indicative and subject to further refinement and unit mix employed during detailed planning phase.

Consistent with the traffic report<sup>1</sup>, the following vehicle accesses are proposed:

- Dunmore Street-Access Road roundabout
- Jones Street-Access Road T-intersection.

The indicative concept layout for the access road intersections at Dunmore Street and Jones Street are included in Attachment 4. However, this is an indicative conceptual layout and further details will be confirmed during the DA stage.

### 4. Car Parking

The Concept Master Plan envisages that the following general on-site car parking provision rates:

- Residential at 1 space / dwelling = 1,700 residential parking spaces
- Visitor parking at 1 space / 5 dwellings = 340 residential visitor parking spaces
- Retail at 1 space / 44m<sup>2</sup> GLFA = 140 retail parking spaces.

The above parking rates are consistent with the traffic report<sup>1</sup>.

The envisaged provision of 2,180 car parking spaces accords with the minimum City of Holroyd DCP 2013 car parking requirements. Under the revised masterplan, the car parking spaces will be located within a basement. A significant additional on-street parking spaces will be provided within the new road reserves within the development.

Notwithstanding the above, the exact on-site parking provision will need to be defined once further details regarding the type of retail, commercial and residential land uses are proposed on the site, which will be in accordance with Council's DCP.

## 5. Traffic Impact Assessment

### Traffic Generation

The traffic generation rates applied for this assessment are consistent with the original traffic assessment<sup>1</sup>. Table 4 presents the estimates of external peak hour traffic volumes resulting from the current proposal.

**Table 4: Traffic Generation Estimates (External Trips)**

| Use              | Units / GFA | Generation Rate   |                   |                   | Movements/hr. |     |     |
|------------------|-------------|-------------------|-------------------|-------------------|---------------|-----|-----|
|                  |             | AM                | PM                | Sat               | AM            | PM  | Sat |
| Residential      |             |                   |                   |                   |               |     |     |
| Dwellings        | 1,700       | 0.32 per dwelling | 0.18 per dwelling | 0.23 per dwelling | 544           | 306 | 391 |
| Retail           |             |                   |                   |                   |               |     |     |
| Supermarket      | 3,141m²     | 58 per 1,000m²    | 116 per 1,000m²   | 110 per 1,000m²   | 182           | 364 | 345 |
| Specialty retail | 2,823m²     | 17.5 per 1,000m²  | 35 per 1,000m²    | 80 per 1,000m²    | 50            | 99  | 226 |
| Total            |             |                   |                   |                   | 776           | 769 | 962 |

Table 4 indicates that the site could potentially generate approximately 780 external vehicle movements in the AM peak hour, 770 external vehicle movements in the PM peak hour and 960 external vehicle movements in the Saturday midday peak hour.

Despite the increase in unit numbers from the previous proposal, the above external movements for the proposed development are lower than the previously assessed development of approximately 800 external vehicle movements in the AM peak hour, 840 external vehicle movements in the PM peak hour and 1,000 external vehicle movements in the Saturday midday peak hour.

For this supplementary assessment, we have focused on traffic impact assessment during the Thursday PM and Saturday midday periods, as requested by Council in previous submission in order to ensure that the impact of the development generated traffic coincided with the busiest times in the town centre, which is in close vicinity of the site.

### Trip Distribution

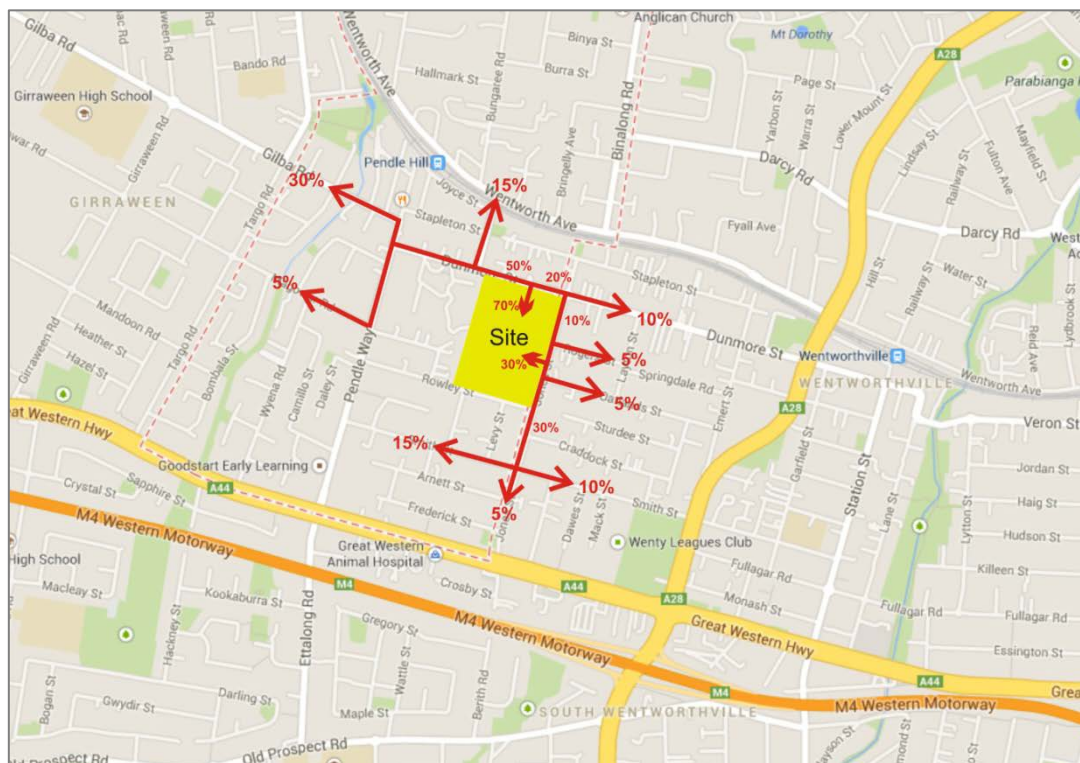
As requested by the Council (refer to Item 1), the following directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) has been adopted:

- Residential: 20% inbound/ 80% outbound during the Thursday AM peak, and 70% inbound/ 30% outbound during the Thursday PM peak.
- Retail: 70% inbound/ 30% outbound during the Thursday AM peak, and 60% inbound/ 40% outbound during the Thursday PM peak.
- During the Saturday midday peak, the directional split of both retail and residential traffic has been assumed as 50% outbound/ 50% inbound.

In addition, the PM peak hour residential directional split has been revised to 70% inbound/ 30% outbound.

In addition to above, the anticipated retail traffic distribution was revised as suggested by the Council (refer to Item 2). This is presented in Figure 1.

Figure 1: Traffic Distribution – Retail Component

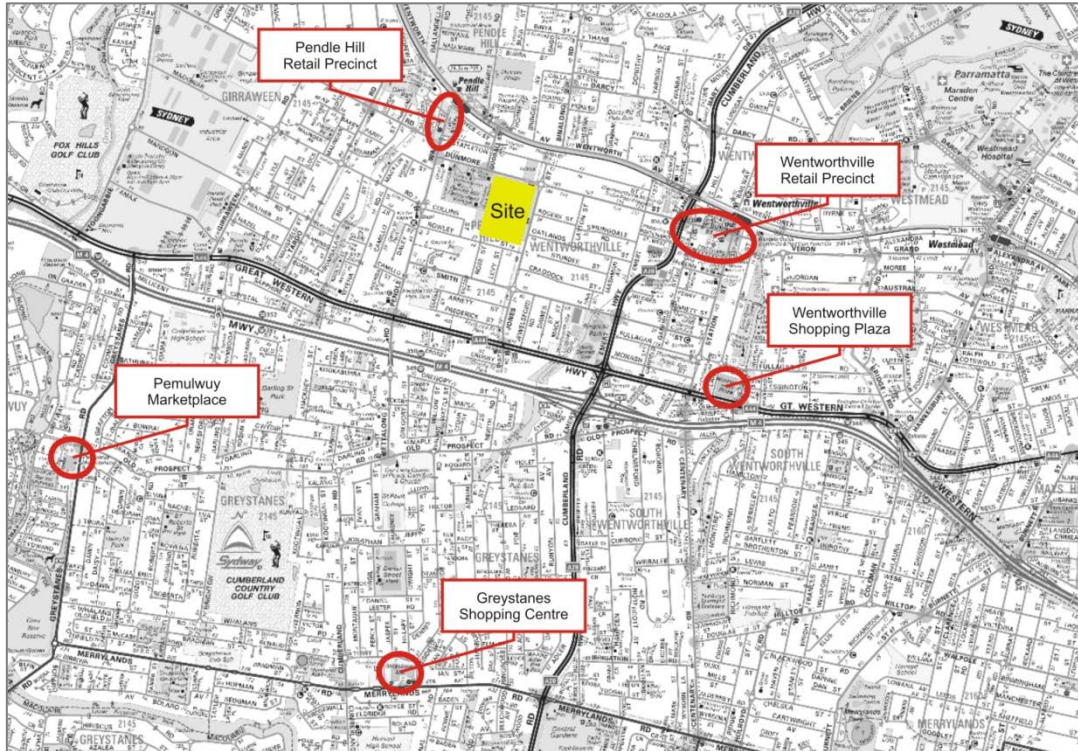


The revised retail trip distribution assumed that 30% of retail trips would be to/from Gilba Road and 5% would travel to/from Magowar Road.

For the development traffic generated by the retail component, it was assumed that these trips would be generally contained within the boundary of Great Western Highway and Cumberland Highway. It is anticipated that the majority of customers of the proposed local retail facilities would be the local residents of Pendle Hill.

Figure 2 shows the location of other nearby retail centres. It can be seen that would be unlikely for the potential customers to travel along Great Western Highway and/or Cumberland Highway since there are already other regional retail centres nearby.

Figure 2: Location of Other Retail Centres



### Future Impacts

GTA has previously applied 1% background traffic growth per annum on the existing road network. However, following the Council's comment (refer to Item 3), we have reviewed the Bureau of Transport Statistics' (BTS) data.

BTS maintains the Strategic Travel Model (STM) for projecting travel patterns in New South Wales. A broad range of assumptions are included in the model and as such, results should only be used as an indicative measure.

A review of Strategic Travel Model data at Pendle Hill suggested that the following traffic growth would be appropriate:

- 1.5% growth per annum along all local streets
- 1% growth per annum along the main highways (i.e. Great Western Highway and Cumberland Highway).

The above traffic growth percentages are applied to the existing intersection flows up to the future year, 2027. Intersection turning movement diagrams for 2027 Thursday PM and Saturday midday peak hours are included in Attachment 2B.

Intersection turning movement diagrams for 2027 with development generated traffic are also included in Attachment 2C.

### **Intersection Assessment**

Following the distribution and assignment of development traffic and application of growth to background traffic, the study intersections were reanalysed using SIDRA INTERSECTION.

Table 5 summarises the SIDRA results of the Year 2027 'without development' and 'with development' scenarios in terms of average delay and level of service.

The full results from the SIDRA analysis are presented in Attachment 3B and 3C for the Year 2027 'without development' and 'with development' scenarios, respectively.

Intersection assessment results shown in Table 5 indicates that all sign controlled and roundabout intersections would operate satisfactorily with LoS C or better for both peak periods, except for the Pendle Way/Gilba Road intersection.

Pendle Way/Gilba Road intersection would operate at LoS F in 2027 under post development conditions. Hence, mitigation measures would be necessary to improve performance of this intersection. Notwithstanding the above, the operation of this intersection is largely affected by the activities along Pendle Way, north of the intersection such as delays due to parking manoeuvres, pedestrian crossings generated by the retail strip etc. The vehicle queues generated by these activities downstream of the Pendle Way/Gilba Road intersection, obstruct vehicles from passing through this intersection.

It is noted that in order to replicate the observed queue length on north and south approaches of Pendle Way using SIDRA INTERSECTION, the capacity of these approaches have been reduced by 40-45% for both existing and 2027 scenarios. This has significant impact on the 2027 post development SIDRA results as additional development traffic was added on to the network.

Therefore, mitigation measures are likely to require the consideration of the effect of retail activities in vicinity of the Pendle Hill station, which is located downstream from Pendle Way/Gilba Road intersection rather than increasing the capacity of this intersection itself.

Cumberland Highway intersections with Pendle Way and Dunmore Street would operate near capacity (i.e. LoS D) in 2027 with or without the development traffic added to the road network. As mentioned in Chapter 2, it is expected that the majority of intersections along the arterial road would operate at or near capacity during the commuter peak periods. Hence, intersections operating at Level of Service D during peak periods are generally considered acceptable.

It is noted that Goodall Street/ Wentworth Avenue intersection would operate near capacity (i.e. LoS D) in 2027 with the development traffic added to the road network. The existing traffic signal timings have been adopted at this signalised intersection. Further assessment of this intersection indicated that the level of service could be improved to "B", if traffic signal timing is revised to reflect the additional traffic on Goodall Street.

As requested by the Council (refer to Item 4), all traffic signal timings have been fixed based on the existing Intersection Diagnostic Monitor (IDM) data obtained from RMS.

**Table 5: Year 2027 'Without Development' and 'With Development' scenarios – SIDRA Results**

| Intersection                           | Controls   | Peak | 'Without Development'      |                     |                                     |                        | 'With Development'         |                     |                                     |                        |
|----------------------------------------|------------|------|----------------------------|---------------------|-------------------------------------|------------------------|----------------------------|---------------------|-------------------------------------|------------------------|
|                                        |            |      | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile Queuing | Level of Service (LOS) | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile Queuing | Level of Service (LOS) |
| Jones Street/<br>Rogers Street         | Priority   | PM   | 0.17                       | 9                   | 8                                   | A                      | 0.20                       | 9                   | 10                                  | A                      |
|                                        |            | Sat  | 0.13                       | 8                   | 5                                   | A                      | 0.17                       | 8                   | 7                                   | A                      |
| Jones Street/<br>Oatlands Street       | Priority   | PM   | 0.19                       | 9                   | 8                                   | A                      | 0.28                       | 11                  | 18                                  | A                      |
|                                        |            | Sat  | 0.13                       | 8                   | 5                                   | A                      | 0.28                       | 12                  | 16                                  | A                      |
| Jones Street/<br>Smith Street          | Roundabout | PM   | 0.39                       | 11                  | 19                                  | A                      | 0.53                       | 15                  | 30                                  | B                      |
|                                        |            | Sat  | 0.26                       | 10                  | 11                                  | A                      | 0.49                       | 12                  | 27                                  | A                      |
| Jones Street/<br>Dunmore Street        | Roundabout | PM   | 0.80                       | 21                  | 86                                  | B                      | 0.92                       | 31                  | 165                                 | C                      |
|                                        |            | Sat  | 0.48                       | 13                  | 24                                  | A                      | 0.61                       | 14                  | 40                                  | A                      |
| Goodall Street/<br>Dunmore Street      | Signals    | PM   | 0.80                       | 20                  | 101                                 | B                      | 0.87                       | 23                  | 117                                 | B                      |
|                                        |            | Sat  | 0.59                       | 17                  | 44                                  | B                      | 0.64                       | 19                  | 90                                  | B                      |
| Pendle Way/<br>Dunmore Street          | Signals    | PM   | 0.78                       | 20                  | 101                                 | B                      | 0.82                       | 22                  | 128                                 | B                      |
|                                        |            | Sat  | 0.78                       | 16                  | 54                                  | B                      | 0.81                       | 18                  | 86                                  | B                      |
| Great Western<br>Highway/ Jones Street | Signals    | PM   | 0.77                       | 22                  | 188                                 | B                      | 0.87                       | 23                  | 188                                 | B                      |
|                                        |            | Sat  | 0.75                       | 24                  | 118                                 | B                      | 1.13                       | 30                  | 122                                 | C                      |
| Cumberland Highway/<br>Dunmore Street  | Signals    | PM   | 1.01                       | 44                  | 337                                 | D                      | 1.03                       | 46                  | 337                                 | D                      |
|                                        |            | SAT  | 1.07                       | 49                  | 305                                 | D                      | 1.10                       | 45                  | 323                                 | D                      |
| Cumberland Highway/<br>Smith Street    | Signals    | PM   | 1.05                       | 21                  | 205                                 | B                      | 1.11                       | 23                  | 200                                 | B                      |
|                                        |            | SAT  | 0.80                       | 18                  | 150                                 | B                      | 1.14                       | 23                  | 159                                 | B                      |
| Pendle Way/<br>Gilba Road              | Priority   | PM   | 0.59                       | 24                  | 30                                  | B                      | 1.61                       | 612                 | 438                                 | F                      |
|                                        |            | SAT  | 0.69                       | 27                  | 37                                  | B                      | 2.06                       | 1015                | 632                                 | F                      |
| Goodall Street/<br>Wentworth Avenue    | Signals    | PM   | 0.87                       | 29                  | 139                                 | C                      | 0.97                       | 30                  | 139                                 | C                      |
|                                        |            | SAT  | 0.92                       | 27                  | 102                                 | B                      | 1.13                       | 47                  | 233                                 | D                      |
| Cumberland Highway/<br>Pendle Way      | Signals    | PM   | 1.10                       | 49                  | 248                                 | D                      | 1.10                       | 50                  | 253                                 | D                      |
|                                        |            | SAT  | 1.00                       | 44                  | 155                                 | D                      | 1.00                       | 45                  | 157                                 | D                      |

### Access Road Intersections

The indicative concept layout for the access road intersections at Dunmore Street and Jones Street are included in Attachment 4. The following form of access is proposed:

- Dunmore Street-Access Road roundabout
- Jones Street-Access Road T-intersection.

The results of the intersection performance are presented in Table 6.

**Table 6: Year 2027 Access Road – SIDRA Results**

| Access Location | Controls   | Peak | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile Queuing | Level of Service (LOS) |
|-----------------|------------|------|----------------------------|---------------------|-------------------------------------|------------------------|
| Dunmore Street  | Roundabout | PM   | 0.86                       | 22                  | 132                                 | B                      |
|                 |            | Sat  | 0.72                       | 20                  | 69                                  | B                      |
| Jones Street    | Priority   | PM   | 0.30                       | 19                  | 15                                  | B                      |
|                 |            | Sat  | 0.45                       | 18                  | 17                                  | B                      |

As demonstrated above, both Dunmore Street and Jones Street access road intersections would operate at a good level of service (i.e. LoS B) with acceptable delays for both peak periods under the 2027 post development scenarios.

### Environmental Capacity Assessment

A copy of the Environmental capacity performance standards on residential streets table from *RMS Guide to Traffic Generating Development* is produced below.

**Table 4.6**  
**Environmental capacity performance standards on residential streets**

| Road class | Road type  | Maximum Speed (km/hr) | Maximum peak hour volume (veh/hr) |
|------------|------------|-----------------------|-----------------------------------|
| Local      | Access way | 25                    | 100                               |
|            | Street     | 40                    | 200 environmental goal            |
|            |            |                       | 300 maximum                       |
| Collector  | Street     | 50                    | 300 environmental goal            |
|            |            |                       | 500 maximum                       |

**Note:** Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85<sup>th</sup> percentile speed.

Table 7 presents the two-way midblock flows on the collector and local residential streets in vicinity of the site.

**Table 7: Peak Hour Two-Way Flows on Residential Streets**

| Road Sections                   | Existing Flows |     | 2027 'Without Development' Flows |      | 2027 'With Development' Flows |      |
|---------------------------------|----------------|-----|----------------------------------|------|-------------------------------|------|
|                                 | PM             | Sat | PM                               | Sat  | PM                            | Sat  |
| <b>Collector Streets:</b>       |                |     |                                  |      |                               |      |
| Dunmore St, east of Jones St    | 842            | 653 | 1006                             | 780  | 1144                          | 975  |
| Dunmore St, east of Goodall St  | 1124           | 899 | 1343                             | 1074 | 1589                          | 1482 |
| Jones St, north of Dunmore St   | 195            | 131 | 232                              | 157  | 232                           | 157  |
| Jones St, south of Dunmore St   | 495            | 339 | 592                              | 405  | 684                           | 541  |
| Jones St, south of Oatlands St  | 513            | 351 | 613                              | 419  | 974                           | 945  |
| Pendle Way, north of Dunmore St | 1008           | 940 | 1205                             | 1123 | 1344                          | 1356 |
| Goodall St, north of Dunmore St | 1076           | 732 | 1286                             | 875  | 1356                          | 991  |
| Smith St, east of Jones St      | 550            | 344 | 657                              | 411  | 765                           | 567  |
| <b>Local Streets:</b>           |                |     |                                  |      |                               |      |
| Rogers St, east of Jones St     | 33             | 35  | 39                               | 42   | 63                            | 81   |
| Oatlands St, east of Jones St   | 59             | 45  | 71                               | 54   | 94                            | 93   |

Table 7 indicates that except at Jones Street, north of Dunmore Street, all of the above collector type residential streets currently do not meet the environmental capacity threshold of 500 vehicles per hour (albeit that the above criteria are for purely residential roads rather than mixed use roads) with or without the development traffic added to the 2027 road network. The RMS Guide to Traffic Generating Development recognises that “the Environmental Capacity of a street can be increased through a reduction in speed” and that “traffic speed may be reduced by the introduction of traffic calming methods”.

We consider that the following traffic calming devices could be considered but this would usually be the subject of further discussions at a more advanced stage of scheme development:

- Road humps – to stop vehicles from speeding up but it may not be suitable along the bus routes.
- Speed cushions – one to three devices could be installed, depending on the width of the road. Speed cushions are most accommodating for vehicles such as buses and emergency vehicles compared to the road humps.
- Speed tables - similar to road humps but longer and with a flattened top, sometimes used to give pedestrians a level crossing between footways.
- Pedestrian refuges - allow pedestrians to cross one stream of traffic at a time. It is designed to reduce the speed by narrowing the road, however the road needs to be wide enough to allow for a suitable refuge and the safe passage of vehicles and cycles.

The above table also indicates that all local streets such as Rogers Street and Oatlands Street are expected to meet the environmental capacity threshold.

## 6. Conclusion

This supplementary traffic assessment report has addressed the issues raised by the Council.

In conclusion, the proposed redevelopment would be able to proceed without having a significant adverse impact on the overall performance of the road network in the vicinity of the site, albeit that some local intersection improvements may be required at Pendle Way/Gilba Road intersection which is likely to require the consideration of the effect of retail activities downstream of this intersection rather than increasing the capacity of itself and modification of traffic signal timing at Goodall Street/ Wentworth Avenue intersection to reflect the additional traffic on Goodall Street.

Furthermore, traffic calming measures may be required to manage speed and to minimise any environmental effects on residential amenity. Details of intersection upgrades and traffic calming options would be addressed and approved by Council during the detail design stage.

Naturally, should you have any questions or require any further information, please do not hesitate to contact me in our Sydney office on (02) 8448 1800.

Yours sincerely

**GTA CONSULTANTS**



**Ken Hollyoak**  
**Director (NSW)**

encl.

## Attachment 1

Traffic and Transport Report, GTA Consultants (30 April 2014)



Bonds Spinning Mills  
Pendle Hill  
Traffic and Transport Report

transportation planning, design and delivery

## Bonds Spinning Mills

### Pendle Hill

## Traffic and Transport Report

Issue: E 30/04/14

Client: Dyldam Development Pty Ltd

Reference: 13S1210100

GTA Consultants Office: NSW

#### Quality Record

| Issue | Date     | Description                            | Prepared By    | Checked By    | Approved By  | Signed                                                                                |
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| B     | 22/05/13 | Revised Final                          | Jason Rudd     | Ken Hollyoak  | Ken Hollyoak | Ken Hollyoak                                                                          |
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| D     | 11/04/14 | Incorporating Council and RMS comments | Ashish Modessa | Wayne Johnson | Ken Hollyoak | Ken Hollyoak                                                                          |
| E     | 30/04/14 | Amended Car Parking Provisions         | Ashish Modessa | Wayne Johnson | Ken Hollyoak |  |

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# 1. Introduction

## 1.1 Background

Dyldam Development Pty Ltd is currently investigating the redevelopment of the Bonds Spinning Mills in Pendle Hill to incorporate approximately 1,600 new dwellings and 6,000m<sup>2</sup> of retail, including an approximately 4,000m<sup>2</sup> supermarket. The final dwelling numbers/mix as well as the retail floor areas would be confirmed at a later stage.

The site is located close to public transport and is within easy walking and/or cycling distance of key destinations such as Pendle Hill Station, Westmead Hospital precinct and the Parramatta CBD. Such a location provides an opportunity to create a sustainable urban neighbourhood which promotes and encourages sustainable transport, and provides a catalyst for urban renewal and revitalisation in and around the Pendle Hill area.

GTA Consultants was commissioned by CBRE to undertake a transport impact assessment for the proposed development. This report has also taken into account comments from the City of Holroyd Council meeting in October 2013.

## 1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

- i existing traffic and parking conditions surrounding the site;
- ii existing pedestrian, bicycle and public transport facilities and accessibility;
- iii pedestrian, bicycle & public transport needs, in particular with regard to site layout;
- iv service vehicle requirements;
- v the traffic generating characteristics of the proposed development;
- vi suitability of the proposed access arrangements for the site; and
- vii the transport impact of the development proposal on the surrounding road network.

## 1.3 References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds;
- City of Holroyd Development Control Plan (DCP) and Local Environment Plan (LEP);
- Australian Standard / New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004;
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2002;
- Australian Standard / New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2009;
- City of Holroyd – Ordinary Council Meeting 29 October 2013 at 6:30pm;
- traffic and car parking surveys undertaken by Colston Budd Hunt & Kafes as referenced in *Transport Report for Proposed Mixed Use Residential Development, Pendle Hill*, dated July 2012;
- traffic surveys undertaken by Skyhigh Traffic Data in March 2014;
- correspondence relating to proposed development configuration; and
- other documents and data as referenced in this report.

## 2. Existing Conditions

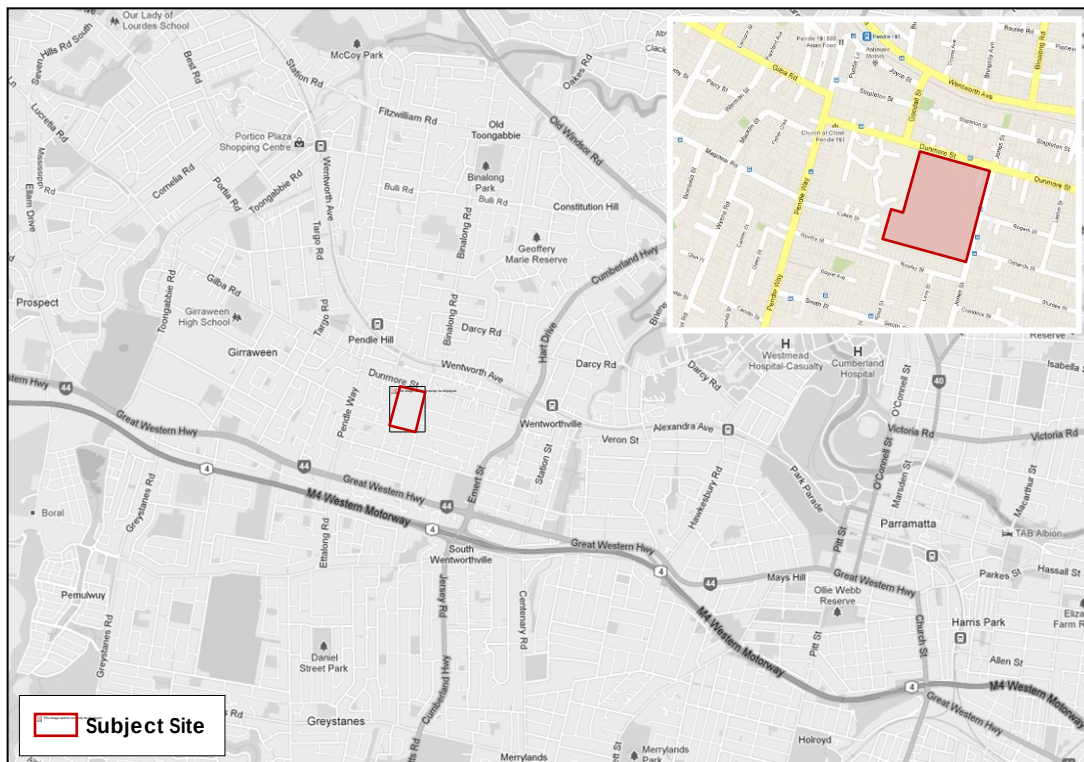
The subject site is located at 190-192 Dunmore Street, Pendle Hill. The site has frontage to Dunmore Street (~230m) and Jones Street (~320m), and comprises 8 hectares with approximately 47,000m<sup>2</sup> of existing industrial/warehouse development.

The site currently has a land use classification as Light Industrial and is occupied by the Pacific Brands industrial/ manufacturing facility, administration, storage and distribution operations. Surrounding land use is predominately residential and commercial/ retail, with the Pendle Hill Retirement Village located just west of the site.

Access to the site is currently provided from both Dunmore Street and Jones Street via combined entry/exit driveways.

The location of the subject site and its surrounding environs is shown in Figure 2.1.

Figure 2.1: Subject Site and Its Environs



(Source: Google Maps)

### 2.1 Road Network

The major road network in the vicinity of the site includes the Great Western Highway and the M4 Western Motorway running east-west to the south of the site and the Cumberland Highway running north-south to the east of the site. These arterial roads connect the site to major destinations including the Sydney CBD, Parramatta and Liverpool.

## 2.1.1 Adjoining Roads

### Dunmore Street

Dunmore Street is a classified Regional Road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 4-lane, comprising a traffic lane and a kerbside parking lane in each direction, 12m wide carriageway, set within an approximately 20m wide road reserve.

Kerbside parking is permitted in certain locations, including along the perimeter of the site. Dunmore Street is shown in Figure 2.2 and carries approximately 12,000 vehicles per day<sup>1</sup> (in the vicinity of the site).

### Jones Street

Jones Street is a local road and in the vicinity of the site is aligned in a north-south direction. It is a two-way road configured with a 2-lane, 12m wide carriageway, set within an approximately 20m wide road reserve.

Kerbside parking is permitted, subject to time restrictions. Jones Street is shown in Figure 2.3 and carries approximately 5,000 vehicles per day<sup>2</sup> (in the vicinity of the site).

Figure 2.2: Dunmore Street



Figure 2.3: Jones Street



### Pendle Way

Pendle Way is a local road and in the vicinity of the site is aligned in a north-south direction. It is a two-way road configured with a 2-lane, 12m wide carriageway, set within an approximately 20m wide road reserve.

Kerbside parking is permitted and is unrestricted. Pendle Way is shown in Figure 2.4 and carries approximately 11,000 vehicles per day<sup>3</sup> (in the vicinity of the site).

### Smith Street

Smith Street is a local road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 2-lane, 12m wide carriageway, set within an approximately 20m wide road reserve.

Kerbside parking is permitted and is unrestricted. Smith Street is shown in Figure 2.5 and carries approximately 5,500 vehicles per day<sup>4</sup> (in the vicinity of the site).

1 Based on tube count data collected between Jones Street and Goodall Street in March 2014.

2 Based on tube count data collected between Jones Street and Goodall Street in March 2014.

3 Based on the peak hour traffic counts undertaken by Colston Budd Hunt in 2012 (factored for a Thursday PM peak hour) and assuming a peak-to-daily ratio of 10% for local roads.

Figure 2.4: Pendle Way



Figure 2.5: Smith Street



## Rogers Street

Rogers Street is a local road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 2-lane, 10m wide carriageway, set within a 20m wide road reserve (approximate).

Kerbside parking is permitted and is unrestricted. Rogers Street is shown in Figure 2.1 and carries less than 400 vehicles per day<sup>5</sup>.

## Oatlands Street

Oatlands Street is a local road and in the vicinity of the site is aligned in an east-west direction. It is a two-way road configured with a 2-lane, 12m wide carriageway, set within a 20m wide road reserve (approximate).

Kerbside parking is permitted and is unrestricted. Oatlands Street is shown in Figure 2.7 and carries less than 600 vehicles per day<sup>6</sup>.

Figure 2.6: Rogers Street



Figure 2.7: Oatlands Street



- 4 Based on the peak hour traffic counts undertaken by Colston Budd Hunt in 2012 (factored for a Thursday PM peak hour) and assuming a peak-to-daily ratio of 10% for local roads.
- 5 Based on the peak hour traffic counts undertaken by Colston Budd Hunt in 2012 (factored for a Thursday PM peak hour) and assuming a peak-to-daily ratio of 10% for local roads.
- 6 Based on the peak hour traffic counts undertaken by GTA Consultants in 2012 (factored for a Thursday PM peak hour) and assuming a peak-to-daily ratio of 10% for local roads.

## 2.1.2 Surrounding Intersections

The following intersections currently exist in the vicinity of the site:

- Dunmore Street/ Jones Street (roundabout)
- Dunmore Street/ Goodall Street (signalised intersection)
- Dunmore Street/ Pendle Way (signalised intersection)
- Jones Street/ Smith Street (roundabout)
- Jones Street/ Rogers Street (unsignalised intersection)
- Jones Street/ Oatlands Street (roundabout).

## 2.2 Traffic Volumes

As part of a previous planning proposal submission for the subject site, Colston Budd Hunt and Kafes (CBHK) on behalf of Pacific Brands, undertook traffic movement counts on key roads/ intersections in the vicinity of the site during the AM and PM peak period.

GTA Consultants supplemented these counts by undertaking traffic movement counts at the intersection of Jones Street/ Oatlands Street on Tuesday 27 November 2012 during the AM and PM peak hours, determined to be 7.30am-8.30am and 5.00pm to 6.00pm, respectively.

Following comments from City of Holroyd Council and Roads and Maritime Services (RMS), the study intersections were surveyed on Saturday 8<sup>th</sup> March 2014 during the midday peak hour, determined to be 11:00am-12:00pm.

In addition, classified traffic volumes were collected on Dunmore Street and Jones Street for 7-days starting 5<sup>th</sup> March 2014 to estimate the change in traffic on a Thursday in 2014 as compared to a Tuesday in 2012. In this way the existing Tuesday counts could be factored to replicate the Thursday conditions required by Council. As a result, all movements along Dunmore Street were increased by 2% and 5% during the weekday AM and PM peak hour periods respectively. Similarly, all movements along Jones Street were reduced by 6% and increased by 10% during the weekday AM and PM peak hour periods respectively.

The estimated Thursday AM and PM peak hour and surveyed Saturday midday traffic volumes are summarised in Figure 2.8, Figure 2.9 and Figure 2.10, respectively.

### 2.2.1 Historic / Potential Re-Use of Site

In addition to the surveyed intersections, Colston Budd also undertook traffic counts of the number of vehicles entering and exiting the site from Dunmore Street and Jones Street. These counts indicated that the existing facility on the site generated between 50-60 vehicles per hour two-way during the morning and afternoon peak. Historically, the site would have generated significantly more traffic than this. Indeed, the Colston Budd report noted the following:

*“over recent years, the industrial and manufacturing operations on the site have been scaled down and as a consequence, a number of existing buildings within the site are either vacant or underutilised. At peak operation the site generated significant heavy vehicle movements, including articulated vehicles, and significant on-site employee parking. The site operated 24 hours per day seven days per week and had an employment work force of some 2,000 staff. The site currently has substantial fewer staff, with some 400 people employed on the site”.*

With approximately 47,000m<sup>2</sup> of existing industrial/warehouse development spread over 8 hectares, the existing site has significantly higher potential to generate traffic than it currently does. If the existing building footprint on-site was to be used to full capacity (without redevelopment) the site has the potential to generated 565 trips per hour in the peak periods. Given the nature of the use, a significant number of these would presumably be by trucks.

If redeveloped for an industrial or warehousing / distribution use, for which the current zoning allows, it is likely that a developer would increase the floor space ration (FSR) from the current provision, and as such the traffic generated could be much higher than 565 trips per hour.

Based on surrounding development patterns of 0.5:1 for R2 Low Density Residential and 1.2:1 for the R4 High Density Residential, the subject site, if developed for industrial use to an FSR of, say, 0.85:1, could potentially generate around 800 trips per hour.

Figure 2.8: Estimated Existing Thursday AM Traffic Volumes

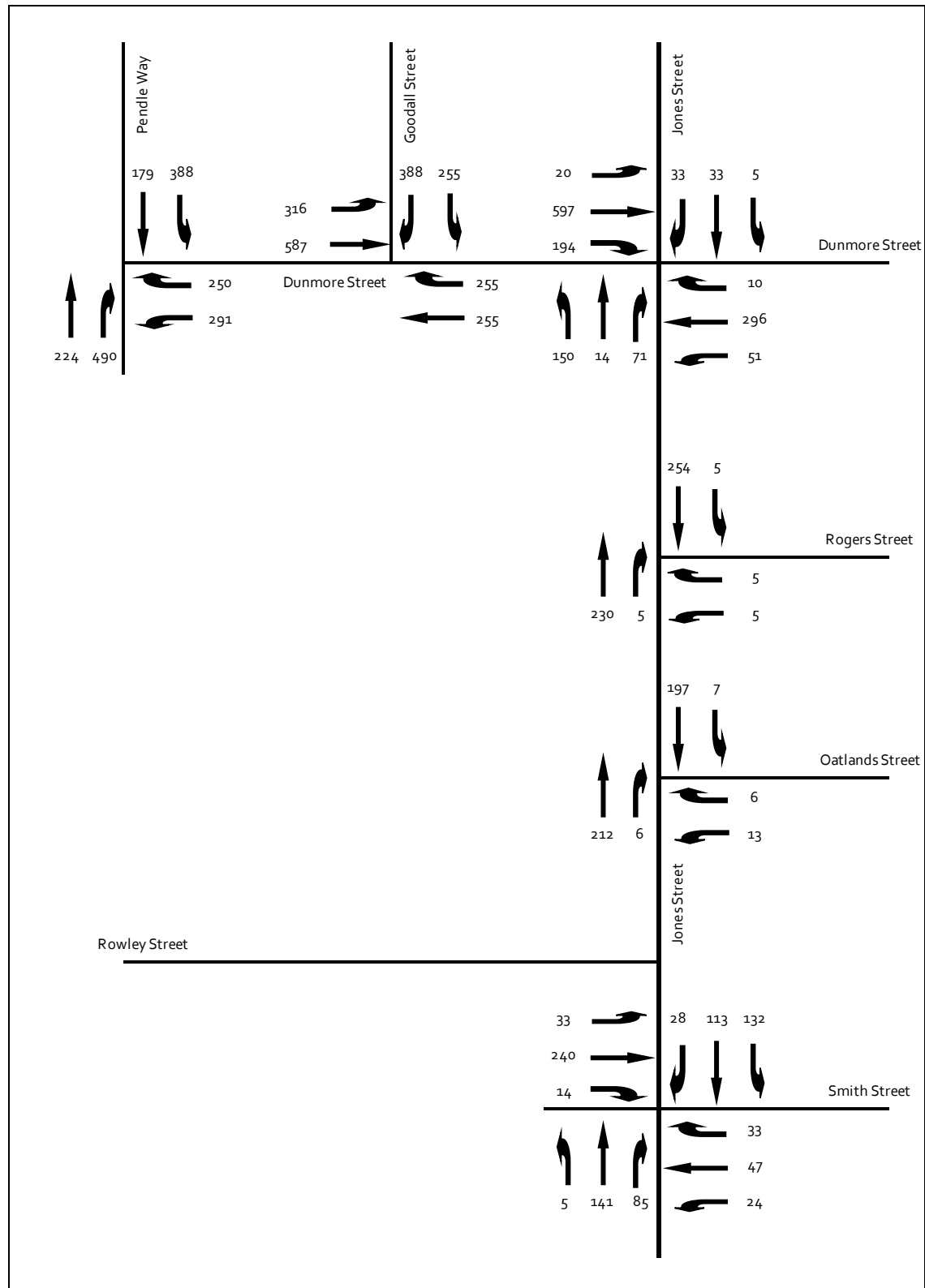


Figure 2.9: Estimated Existing Thursday PM Traffic Volumes

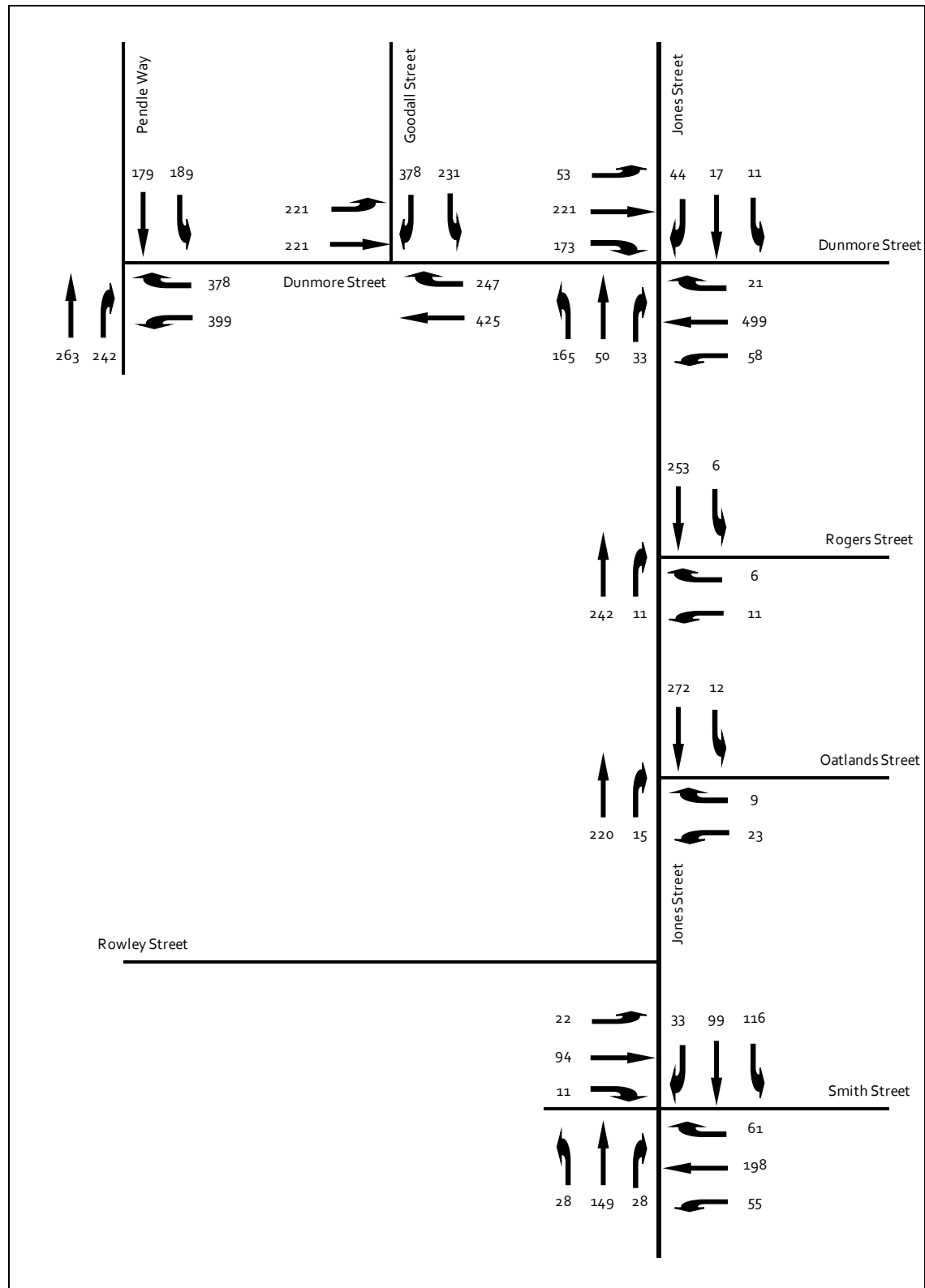
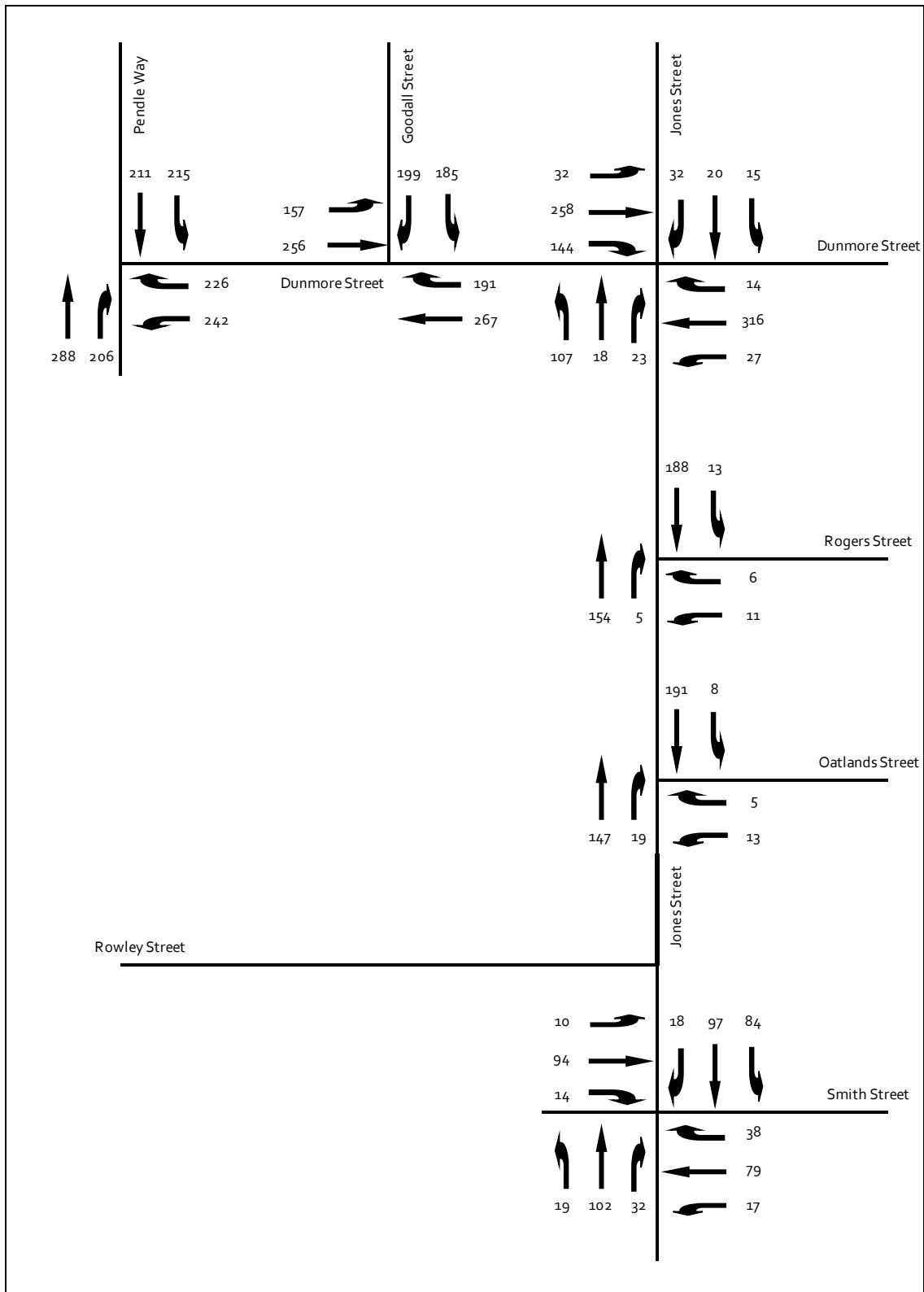


Figure 2.10: Existing Saturday Midday Traffic Volumes



## 2.3 Intersection Operation

The operation of the key intersections within the study area have been assessed using SIDRA INTERSECTION<sup>7</sup>, a computer based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the RMS, is vehicle delay. SIDRA INTERSECTION determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 2.1 shows the criteria that SIDRA INTERSECTION adopts in assessing the level of service.

**Table 2.1: SIDRA INTERSECTION Level of Service Criteria**

| Level of Service (LOS) | Average Delay per vehicle (secs/veh)                                                                                                                                                                   | Traffic Signals, Roundabout                                   | Give Way & Stop Sign                      |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------|
| A                      | Less than 14                                                                                                                                                                                           | Good operation                                                | Good operation                            |
| B                      | 15 to 28                                                                                                                                                                                               | Good with acceptable delays and spare capacity                | Acceptable delays and spare capacity      |
| C                      | 29 to 42                                                                                                                                                                                               | Satisfactory                                                  | Satisfactory, but accident study required |
| D                      | 43 to 56                                                                                                                                                                                               | Near capacity                                                 | Near capacity, accident study required    |
| E                      | 57 to 70                                                                                                                                                                                               | At capacity, at signals incidents will cause excessive delays | At capacity, requires other control mode  |
| F                      | Greater than 70                                                                                                                                                                                        | Extra capacity required                                       | Extreme delay, major treatment required   |
| N/A                    | Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road lanes. |                                                               |                                           |

Table 2.2 presents a summary of the existing operation of the study intersections with full results provided in Appendix A of this report.

<sup>7</sup> Program used under license from Akcelik & Associates Pty Ltd.

**Table 2.2: Existing – Sidra Results**

| Intersection                  | Peak | Leg   | Average Delay (sec) | Level of Service (LOS) |
|-------------------------------|------|-------|---------------------|------------------------|
| Jones Street/ Rogers Street   | AM   | South | 1                   | NA                     |
|                               |      | East  | 11                  | A                      |
|                               |      | North | 0                   | NA                     |
|                               |      | All   | 1                   | NA                     |
|                               | PM   | South | 2                   | NA                     |
|                               |      | East  | 10                  | A                      |
|                               |      | North | 0                   | NA                     |
|                               |      | All   | 1                   | NA                     |
|                               | Sat  | South | 1                   | NA                     |
|                               |      | East  | 9                   | A                      |
|                               |      | North | 0                   | NA                     |
|                               |      | All   | 1                   | NA                     |
| Jones Street/ Oatlands Street | AM   | South | 1                   | NA                     |
|                               |      | East  | 9                   | A                      |
|                               |      | North | 0                   | NA                     |
|                               |      | All   | 1                   | NA                     |
|                               | PM   | South | 2                   | NA                     |
|                               |      | East  | 10                  | A                      |
|                               |      | North | 0                   | NA                     |
|                               |      | All   | 2                   | NA                     |
|                               | Sat  | South | 2                   | NA                     |
|                               |      | East  | 8                   | A                      |
|                               |      | North | 0                   | NA                     |
|                               |      | All   | 1                   | NA                     |
| Jones Street/ Smith Street    | AM   | South | 7                   | A                      |
|                               |      | East  | 7                   | A                      |
|                               |      | North | 9                   | A                      |
|                               |      | West  | 8                   | A                      |
|                               |      | All   | 8                   | A                      |
|                               | PM   | South | 8                   | A                      |
|                               |      | East  | 7                   | A                      |
|                               |      | North | 7                   | A                      |
|                               |      | West  | 7                   | A                      |
|                               |      | All   | 7                   | A                      |
|                               | Sat  | South | 7                   | A                      |
|                               |      | East  | 7                   | A                      |
|                               |      | North | 7                   | A                      |
|                               |      | West  | 7                   | A                      |
|                               |      | All   | 7                   | A                      |

## Existing Conditions

| Intersection                   | Peak | Leg   | Average Delay (sec) | Level of Service (LOS) |
|--------------------------------|------|-------|---------------------|------------------------|
| Jones Street/ Dunmore Street   | AM   | South | 10                  | A                      |
|                                |      | East  | 8                   | A                      |
|                                |      | North | 15                  | B                      |
|                                |      | West  | 7                   | A                      |
|                                |      | All   | 8                   | A                      |
|                                | PM   | South | 12                  | A                      |
|                                |      | East  | 9                   | A                      |
|                                |      | North | 11                  | A                      |
|                                |      | West  | 7                   | A                      |
|                                |      | All   | 9                   | A                      |
|                                | Sat  | South | 9                   | A                      |
|                                |      | East  | 7                   | A                      |
|                                |      | North | 10                  | A                      |
|                                |      | West  | 7                   | A                      |
|                                |      | All   | 7                   | A                      |
| Goodall Street/ Dunmore Street | AM   | East  | 26                  | B                      |
|                                |      | North | 31                  | C                      |
|                                |      | West  | 23                  | B                      |
|                                |      | All   | 26                  | B                      |
|                                | PM   | East  | 14                  | A                      |
|                                |      | North | 24                  | B                      |
|                                |      | West  | 14                  | A                      |
|                                |      | All   | 18                  | B                      |
|                                | Sat  | East  | 14                  | A                      |
|                                |      | North | 20                  | B                      |
|                                |      | West  | 15                  | B                      |
|                                |      | All   | 16                  | B                      |
| Pendle Way/ Dunmore Street     | AM   | South | 20                  | B                      |
|                                |      | East  | 23                  | B                      |
|                                |      | North | 16                  | B                      |
|                                |      | All   | 20                  | B                      |
|                                | PM   | South | 16                  | B                      |
|                                |      | East  | 20                  | B                      |
|                                |      | North | 15                  | B                      |
|                                |      | All   | 18                  | B                      |
|                                | Sat  | South | 10                  | A                      |
|                                |      | East  | 22                  | B                      |
|                                |      | North | 12                  | A                      |
|                                |      | All   | 15                  | B                      |

The priority controlled intersections of Jones Street/ Rogers Street and Jones Street/ Oatlands Street are currently operating with little to no delay (less than 14 seconds) and an average Level of Service A during all peak hours. This signifies good intersection operation.

The roundabout controlled intersections of Dunmore Street/ Jones Street and Jones Street/ Smith Street are also operating with minimal delay (less than 20 seconds) and an average Level of Service A/ B during all peak hours, constituting a good level of intersection operation.

The signalised intersections of Dunmore Street/ Goodall Street and Dunmore Street/ Pendle Way are both currently operating with minimal but acceptable delay (35 seconds or less). Both intersections have an average Level of Service B, indicating spare capacity.

## 2.4 Public Transport

### 2.4.1 Rail

Pendle Hill Station is located approximately 500m north-west of the subject site, equivalent to an 8-10 minute walk. The station is served by the North Shore and Western Line, and the Cumberland Line.

The North Shore and Western Line travels from Richmond and Emu Plains through Parramatta and the Sydney CBD to North Sydney and Chatswood. During the AM and PM peak, services run every 15 minutes. Outside of the peak services run every 30 minutes.

The Cumberland Line travels from Blacktown through Parramatta and Liverpool to Campbelltown. During the AM and PM peak, services run every 15 minutes. Outside of the peak services run every 30 minutes.

Combined, these train services run every 5-10 minutes in the peak and every 20-30 minutes in the off-peak in both directions. Transferring trains at Parramatta Station allows for more frequent trips between Pendle Hill and major destinations such as the Sydney CBD and Liverpool.

### 2.4.2 Bus

Local bus services are operated by Hillsbus and include the following routes:

- Route 700: Every 15 minutes during weekday AM/ PM peak and every hour off-peak (including weekends). Runs along Smith Street between Blacktown Station and Parramatta Station via Girraween and Pendle Hill.
- Route 705: Every 30 minutes during weekday AM/ PM peak and every hour off-peak (including weekends). Runs along Dunmore Street and Pendle Way between Seven Hill, Toongabbie, Pendle Hill, Wentworthville and Parramatta.
- Route 708: One service in the morning and one in the afternoon. Runs along Dunmore Street and Pendle Way, connecting retirement villages in Parramatta, Wentworthville and Pendle Hill.

## 2.5 Pedestrian Infrastructure

Pedestrian paths are located as follows:

- Dunmore Street – 1.2m wide footpath on both sides
- Jones Street – 1.2m wide footpath on the western side only
- Pendle Way – 1.2m wide footpath on both sides, widening to approximately 3m in the town centre
- Smith Street – 1.2m wide footpath on the northern side only
- Rogers Street – 1.2m wide footpath on the southern side only
- Oatlands Street – 1.2m wide footpath on the southern side only.

The northern and western arms of the Dunmore Street/ Goodall Street intersection and the eastern and southern arms of the Dunmore Street/ Pendle Way intersection have signalised pedestrian crossings.

Pedestrian refuges are provided on all the arms of the roundabout intersections of Smith Street/ Jones Street and Dunmore Street/ Jones Street.

There are no other pedestrian crossings in the vicinity of the site. Additional crossing facilities could be provided to help encourage increased pedestrian activity.

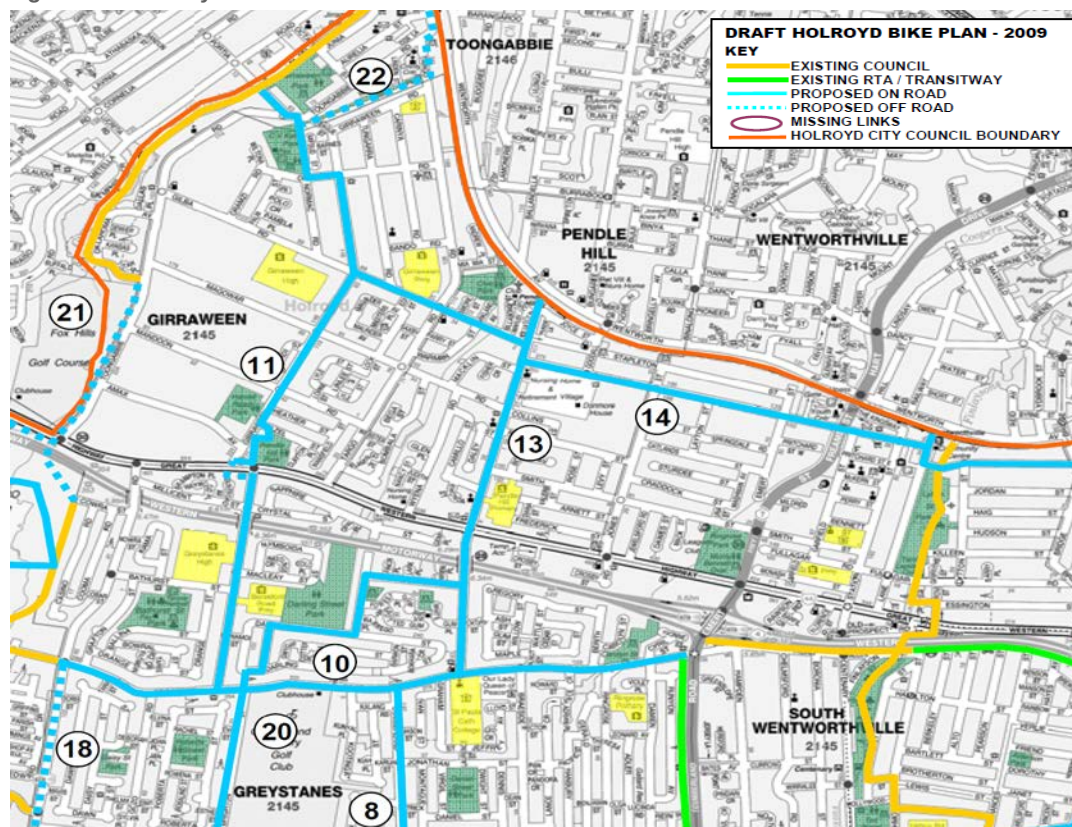
## 2.6 Cycle Infrastructure

There are no dedicated cycling facilities within the immediate vicinity of the subject site, however many of the local streets are suitable for mixed traffic. Children under the age of 12, and accompanying adults can of course legally cycle on footpaths.

The 2009 Holroyd Bike Plan, shown in Figure 2.11, indicates that on-road bicycle facilities are proposed along Dunmore Street and Pendle Way. These are likely be mixed traffic facilities shared with parked vehicles.

Four secure bicycle lockers are currently available at Pendle Hill Station.

Figure 2.11: Holroyd Bike Plan



## 2.7 Local Car Sharing Initiatives

There are currently no local car sharing initiatives operating near the subject site.

## 3. Development Proposal

### 3.1 Land Uses

The revised Concept Master Plan, shown in Figure 3.1, includes approximately 1,600 new dwellings and 6,000m<sup>2</sup> of retail floor space, including approximately 4,000m<sup>2</sup> of supermarket and 2,000m<sup>2</sup> of specialty retail. The final dwelling numbers/mix as well as retail floor areas will be confirmed at a later stage.

Figure 3.1: Site Layout



Source: Roberts Day dated 26 April 13 (Drawing No. RD3 313).

### 3.2 Vehicle Access

The revised Concept Master Plan will seek to provide vehicle access via both of the site's road frontages, namely Dunmore Street and Jones Street. The provision of multiple site access roads with supporting internal road linkages will assist the general distribution and dispersion of site generated traffic to the external road network.

The exact location of accesses is not proposed to be fixed at this point as the location will be dependent upon a number of variables (e.g. heritage buildings). Whilst it was the intention to use the existing single access T-intersection on Dunmore Street and Jones Street, it is unlikely that a simple tee intersection would be able to operate satisfactorily on Dunmore Street. Furthermore this access is close to the Dunmore Street/ Jones Street roundabout.

Consequently, in Section 4.6, scenarios have been tested which show that access to the site can be satisfactorily achieved on the Dunmore and Jones Street frontages, this report does not intend to finalise the form and location of these at this stage as they may need to be amended during the development application. However the traffic analysis does show, for the purposes of rezoning the site, that satisfactory accesses can be achieved along the site frontages.

### 3.3 Car Parking

On-site car parking provision would need to be provided in accordance with the goals and objectives as set out in the City of Holroyd LEP 2013 and DCP 2013. Essentially the objectives of the current DCPs are to ensure that there is sufficient on-site car parking to accommodate the site's parking demands.

Figure 3.2 has been extracted from the City of Holroyd DCP 2013 and provides the minimum and maximum car parking requirements for residential and retail uses.

Figure 3.2: City of Holroyd DCP 2013 – Car Parking Requirements

| Residential                                                                                                                                                      |                                             |                              |                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------|-------------------------|
| Use                                                                                                                                                              | Measure                                     | Minimum Spaces Required      | Maximum Spaces Required |
| Attached dwellings and Small lot dwelling houses (<300m <sup>2</sup> or 8m or less width)                                                                        | Per dwelling                                | 1                            | 2<br>(max. 1 covered)   |
| Dwelling houses (other than on small lots), semi detached dwellings, dual occupancies.                                                                           | Per dwelling                                | 2<br>(min. 1 covered)        | n/a                     |
| Multi dwelling housing                                                                                                                                           | Bedroom per dwelling:<br>Studio / 1 bedroom | 1                            | 1.5                     |
|                                                                                                                                                                  | 2 bedroom                                   | 1                            | 2                       |
|                                                                                                                                                                  | 3 bedroom                                   | 1.2                          | 2                       |
|                                                                                                                                                                  | 4+ bedroom                                  | 1.5                          | 2                       |
|                                                                                                                                                                  | Visitor / dwelling                          | 0.2                          | 0.5                     |
| Residential flat buildings, dwellings in B1, B2 and B6 business zones (including shop top housing)                                                               | Bedroom per dwelling:<br>Studio / 1 bedroom | 0.8                          | 1                       |
|                                                                                                                                                                  | 2 bedroom                                   | 1                            | 1.5                     |
|                                                                                                                                                                  | 3 bedroom                                   | 1.2                          | 2                       |
|                                                                                                                                                                  | 4+ bedroom                                  | 1.5                          | 2                       |
|                                                                                                                                                                  | Visitor / dwelling                          | 0.2                          | 0.5                     |
| Dwellings in mixed use development in B4 Mixed Use zone (including shop top housing)                                                                             | Bedroom per dwelling:<br>Studio / 1 bedroom | 0.8                          | 1                       |
|                                                                                                                                                                  | 2 bedroom                                   | 1                            | 1.2                     |
|                                                                                                                                                                  | 3 bedroom                                   | 1                            | 1.2                     |
|                                                                                                                                                                  | 4+ bedroom                                  | 1.2                          | 1.5                     |
|                                                                                                                                                                  | Visitor / dwelling                          | 0.2                          | 0.2                     |
| Retail & Commercial                                                                                                                                              |                                             |                              |                         |
| Use                                                                                                                                                              | Measure                                     | Minimum Spaces Required      | Maximum Spaces Required |
| Commercial (including retail premises, business premises and office premises) - B4 zone                                                                          | Ground Floor Leasable GFA                   | 1 per 50m <sup>2</sup>       | 1 per 15m <sup>2</sup>  |
|                                                                                                                                                                  | Above Ground Floor Leasable GFA             |                              |                         |
| Commercial (including retail premises, business premises and office premises) - B2 zones in:<br>* Wentworthville<br>* Pendle Hill<br>* Toongabbie<br>* Guildford | Ground Floor - Leasable GFA                 | 1 per 20m <sup>2</sup>       | 1 per 15m <sup>2</sup>  |
|                                                                                                                                                                  | Above Ground Floor - Leasable GFA           | 1 per 40m <sup>2</sup>       | 1 per 20m <sup>2</sup>  |
| Commercial (including retail premises, business premises and office premises) in all other B1, B2 and B6 zoned areas                                             | Ground Floor - Leasable GFA                 | 1 per 20m <sup>2</sup>       | 1 per 10m <sup>2</sup>  |
|                                                                                                                                                                  | Above Ground Floor - Leasable GFA           | 1 per 40m <sup>2</sup>       | 1 per 15m <sup>2</sup>  |
| Neighbourhood shop                                                                                                                                               | leasable GFA                                | 1 space per 30m <sup>2</sup> | n/a                     |

Extract from City of Holroyd DCP 2013

Based on the above, the car parking provisions for the proposed mixed use development would need to provide in the order of 2,040 spaces with a breakdown by use as follows:

- 1,600 spaces for Residential
- 320 for Residential Visitors
- 120 for Retail.

The demands of the development on the site also need to be considered with the broader state and local government transport objectives where non-private motor vehicle modes of travel are to be encouraged.

With the above in mind, and given the proposed rezoning of the site to Mixed Use, the Concept Master Plan envisages the following general on-site car parking provisions:

- Residential at 1 space / dwelling = 1,600 residential parking spaces
- Visitor parking at 1 space / 5 dwellings = 320 residential visitor parking spaces
- Retail at 1 space / 44m<sup>2</sup> GLFA = 137 retail parking spaces.

As such the envisaged provision of 2,057 car parking spaces accords with the minimum City of Holroyd DCP 2013 car parking requirements.

It is also expected that the supermarket and associated specialty stores would operate complementary to residential development, with a significant proportion of the trips generated internally/locally. Consequently, the parking provision at the site will be required for local/pass by facility rather than for a destination shopping centre.

Notwithstanding the above, the exact on-site parking provision will need to be defined once further details regarding the type of retail, commercial and residential land uses are proposed on the site.

### 3.4 Pedestrian Facilities

A network of new pedestrian paths connecting to the surround area would be provided as part of the proposed development. Additional details will be provided at the development application stage.

### 3.5 Bicycle Facilities

Cycle paths will be provided through the site and bicycle parking will be provided in accordance with the requirements of the City of Holroyd DCP.

### 3.6 Loading Areas

Loading areas for the proposed supermarket and specialty retail shops, as well as service vehicle access and refuse storage areas are to be provided in accordance with the City of Holroyd DCP and the relevant Australian Standards.

The required provisions will be determined at a later stage.

## 3.7 Consistency of Development Proposal with Holroyd Centres Strategy

The Holroyd Residential Centres Strategy Transport Review prepared by Stapleton Transportation and Planning Pty Ltd (STAP) identifies that:

- Pendle Hill provides good opportunities for the retention and enhancement of the currently surveyed use of non-car travel, and is well situated to provide high and medium density residential development.
- STAP is of the opinion that it would not be unwarranted for Council to investigate further expansion of the high density zone (or provision of a medium density zone)

south of the station to 400m at least if additional residential capacity is required in the future.

In terms of the provision of infrastructure to accommodate the future growth in population, previous discussions with Sydney Trains indicated that as the population grows in a given area and demand subsequently grows for rail services, the level of services to particular stations can be adjusted accordingly.

With regard to parking, the transport consultant review concluded that “total parking demands within Holroyd, and within the transit centres, will be lower under a high density residential strategy than under a dispersed strategy”. According to their research and analysis “High density residential development in close proximity to transit centres (unlike dispersed medium density) reduces commuter parking demand, as residents can walk to public transport services rather than have to drive.....their commuter parking is provided in the basement parking levels below their dwelling. Non-residential development (i.e. shops and businesses) within the transit centres also generates a lower parking demand, as a higher percentage of visitors (staff, customers etc.) can walk/cycle or use public transport to access the development”.

With a dispersed strategy (applied to either the new non-residential or residential development) those same customers simply cannot walk/cycle the greater distance and as such car trip and car parking demand is higher.

## 4. Traffic Impact Assessment

The traffic impact assessment presented in this section was prepared on the basis of an earlier development profile of 1,679 dwellings. Consequently, the modelling provides a conservative approach.

### 4.1 Traffic Generation

Traffic generation estimates for the proposed development have been sourced from the RMS *Guide to Traffic Generating Development* (including the recently issued Technical Direction TDT 2013/04a). The RMS Guide specifies different rates having consideration for a number of parameters including the size and location of the development. The document recorded the following traffic generation at the surveyed sites (which general comprise a mixture of unit sizes but with the majority being 2 bed apartments).

**Table 4.1: Traffic generation of High Density Dwellings**

|                                       | RMS Updated Traffic Surveys (2012)* |                      |                      |                      |                      |                        |                      |                      |                                    |
|---------------------------------------|-------------------------------------|----------------------|----------------------|----------------------|----------------------|------------------------|----------------------|----------------------|------------------------------------|
|                                       | Site 1 – St Leonards                | Site 2 - Chatswood   | Site 3 - Cronulla    | Site 4 - Rockdale    | Site 5 - Parramatta  | Site 6 – Liberty Grove | Site 7 - Strathfield | Site 10 - Pyrmont    | Sydney Metropolitan Area (Average) |
| No. of Units                          | 70                                  | 129                  | 28                   | 234                  | 83                   | 64                     | 31                   | 131                  | 96                                 |
| No. of Parking Spaces                 | 97                                  | 206                  | 18                   | 260                  | 108                  | 93                     | 30                   | 199                  | 126                                |
| Parking Provision Ratio (spaces/unit) | 1.39                                | 1.60                 | 0.64                 | 1.11                 | 1.30                 | 1.45                   | 0.97                 | 1.52                 | 1.31                               |
| Peak hour vehicle trips per unit      | 0.14(AM)<br>0.07(PM)                | 0.14(AM)<br>0.12(PM) | 0.07(AM)<br>0.11(PM) | 0.32(AM)<br>0.18(PM) | 0.27(AM)<br>0.12(PM) | 0.28(AM)<br>0.41(PM)   | 0.10(AM)<br>0.06(PM) | 0.18(AM)<br>0.10(PM) | 0.19 (AM)<br>0.15 (PM)             |

The sites surveyed within Sydney Metropolitan Area included sites within close proximity to the Sydney CBD with excellent access to public transport and retail and commercial precincts. As such, although the development is located in close proximity to public transport, traffic generation rates towards the higher end of the spectrum are anticipated. We have therefore used some of the highest recorded rates in the study (i.e. those at Rockdale), these rates being:

- weekday AM peak hour - 0.32 vehicles per dwelling two-way
- weekday PM peak hour - 0.18 vehicles per dwelling two-way
- Saturday peak hour - 0.23 vehicles per dwelling two-way.

The revised Concept Master Plan also includes approximately 6,000m<sup>2</sup> of retail floor area, including approximately 4,000m<sup>2</sup> of supermarket.

The RMS Guide, in Section 3.6.1, indicates that a supermarket of this size would generate around 155 and 147 two-way vehicle movements (per 1,000m<sup>2</sup>) in the Thursday PM and Saturday peak hours respectively, and specialty stores around 46 and 107 two-way vehicle movements (per 1,000m<sup>2</sup>) in the Thursday PM and Saturday peak hours respectively.

For the purpose of this assessment, it has been assumed that during the AM peak hour the traffic movements for the retail component would be around 50% of that generated during the PM peak hour.

It is also envisaged that the supermarket and associated specialty stores will operate complementary to residential development, with a limited number of trips generated externally. Retail analysis suggests that approximately 40% of retail activity in mixed use developments is generated by the residential component of the site. However, a conservative reduction of 25% has been applied to reflect this characteristic of the development - suggesting that up to 75% of trips could be generated externally (which again is believed to be a conservative figure).

Based on the above, estimates of external peak hour traffic volumes resulting from the proposal are set out in Table 4.2.

**Table 4.2: Traffic Generation Estimates (External Trips)**

| Use              | Units / GFA | Generation Rate   |                   |                   | Movements/hr. |     |     |
|------------------|-------------|-------------------|-------------------|-------------------|---------------|-----|-----|
|                  |             | AM                | PM                | Sat               | AM            | PM  | Sat |
| Residential      |             |                   |                   |                   |               |     |     |
| Dwellings        | 1,679       | 0.32 per dwelling | 0.18 per dwelling | 0.23 per dwelling | 537           | 302 | 386 |
| Retail           |             |                   |                   |                   |               |     |     |
| Supermarket      | 4,000m²     | 58 per 1,000m²    | 116 per 1,000m²   | 110 per 1,000m²   | 232           | 464 | 440 |
| Specialty retail | 2,000m²     | 17.5 per 1,000m²  | 35 per 1,000m²    | 80 per 1,000m²    | 35            | 70  | 160 |
| Total            |             |                   |                   |                   | 804           | 836 | 986 |

Table 4.2 indicates that the site could potentially generate approximately 800 external vehicle movements in the AM peak hour, 840 external vehicle movements in the PM peak hour and 1,000 external vehicle movements in the Saturday midday peak hour.

This compares to the 800 peak hour trips that could be generated by redeveloping the site to accommodate a higher FSR whilst maintaining a similar industrial use, as detailed in Section 2.2.1.

## 4.2 Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a number of factors, including the:

- configuration of the arterial road network in the immediate vicinity of the site
- existing operation of intersections providing access between the local and arterial road network
- distribution of households both within the site and in the vicinity of the site
- surrounding employment centres, retail centres and schools in relation to the site
- configuration of access points to the site.

Having considered the above, for the purposes of estimating vehicle movements, the directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) has been assumed as follows:

- Residential: 20% inbound/ 80% outbound during the Thursday AM peak, and 40% inbound/ 60% outbound during the Thursday PM peak.
- Retail: 70% inbound/ 30% outbound during the Thursday AM peak, and 60% inbound/ 40% outbound during the Thursday PM peak.
- During the Saturday midday peak, the directional split of both retail and residential traffic has been assumed as 50% outbound/ 50% inbound.

The splits are based on results from traffic surveys undertaken by Halcrow to update the RMS Guide to Traffic Generating Developments for shopping centres.

As stated in Section 3.2, the traffic distribution and assignment was undertaken based on one access on Dunmore Street and one access on Jones Street.

The NSW Governments' Bureau of Transport Statistics website was used to undertake where employed residents from Pendle Hill work. Mode of travel had also been considered with only vehicle travel assessed. The distribution of residential traffic was determined based on the top six destinations, factoring in the portion that drive, and has been summarised in Table 4.3.

**Table 4.3: Journey to Work Assessment**

| Employment Region | Where residents work | Portion that drive to work | Distribution Factor |
|-------------------|----------------------|----------------------------|---------------------|
| Parramatta        | 36%                  | 17%                        | <b>40%</b>          |
| City              | 22%                  | 4%                         | <b>5%</b>           |
| Blacktown         | 14%                  | 20%                        | <b>19%</b>          |
| Auburn            | 14%                  | 19%                        | <b>18%</b>          |
| Ryde              | 7%                   | 18%                        | <b>9%</b>           |
| Baulkham Hill     | 6%                   | 22%                        | <b>8%</b>           |
|                   | <b>100%</b>          | <b>100%</b>                | <b>100%</b>         |

Therefore based on the above the anticipated traffic distribution for the residential component is summarised in Figure 4.1.

**Figure 4.1: Traffic Distribution – Residential Component**

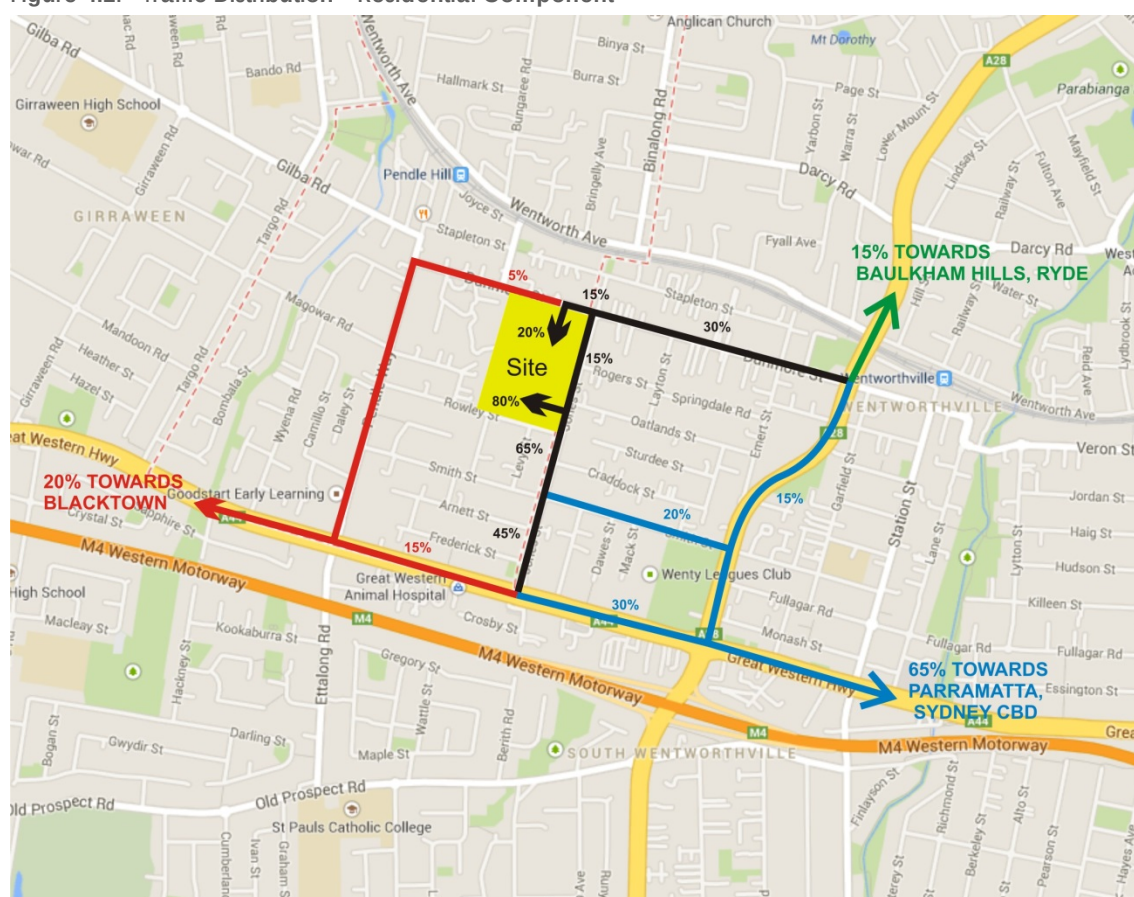
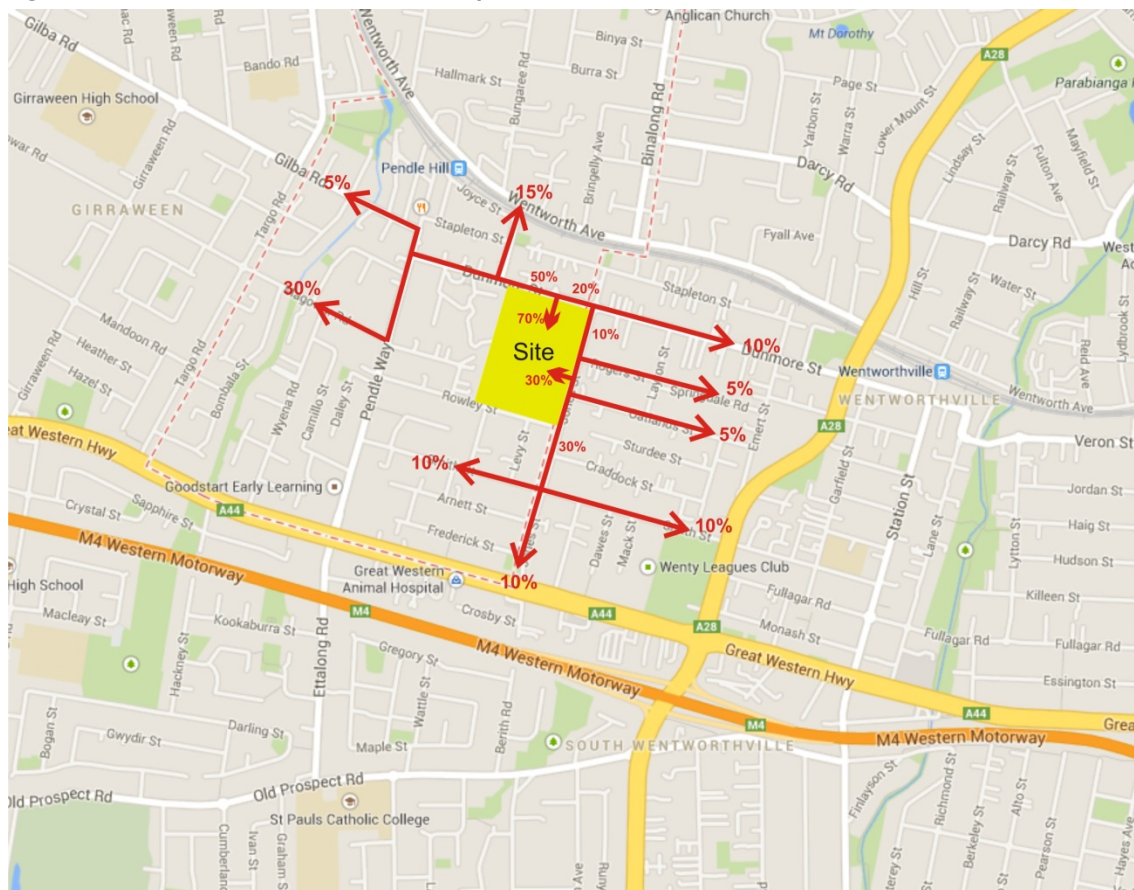


Figure 4.1 illustrates that the employed residents that work east of Pendle Hill would either travel between the Great Western Highway and the development by either Dunmore Street (15%), Smith Street (20%) or Jones Street (30%). Employed residents that work west of Pendle Hill would either travel via Pendle Way (5%) or Jones Street (15%). All traffic towards the north (15%) would use Dunmore Street. Traffic using Dunmore Street to/ from Cumberland Highway would access the development via either the Dunmore Street or Jones Street access (50/50 split).

**Figure 4.2: Traffic Distribution – Retail Component**



### 4.3 Future Impacts

The growth of traffic surrounding the site is influenced by a range of factors including nearby developments and regional traffic conditions. Given that the surrounding area is well established, future developments are likely to be 'infill' developments of existing sites, a 1% per annum linear growth rate was applied to the background traffic.

In addition, two 10 year horizon scenarios have been assessed, a 'without development' scenario to understand the likely traffic conditions in 2027 without the development; and a 'with development' scenario to understand the potential impacts the development has on the road network.

Based on the above, Figure 4.3, Figure 4.4 and Figure 4.5 have been prepared to show the anticipated Year 2027 background traffic volumes and the estimated increase in turning movements (shown in red on the figures) in the vicinity of the subject property following full site development.

Figure 4.3: Thursday AM Peak Hour Site Generated Traffic Volumes

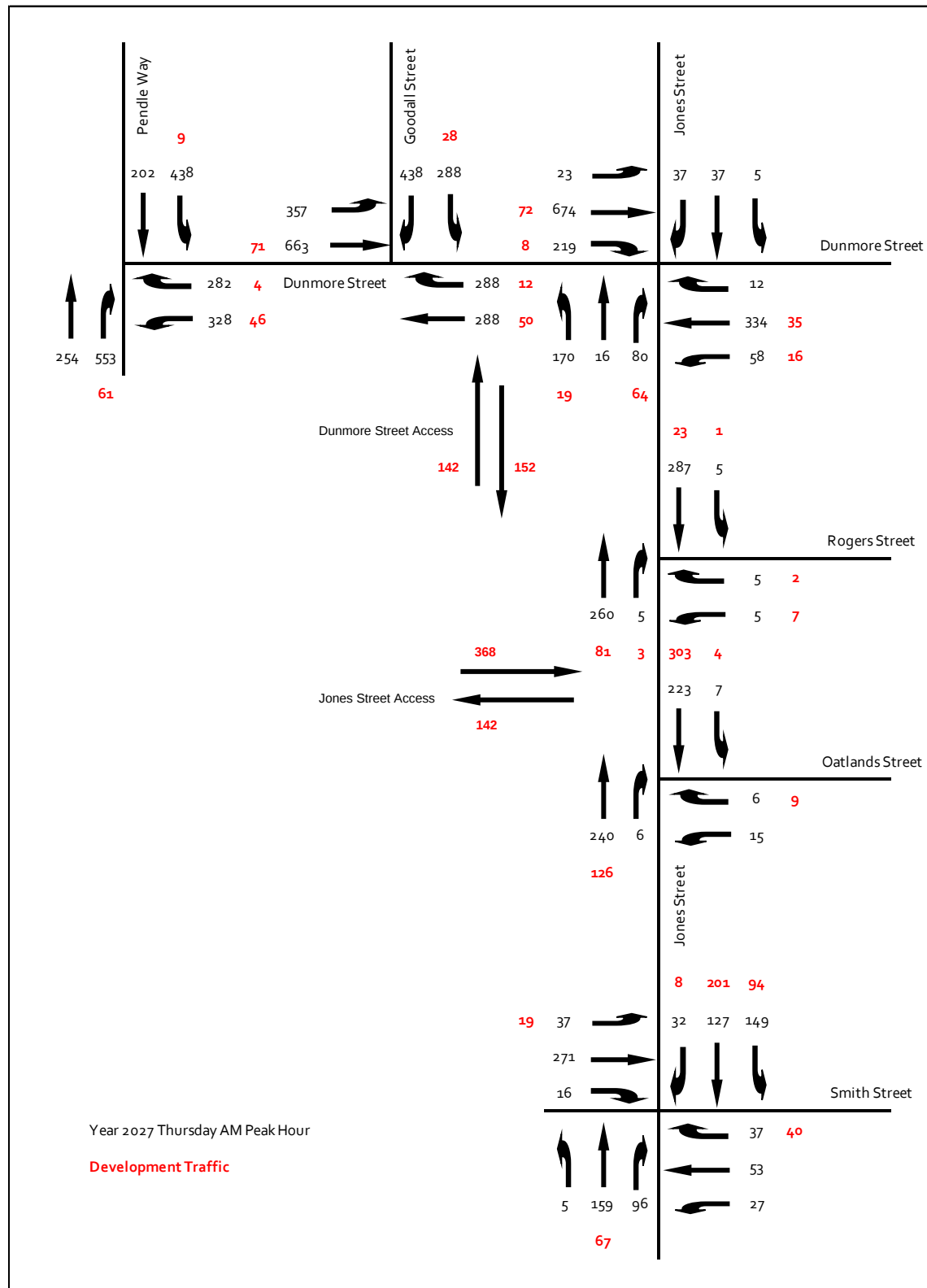


Figure 4.4: Thursday PM Peak Hour Site Generated Traffic Volumes

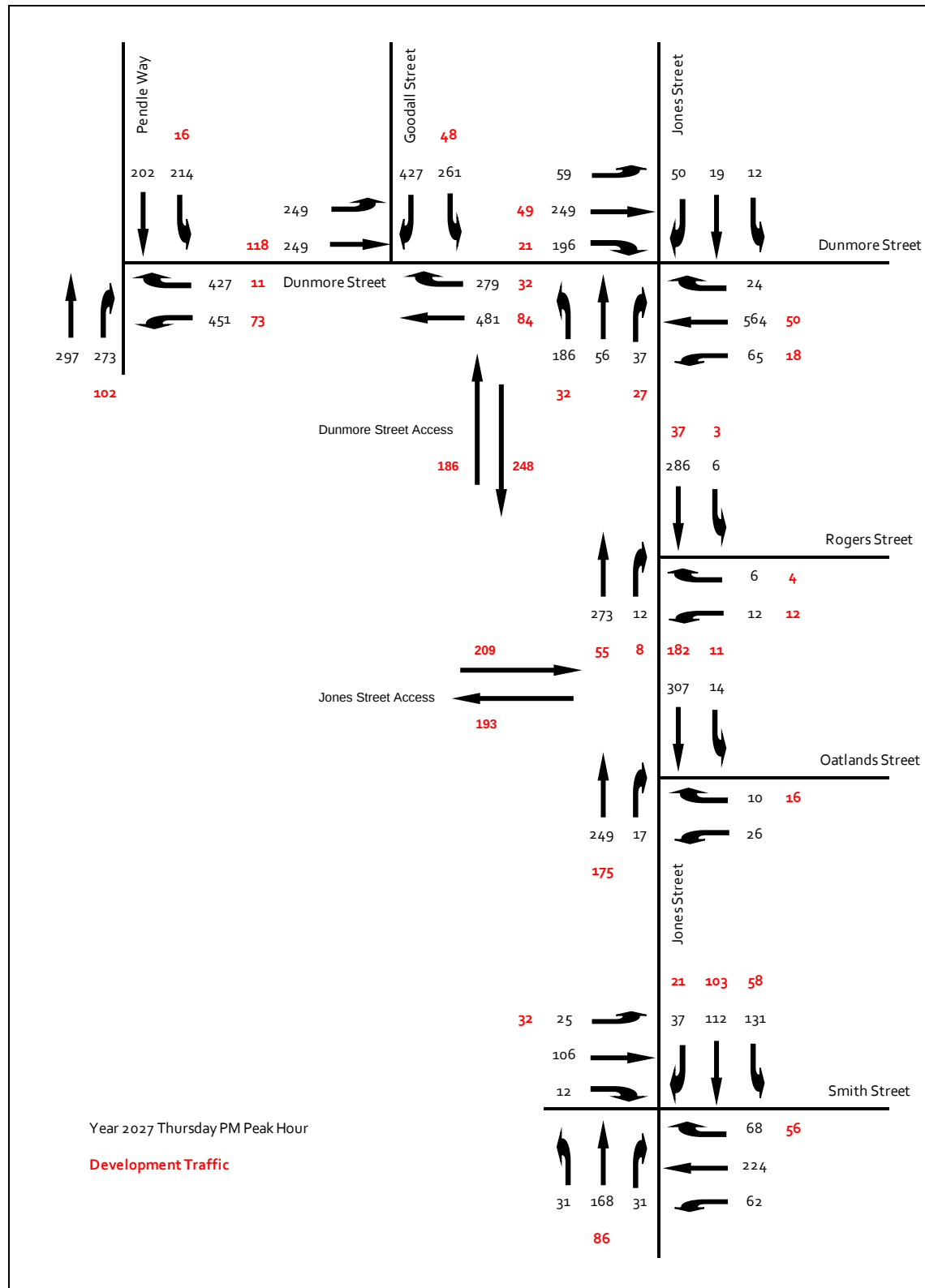
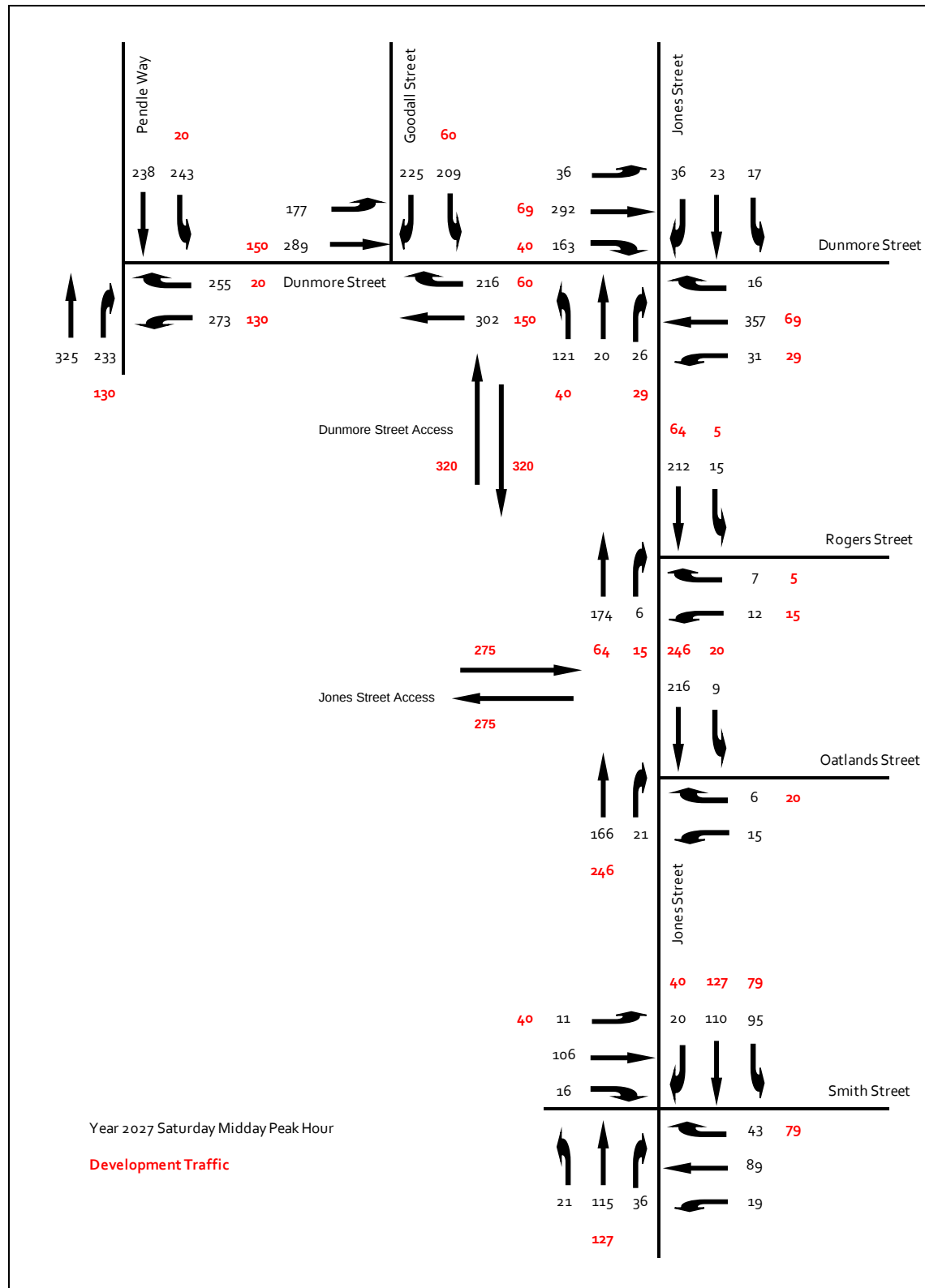


Figure 4.5: Saturday Midday Peak Hour Site Generated Traffic Volumes



## 4.4 Traffic Impact

Following the distribution and assignment of development traffic and application of growth to background traffic, the study intersections were reanalysed using SIDRA INTERSECTION.

Table 4.4 summarises the SIDRA results of the Year 2027 'without development' and 'with development' scenarios in terms of average delay and level of service.

The full results from the SIDRA analysis are presented in Appendix A of this report.

Table 4.4: Year 2027 'Without Development' and 'With Development' scenarios – SIDRA Results

| Intersection                     | Peak | Leg   | 'Without Development' |                        | 'With Development'  |                        |
|----------------------------------|------|-------|-----------------------|------------------------|---------------------|------------------------|
|                                  |      |       | Average Delay (sec)   | Level of Service (LOS) | Average Delay (sec) | Level of Service (LOS) |
| Jones Street/<br>Rogers Street   | AM   | South | 2                     | NA                     | 2                   | NA                     |
|                                  |      | East  | 11                    | A                      | 12                  | A                      |
|                                  |      | North | 0                     | NA                     | 0                   | NA                     |
|                                  |      | All   | 1                     | NA                     | 1                   | NA                     |
|                                  | PM   | South | 2                     | NA                     | 2                   | NA                     |
|                                  |      | East  | 11                    | A                      | 11                  | A                      |
|                                  |      | North | 0                     | NA                     | 0                   | NA                     |
|                                  |      | All   | 1                     | NA                     | 2                   | NA                     |
|                                  | Sat  | South | 1                     | NA                     | 2                   | NA                     |
|                                  |      | East  | 9                     | A                      | 10                  | A                      |
|                                  |      | North | 0                     | NA                     | 0                   | NA                     |
|                                  |      | All   | 1                     | NA                     | 2                   | NA                     |
| Jones Street/<br>Oatlands Street | AM   | South | 1                     | NA                     | 4                   | NA                     |
|                                  |      | East  | 9                     | A                      | 20                  | B                      |
|                                  |      | North | 0                     | NA                     | 0                   | NA                     |
|                                  |      | All   | 1                     | NA                     | 2                   | NA                     |
|                                  | PM   | South | 2                     | NA                     | 4                   | NA                     |
|                                  |      | East  | 10                    | A                      | 27                  | B                      |
|                                  |      | North | 0                     | NA                     | 0                   | NA                     |
|                                  |      | All   | 2                     | NA                     | 4                   | NA                     |
|                                  | Sat  | South | 2                     | NA                     | 4                   | NA                     |
|                                  |      | East  | 9                     | A                      | 24                  | B                      |
|                                  |      | North | 0                     | NA                     | 0                   | NA                     |
|                                  |      | All   | 1                     | NA                     | 3                   | NA                     |
| Jones Street/<br>Smith Street    | AM   | South | 7                     | A                      | 8                   | A                      |
|                                  |      | East  | 8                     | A                      | 11                  | A                      |
|                                  |      | North | 9                     | A                      | 18                  | B                      |
|                                  |      | West  | 8                     | A                      | 10                  | A                      |
|                                  |      | All   | 8                     | A                      | 13                  | A                      |
|                                  | PM   | South | 8                     | A                      | 10                  | A                      |
|                                  |      | East  | 7                     | A                      | 9                   | A                      |
|                                  |      | North | 7                     | A                      | 7                   | A                      |
|                                  |      | West  | 7                     | A                      | 9                   | A                      |
|                                  |      | All   | 7                     | A                      | 9                   | A                      |
|                                  | Sat  | South | 7                     | A                      | 8                   | A                      |
|                                  |      | East  | 7                     | A                      | 10                  | A                      |
|                                  |      | North | 7                     | A                      | 7                   | A                      |
|                                  |      | West  | 7                     | A                      | 9                   | A                      |
|                                  |      | All   | 7                     | A                      | 8                   | A                      |

Table 4.4: Year 2027 'Without Development' and 'With Development' scenarios – SIDRA Results (cont.)

| Intersection                      | Peak | Leg   | 'Without Development' |                        | 'With Development'  |                        |
|-----------------------------------|------|-------|-----------------------|------------------------|---------------------|------------------------|
|                                   |      |       | Average Delay (sec)   | Level of Service (LOS) | Average Delay (sec) | Level of Service (LOS) |
| Jones Street/<br>Dunmore Street   | AM   | South | 10                    | A                      | 12                  | A                      |
|                                   |      | East  | 8                     | A                      | 9                   | A                      |
|                                   |      | North | 18                    | B                      | 24                  | B                      |
|                                   |      | West  | 8                     | A                      | 27                  | B                      |
|                                   |      | All   | 9                     | A                      | 20                  | B                      |
|                                   | PM   | South | 15                    | B                      | 23                  | B                      |
|                                   |      | East  | 11                    | A                      | 16                  | B                      |
|                                   |      | North | 11                    | A                      | 12                  | A                      |
|                                   |      | West  | 8                     | A                      | 8                   | A                      |
|                                   |      | All   | 11                    | A                      | 14                  | A                      |
|                                   | Sat  | South | 10                    | A                      | 11                  | A                      |
|                                   |      | East  | 7                     | A                      | 9                   | A                      |
|                                   |      | North | 11                    | A                      | 12                  | A                      |
|                                   |      | West  | 7                     | A                      | 7                   | A                      |
|                                   |      | All   | 8                     | A                      | 9                   | A                      |
| Goodall Street/<br>Dunmore Street | AM   | East  | 34                    | C                      | 29                  | C                      |
|                                   |      | North | 46                    | D                      | 77                  | F                      |
|                                   |      | West  | 35                    | C                      | 57                  | E                      |
|                                   |      | All   | 38                    | C                      | 56                  | D                      |
|                                   | PM   | East  | 18                    | B                      | 20                  | B                      |
|                                   |      | North | 23                    | B                      | 27                  | B                      |
|                                   |      | West  | 15                    | B                      | 17                  | B                      |
|                                   |      | All   | 19                    | B                      | 21                  | B                      |
|                                   | Sat  | East  | 15                    | B                      | 16                  | B                      |
|                                   |      | North | 20                    | B                      | 24                  | B                      |
|                                   |      | West  | 15                    | B                      | 17                  | B                      |
|                                   |      | All   | 16                    | B                      | 19                  | B                      |
| Pendle Way/<br>Dunmore Street     | AM   | South | 23                    | B                      | 24                  | B                      |
|                                   |      | East  | 26                    | B                      | 27                  | B                      |
|                                   |      | North | 19                    | B                      | 23                  | B                      |
|                                   |      | All   | 23                    | B                      | 24                  | B                      |
|                                   | PM   | South | 18                    | B                      | 23                  | B                      |
|                                   |      | East  | 22                    | B                      | 23                  | B                      |
|                                   |      | North | 15                    | B                      | 17                  | B                      |
|                                   |      | All   | 19                    | B                      | 22                  | B                      |
|                                   | Sat  | South | 11                    | A                      | 15                  | B                      |
|                                   |      | East  | 23                    | B                      | 23                  | B                      |
|                                   |      | North | 13                    | A                      | 13                  | A                      |
|                                   |      | All   | 16                    | B                      | 17                  | B                      |

The following conclusions are made from the modelling results:

- The priority controlled intersection of Jones Street/ Rogers Street would continue to operate with a Level of Service A.
- The priority controlled intersection of Jones Street/ Oatlands Street would experience some minor delay in the peaks for vehicles entering from Oatlands Street (comparative to 'without development' conditions), however the intersection would maintain an acceptable operating conditions with an average Level of Service B.
- The roundabout controlled intersection of Jones Street/ Smith Street would maintain good operating conditions with an average Level of Service A/ B.
- The roundabout controlled intersection of Jones Street/ Dunmore Street would experience some minor additional delay in the Thursday AM peak on the west approach (<30 seconds) and Thursday PM peaks on the east approach (<30 seconds), compared to 'without development' conditions. The intersection would maintain to operate with an average Level of Service B during these peak hours which is considered to be a good level of service. During the Saturday midday peak hour the intersection continues to operate with an average Level of Service A.
- The signalised intersection of Dunmore Street/ Goodall Street would experience additional delay and queuing during the Thursday AM peak. Overall, the intersection would operate with an average Level of Service D which is considered to be approaching capacity. During the Thursday PM and Saturday midday peaks the intersection would continue to operate with an average Level of Service B.
- The signalised intersection of Dunmore Street/ Pendle Way would continue to operate with a Level of Service B with some minor additional delay experienced. This is considered to be a good level of service.

## 4.5 Mitigating Measures

There are a number of options which could be progressed to improve operating conditions at the intersection of Dunmore Street/ Goodall Street. These include:

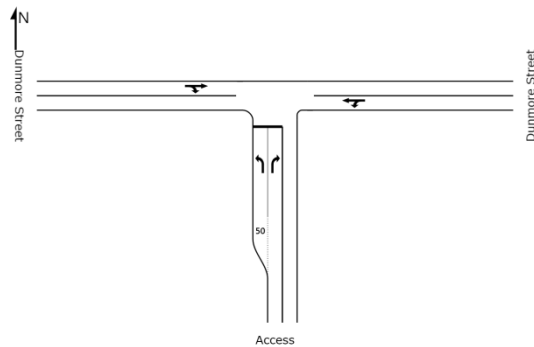
- altering signal phasings to optimise vehicle movements;
- altering or removing parking provisions along Dunmore Street (east) and Goodall Street to provide increased vehicle capacity on approach to and departure from the intersection; and
- providing a residential travel plan to minimise the number of peak hour car trips generated by the site (detailed further below).

## 4.6 Modelling of Accesses

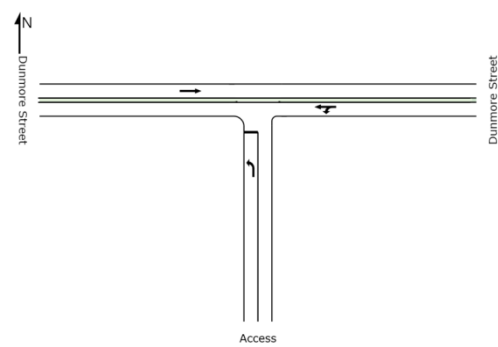
As stated in Section 3.2, this section provides an assessment of a number of potential access options for consideration during the Development Application once the site layout is at a more detailed stage.

Figure 4.6 to Figure 4.10 present the access configurations assessed using SIDRA INTERSECTION and the results are provided in Table 4.5 and Table 4.6 for the Dunmore Street and Jones Street accesses respectively.

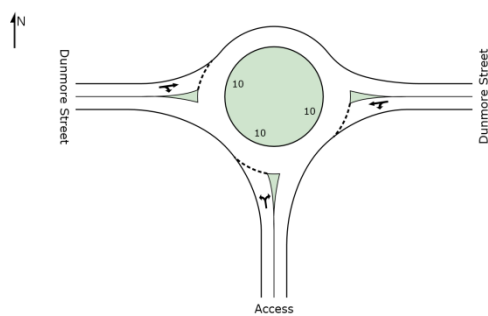
**Figure 4.6: Dunmore Access – Priority-Controlled All Movements**



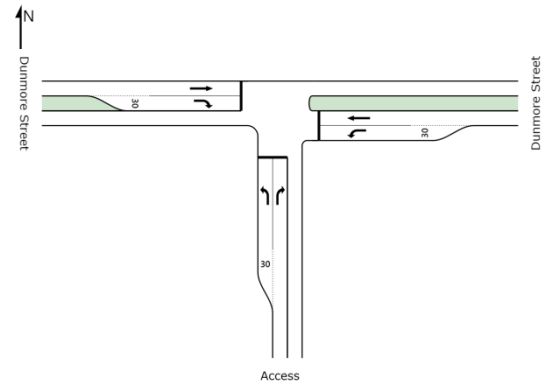
**Figure 4.7: Dunmore Access – Priority-Controlled Left in/ Left Out**



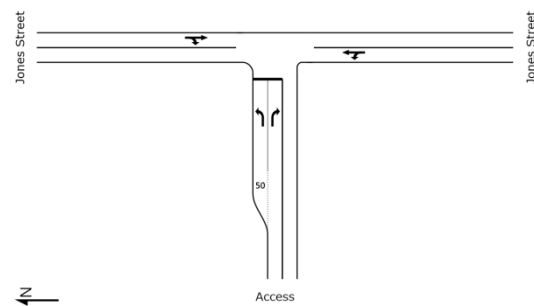
**Figure 4.8: Dunmore Access – Roundabout-Controlled**



**Figure 4.9: Dunmore Access – Signalised-Controlled**



**Figure 4.10: Jones Access – Priority-Controlled All Movements**



**Table 4.5: Dunmore Street Access Options Testing – SIDRA Results**

| Intersection                               | Peak | Leg   | Average Delay (sec) | Level of Service (LOS) |
|--------------------------------------------|------|-------|---------------------|------------------------|
| Priority-Controlled<br>(All Movement)      | AM   | South | 146                 | F                      |
|                                            |      | East  | 0                   | NA                     |
|                                            |      | West  | 11                  | NA                     |
|                                            |      | All   | 18                  | NA                     |
|                                            | PM   | South | 36                  | C                      |
|                                            |      | East  | 1                   | NA                     |
|                                            |      | West  | 15                  | NA                     |
|                                            |      | All   | 10                  | NA                     |
|                                            | Sat  | South | 25                  | B                      |
|                                            |      | East  | 1                   | NA                     |
|                                            |      | West  | 9                   | NA                     |
|                                            |      | All   | 9                   | NA                     |
| Priority-Controlled<br>(Left-In/ Left-Out) | AM   | South | 14                  | A                      |
|                                            |      | East  | 1                   | NA                     |
|                                            |      | West  | 0                   | NA                     |
|                                            |      | All   | 1                   | NA                     |
|                                            | PM   | South | 21                  | B                      |
|                                            |      | East  | 2                   | NA                     |
|                                            |      | West  | 0                   | NA                     |
|                                            |      | All   | 2                   | NA                     |
|                                            | Sat  | South | 17                  | B                      |
|                                            |      | East  | 3                   | NA                     |
|                                            |      | West  | 0                   | NA                     |
|                                            |      | All   | 3                   | NA                     |
| Roundabout                                 | AM   | South | 13                  | A                      |
|                                            |      | East  | 6                   | A                      |
|                                            |      | West  | 7                   | A                      |
|                                            |      | All   | 7                   | A                      |
|                                            | PM   | South | 12                  | A                      |
|                                            |      | East  | 5                   | A                      |
|                                            |      | West  | 5                   | A                      |
|                                            |      | All   | 6                   | A                      |
|                                            | Sat  | South | 10                  | A                      |
|                                            |      | East  | 5                   | A                      |
|                                            |      | West  | 6                   | A                      |
|                                            |      | All   | 7                   | A                      |

**Table 4.5: Dunmore Street Access Options Testing – SIDRA Results (cont.)**

|            |     |       |    |   |
|------------|-----|-------|----|---|
| Signalised | AM  | South | 54 | D |
|            |     | East  | 4  | A |
|            |     | West  | 2  | A |
|            |     | All   | 7  | A |
|            | PM  | South | 46 | D |
|            |     | East  | 8  | A |
|            |     | West  | 8  | A |
|            |     | All   | 12 | A |
|            | Sat | South | 38 | C |
|            |     | East  | 12 | A |
|            |     | West  | 15 | B |
|            |     | All   | 18 | B |

Based on options testing indicated above, for the Dunmore Street access, the following conclusions are made:

- An all movement priority-controlled intersection would operate at a Level of Service F during the Thursday AM peak hour (worst case). This is a result of the right-turn movement from the access would experiencing significant delays and queuing due to high volumes of through movement on Dunmore Street reducing the opportunities to undertake the manoeuvre. Consequently, this option has been discounted.
- A left-in/ left-out intersection would operate at a Level of Service B during the Thursday PM and Saturday midday peak hours (worst cases). This option was tested assuming all proposed right-turn development traffic from Dunmore Street into the development would continue to use the access via undertaking a U-turn manoeuvre at roundabout at Jones Street. However, due to the proximity of the intersection to the Dunmore Street/ Jones Street roundabout, this has been discounted.
- A roundabout-controlled intersection would operate at a Level of Service A during all peak hours.
- A signalised-controlled intersection would operate at a Level of Service B during the Saturday midday peak hour (worst case).

**Table 4.6: Jones Street Access Options Testing – SIDRA Results**

| Intersection                              | Peak | Leg   | Average Delay (sec) | Level of Service (LOS) |
|-------------------------------------------|------|-------|---------------------|------------------------|
| Priority-Controlled<br>(All Movement)     | AM   | South | 2                   | NA                     |
|                                           |      | North | 2                   | NA                     |
|                                           |      | West  | 16                  | B                      |
|                                           |      | All   | 7                   | NA                     |
|                                           | PM   | South | 3                   | NA                     |
|                                           |      | North | 3                   | NA                     |
|                                           |      | West  | 17                  | B                      |
|                                           |      | All   | 6                   | NA                     |
|                                           | Sat  | South | 4                   | NA                     |
|                                           |      | North | 3                   | NA                     |
|                                           |      | West  | 15                  | B                      |
|                                           |      | All   | 7                   | NA                     |
| Priority-Controlled<br>(All Movement) [1] | AM   | South | 2                   | NA                     |
|                                           |      | North | 2                   | NA                     |
|                                           |      | West  | 15                  | B                      |
|                                           |      | All   | 7                   | NA                     |
|                                           | PM   | South | 3                   | NA                     |
|                                           |      | North | 3                   | NA                     |
|                                           |      | West  | 16                  | B                      |
|                                           |      | All   | 6                   | NA                     |
|                                           | Sat  | South | 4                   | NA                     |
|                                           |      | North | 3                   | NA                     |
|                                           |      | West  | 15                  | B                      |
|                                           |      | All   | 8                   | NA                     |

[1] If Dunmore Street access was Left in/ Left out only. As such, all right-turn movements from the Dunmore access would be relocated.

Based on options testing above for an access on Jones Street, the following conclusions are made:

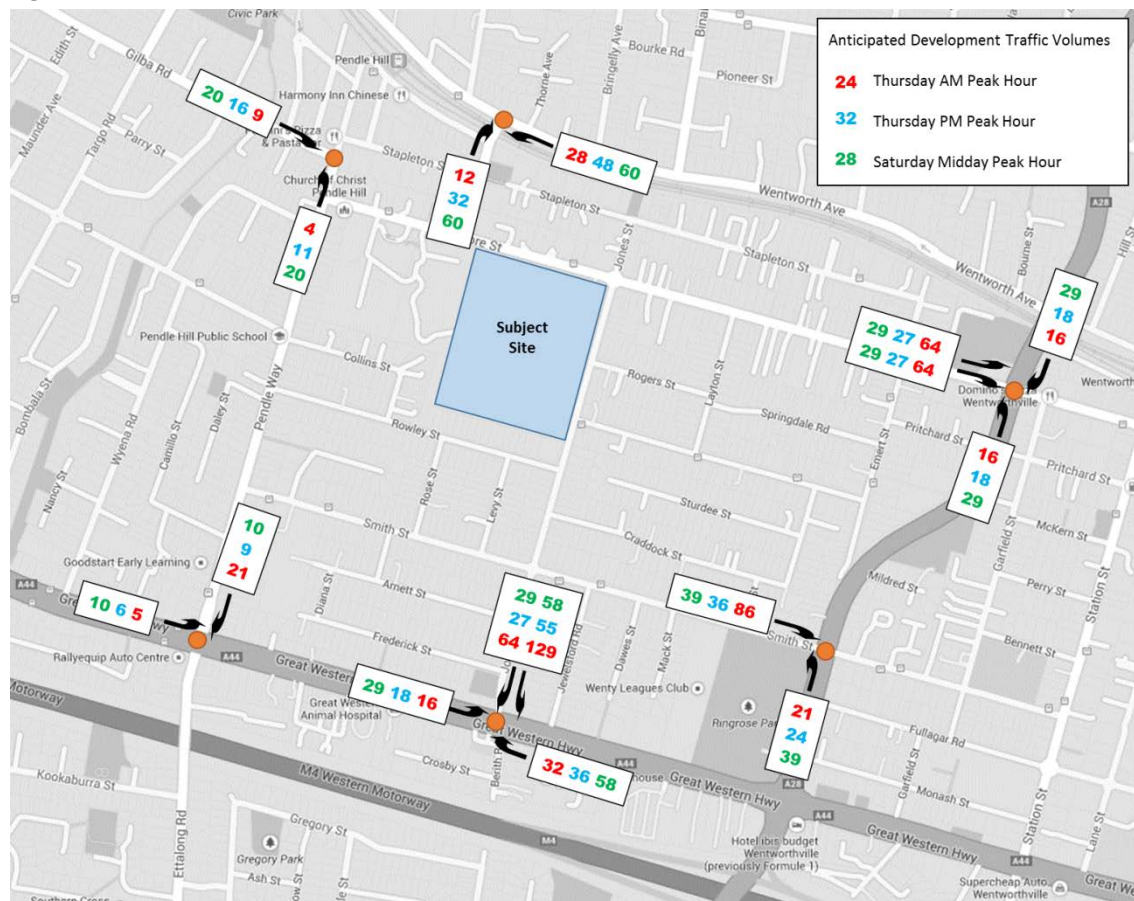
- An all movement priority-controlled intersection would operate at a Level of Service B during all peak hours.
- Should the Dunmore Street access be a left-in/ left-out arrangement, the additional traffic resulting from the inability to undertake a right-turn into Dunmore Street would not impact on the intersection performance and a Level of Service B during all peak hours would be maintained.

In summary, this shows that for the purposes of rezoning, adequate access can be provided on both the Dunmore and Jones Street frontages. The likely preference for access from Dunmore Street would be for a roundabout as this would also introduce an element of traffic calming on Dunmore Street and there are a number of locations where such an intersection could be provided without compromising access into properties on the northern side of Dunmore Street. Furthermore, the proposed access would allow closure of the existing access which is located close to the Jones Street/ Dunmore Street roundabout which would provide additional road safety benefits.

The access onto Jones Street would be likely to be in the form of a priority tee intersection.

Further to the original analysis, Roads and Maritime Services requested additional consideration be given to the impacts of the development on a number of intersections located beyond the seven intersections modelled by GTA. These intersections have been shown on Figure 4.11.

**Figure 4.11: Traffic Volumes at Additional Intersections**



The intersections on the Cumberland Highway would experience more than a vehicle every minute entering Cumberland Highway during the Thursday AM peak, at other times they would experience less than one vehicle every one minute.

Similarly, with respect to the Jones Street intersection with the Great Western Highway, it is noted that the increase in traffic would be between one to two minutes per vehicle, except during the Thursday AM peak with a vehicle turning left into the highway every 30 seconds.

In summary, it can be seen that the additional traffic at each of the intersections offers a very modest increase. In terms of the two-way flows on the Cumberland highway and the Great Western Highway, the additional traffic would be negligible and would probably be within the daily variation in traffic. The additional traffic on the side road arms is generally less than one a minute and would be unlikely to affect the performance of the intersections significantly.

Due to these minor increases in flow, it has been considered that the modelling of the intersections is an excessive requirement for rezoning as the development is unlikely to trigger the need for any improvements at these intersections. If necessary, however, this additional intersection modelling could be undertaken at development application stage.

## 4.8 Residential Travel Plan

The use of such plans has been accepted at such sites as Harold Park in Sydney as a means of reducing the peak hour traffic impacts of development. A number of measures can be provided to encourage sustainable travel, and hence reduced car use, such as:

- Creation of street networks and associated cycle ways, footpaths and links to encourage cycling and walking.
- Provision of a Transport Access Guide which would be given to every new occupant of dwellings.
- Provision of public transport information boards to make residents and visitors more aware of the alternative transport options available to them. The format would be based upon the Transport Access Guide.
- Provision of a free public transport tickets for the initial occupation of the dwellings so that residents would be encouraged to make public transport their modal choice from the day they moved into their new dwelling.
- Provision of half yearly membership to a car club which could have dedicated cars and dedicated parking spaces reasonably close to the proposed development.
- Providing properties with high quality telecommunication points which will provide residents with the opportunity to work at home and to reduce the need to travel.
- Provision of bicycle parking spaces both for residents and for visitors to the site.
- Provision of a half yearly newsletter to residents to promote local travel initiatives.

All residents could be given this travel information and any associated membership in the owners pack for new residents.

## 5. Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- i A Concept Master Plan has been developed for the site, incorporating approximately 1,600 new dwellings and approximately 6,000m<sup>2</sup> of retail floor space, including a supermarket.
- ii The site is within walking distance to Pendle Hill Station and bus stops are located on the surrounding streets. Note: It is generally accepted that residents are willing to walk up to 800m to a rail station as opposed to only 400m to a bus stop.
- iii The envisaged provision of 2,057 on-site car parking spaces accords with the minimum City of Holroyd DCP 2013 car parking requirements.
- iv The site is expected to generate approximately 800-850 vehicle movements in the AM and PM peak hour and 1,000 vehicle movements in the Saturday midday peak hour.
- v A potential re-use of the site for industrial purposes with an FSR comparable with adjacent development would be likely to generate at least 800 trips in the peak hours
- vi Other than at the intersection of Dunmore Street/ Goodall Street, there appears to be adequate capacity in the surrounding road network to cater for the traffic generated by the proposed development.
- vii Operation of the signalised intersection at Dunmore Street/ Goodall Street could be improved by altering signal phasings to optimise vehicle movements, altering or removing parking provisions along Dunmore Street (east) and Goodall Street, and/ or reviewing the number or configuration of apartments/ commercial floor space to reduce overall vehicle flows expected.
- viii The anticipated increase in traffic resulting from the development at each of the additional intersections that RMS asked to be considered is expected to be very modest.
- ix In terms of the two-way flows on the Cumberland Highway and the Great Western Highway, the additional traffic would be negligible and would probably be within the daily variation in traffic.
- x Due to these minor increases in flow, it has been considered that the modelling of the intersections is an excessive requirement for rezoning as the development is unlikely to trigger the need for any improvements at these intersections. If necessary however, the intersection modelling could be undertaken at development application stage.
- xi As the exact location of entrances and exits to the site along Jones Street and Dunmore Street cannot be fixed at this time, a range of access options has been presented and the analysis shows that adequate access to the site can be achieved.
- xii The development proposal is consistent with the Holroyd Residential Centres Strategy Transport Review which identifies that
  - Pendle Hill provides good opportunities for the retention and enhancement of the currently surveyed use of non-car travel, and is well situated to provide high and medium density residential development.
  - It would not be unwarranted for Council to investigate further expansion of the high density zone (or provision of a medium density zone) south of the station to 400m at least if additional residential capacity is required in the future.

In conclusion, the proposed redevelopment would be able to proceed without having a significant adverse impact on the performance of the road network in the vicinity of the site.

## Appendix A

Appendix A

### SIDRA INERSECTION Results

# MOVEMENT SUMMARY

Site: Jones-Rogers (Ex Thurs AM)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                     |                         |                     |                                      |                                |                 |                                   |                          |
|---------------------------------|------|----------------------|---------|---------------------|-------------------------|---------------------|--------------------------------------|--------------------------------|-----------------|-----------------------------------|--------------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg.<br>Satn<br>v/c | Average<br>Delay<br>sec | Level of<br>Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop.<br>Queued | Effective<br>Stop Rate<br>per veh | Average<br>Speed<br>km/h |
| South: Jones Street             |      |                      |         |                     |                         |                     |                                      |                                |                 |                                   |                          |
| 2                               | T    | 242                  | 2.0     | 0.131               | 1.3                     | LOS A               | 1.0                                  | 6.8                            | 0.43            | 0.00                              | 44.9                     |
| 3                               | R    | 5                    | 2.0     | 0.131               | 8.1                     | LOS A               | 1.0                                  | 6.8                            | 0.43            | 0.89                              | 43.0                     |
| Approach                        |      | 247                  | 2.0     | 0.131               | 1.5                     | NA                  | 1.0                                  | 6.8                            | 0.43            | 0.02                              | 44.9                     |
| East: Rogers Street             |      |                      |         |                     |                         |                     |                                      |                                |                 |                                   |                          |
| 4                               | L    | 5                    | 2.0     | 0.019               | 10.4                    | LOS A               | 0.1                                  | 0.5                            | 0.48            | 0.60                              | 39.9                     |
| 6                               | R    | 5                    | 2.0     | 0.019               | 10.8                    | LOS A               | 0.1                                  | 0.5                            | 0.48            | 0.75                              | 39.8                     |
| Approach                        |      | 11                   | 2.0     | 0.019               | 10.6                    | LOS A               | 0.1                                  | 0.5                            | 0.48            | 0.67                              | 39.8                     |
| North: Jones Street             |      |                      |         |                     |                         |                     |                                      |                                |                 |                                   |                          |
| 7                               | L    | 5                    | 2.0     | 0.142               | 6.5                     | LOS A               | 0.0                                  | 0.0                            | 0.00            | 0.91                              | 43.3                     |
| 8                               | T    | 267                  | 2.0     | 0.142               | 0.0                     | LOS A               | 0.0                                  | 0.0                            | 0.00            | 0.00                              | 50.0                     |
| Approach                        |      | 273                  | 2.0     | 0.142               | 0.1                     | NA                  | 0.0                                  | 0.0                            | 0.00            | 0.02                              | 49.9                     |
| All Vehicles                    |      | 531                  | 2.0     | 0.142               | 1.0                     | NA                  | 1.0                                  | 6.8                            | 0.21            | 0.03                              | 47.2                     |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Rogers (Ex Thurs PM)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                     |                         |                     |                                      |                                |                 |                                   |                          |
|---------------------------------|------|----------------------|---------|---------------------|-------------------------|---------------------|--------------------------------------|--------------------------------|-----------------|-----------------------------------|--------------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg.<br>Satn<br>v/c | Average<br>Delay<br>sec | Level of<br>Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop.<br>Queued | Effective<br>Stop Rate<br>per veh | Average<br>Speed<br>km/h |
| South: Jones Street             |      |                      |         |                     |                         |                     |                                      |                                |                 |                                   |                          |
| 2                               | T    | 255                  | 2.0     | 0.143               | 1.3                     | LOS A               | 1.0                                  | 7.4                            | 0.44            | 0.00                              | 44.8                     |
| 3                               | R    | 12                   | 2.0     | 0.143               | 8.1                     | LOS A               | 1.0                                  | 7.4                            | 0.44            | 0.88                              | 43.0                     |
| Approach                        |      | 266                  | 2.0     | 0.143               | 1.6                     | NA                  | 1.0                                  | 7.4                            | 0.44            | 0.04                              | 44.8                     |
| East: Rogers Street             |      |                      |         |                     |                         |                     |                                      |                                |                 |                                   |                          |
| 4                               | L    | 12                   | 2.0     | 0.030               | 9.8                     | LOS A               | 0.1                                  | 0.7                            | 0.45            | 0.62                              | 40.4                     |
| 6                               | R    | 6                    | 2.0     | 0.030               | 10.2                    | LOS A               | 0.1                                  | 0.7                            | 0.45            | 0.77                              | 40.2                     |
| Approach                        |      | 18                   | 2.0     | 0.030               | 10.0                    | LOS A               | 0.1                                  | 0.7                            | 0.45            | 0.67                              | 40.3                     |
| North: Jones Street             |      |                      |         |                     |                         |                     |                                      |                                |                 |                                   |                          |
| 7                               | L    | 6                    | 2.0     | 0.142               | 6.5                     | LOS A               | 0.0                                  | 0.0                            | 0.00            | 0.91                              | 43.3                     |
| 8                               | T    | 266                  | 2.0     | 0.142               | 0.0                     | LOS A               | 0.0                                  | 0.0                            | 0.00            | 0.00                              | 50.0                     |
| Approach                        |      | 273                  | 2.0     | 0.142               | 0.1                     | NA                  | 0.0                                  | 0.0                            | 0.00            | 0.02                              | 49.8                     |
| All Vehicles                    |      | 557                  | 2.0     | 0.143               | 1.2                     | NA                  | 1.0                                  | 7.4                            | 0.22            | 0.05                              | 46.9                     |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Rogers (Ex Sat)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
|---------------------------------|------|----------------------|---------|---------------------|-------------------------|---------------------|--------------------------------------|------------------------|-----------------|-----------------------------------|--------------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg.<br>Satn<br>v/c | Average<br>Delay<br>sec | Level of<br>Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop.<br>Queued | Effective<br>Stop Rate<br>per veh | Average<br>Speed<br>km/h |
| South: Jones Street             |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 2                               | T    | 162                  | 2.0     | 0.089               | 0.9                     | LOS A               | 0.6                                  | 4.2                    | 0.36            | 0.00                              | 45.7                     |
| 3                               | R    | 5                    | 2.0     | 0.089               | 7.7                     | LOS A               | 0.6                                  | 4.2                    | 0.36            | 0.88                              | 43.0                     |
| Approach                        |      | 167                  | 2.0     | 0.089               | 1.1                     | NA                  | 0.6                                  | 4.2                    | 0.36            | 0.03                              | 45.6                     |
| East: Rogers Street             |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 4                               | L    | 12                   | 2.0     | 0.024               | 8.5                     | LOS A               | 0.1                                  | 0.6                    | 0.37            | 0.58                              | 41.4                     |
| 6                               | R    | 6                    | 2.0     | 0.024               | 8.9                     | LOS A               | 0.1                                  | 0.6                    | 0.37            | 0.71                              | 41.3                     |
| Approach                        |      | 18                   | 2.0     | 0.024               | 8.7                     | LOS A               | 0.1                                  | 0.6                    | 0.37            | 0.63                              | 41.4                     |
| North: Jones Street             |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 7                               | L    | 14                   | 2.0     | 0.110               | 6.5                     | LOS A               | 0.0                                  | 0.0                    | 0.00            | 0.89                              | 43.3                     |
| 8                               | T    | 198                  | 2.0     | 0.110               | 0.0                     | LOS A               | 0.0                                  | 0.0                    | 0.00            | 0.00                              | 50.0                     |
| Approach                        |      | 212                  | 2.0     | 0.110               | 0.4                     | NA                  | 0.0                                  | 0.0                    | 0.00            | 0.06                              | 49.5                     |
| All Vehicles                    |      | 397                  | 2.0     | 0.110               | 1.1                     | NA                  | 0.6                                  | 4.2                    | 0.17            | 0.07                              | 47.4                     |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Oatlands (Ex Thurs  
AM)

13S1210100  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 223                  | 2.0     | 0.121            | 1.0                  | LOS A            | 0.8                                  | 5.9                            | 0.38         | 0.00                           | 45.5                  |
| 3                               | R    | 6                    | 2.0     | 0.121            | 7.8                  | LOS A            | 0.8                                  | 5.9                            | 0.38         | 0.88                           | 43.0                  |
| Approach                        |      | 229                  | 2.0     | 0.121            | 1.2                  | NA               | 0.8                                  | 5.9                            | 0.38         | 0.02                           | 45.5                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 14                   | 2.0     | 0.028            | 8.8                  | LOS A            | 0.1                                  | 0.7                            | 0.38         | 0.59                           | 41.2                  |
| 6                               | R    | 6                    | 2.0     | 0.028            | 9.2                  | LOS A            | 0.1                                  | 0.7                            | 0.38         | 0.73                           | 41.1                  |
| Approach                        |      | 20                   | 2.0     | 0.028            | 8.9                  | LOS A            | 0.1                                  | 0.7                            | 0.38         | 0.63                           | 41.2                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 7                    | 2.0     | 0.112            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.91                           | 43.3                  |
| 8                               | T    | 207                  | 2.0     | 0.112            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 215                  | 2.0     | 0.112            | 0.2                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.03                           | 49.7                  |
| All Vehicles                    |      | 464                  | 2.0     | 0.121            | 1.1                  | NA               | 0.8                                  | 5.9                            | 0.20         | 0.05                           | 47.1                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Oatlands (Ex Thurs  
PM)

13S1210100  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 232                  | 2.0     | 0.135            | 1.5                  | LOS A            | 1.0                                  | 7.0                            | 0.45         | 0.00                           | 44.6                  |
| 3                               | R    | 16                   | 2.0     | 0.135            | 8.3                  | LOS A            | 1.0                                  | 7.0                            | 0.45         | 0.88                           | 43.0                  |
| Approach                        |      | 247                  | 2.0     | 0.135            | 1.9                  | NA               | 1.0                                  | 7.0                            | 0.45         | 0.06                           | 44.5                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 24                   | 2.0     | 0.053            | 9.7                  | LOS A            | 0.2                                  | 1.3                            | 0.45         | 0.65                           | 40.5                  |
| 6                               | R    | 9                    | 2.0     | 0.053            | 10.0                 | LOS A            | 0.2                                  | 1.3                            | 0.45         | 0.79                           | 40.4                  |
| Approach                        |      | 34                   | 2.0     | 0.053            | 9.8                  | LOS A            | 0.2                                  | 1.3                            | 0.45         | 0.69                           | 40.5                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 13                   | 2.0     | 0.156            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 286                  | 2.0     | 0.156            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 299                  | 2.0     | 0.156            | 0.3                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.04                           | 49.7                  |
| All Vehicles                    |      | 580                  | 2.0     | 0.156            | 1.5                  | NA               | 1.0                                  | 7.0                            | 0.22         | 0.08                           | 46.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Oatlands (Ex Sat)

13S1210100  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 155                  | 2.0     | 0.097            | 0.9                  | LOS A            | 0.6                                  | 4.4                            | 0.35         | 0.00                           | 45.6                  |
| 3                               | R    | 20                   | 2.0     | 0.097            | 7.7                  | LOS A            | 0.6                                  | 4.4                            | 0.35         | 0.85                           | 42.9                  |
| Approach                        |      | 175                  | 2.0     | 0.097            | 1.7                  | NA               | 0.6                                  | 4.4                            | 0.35         | 0.10                           | 45.3                  |
| East: Oatland Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 14                   | 2.0     | 0.025            | 8.3                  | LOS A            | 0.1                                  | 0.6                            | 0.36         | 0.59                           | 41.6                  |
| 6                               | R    | 5                    | 2.0     | 0.025            | 8.7                  | LOS A            | 0.1                                  | 0.6                            | 0.36         | 0.71                           | 41.4                  |
| Approach                        |      | 19                   | 2.0     | 0.025            | 8.4                  | LOS A            | 0.1                                  | 0.6                            | 0.36         | 0.62                           | 41.6                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 8                    | 2.0     | 0.109            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 201                  | 2.0     | 0.109            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 209                  | 2.0     | 0.109            | 0.3                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.04                           | 49.7                  |
| All Vehicles                    |      | 403                  | 2.0     | 0.109            | 1.3                  | NA               | 0.6                                  | 4.4                            | 0.17         | 0.09                           | 47.3                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Smith (Ex Thurs AM)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 5                    | 2.0     | 0.225            | 6.7                  | LOS A            | 1.3                                  | 9.1                    | 0.33         | 0.58                           | 42.6                  |
| 2                               | T    | 148                  | 2.0     | 0.225            | 5.7                  | LOS A            | 1.3                                  | 9.1                    | 0.33         | 0.49                           | 43.0                  |
| 3                               | R    | 89                   | 2.0     | 0.225            | 9.7                  | LOS A            | 1.3                                  | 9.1                    | 0.33         | 0.73                           | 40.8                  |
| Approach                        |      | 243                  | 2.0     | 0.225            | 7.2                  | LOS A            | 1.3                                  | 9.1                    | 0.33         | 0.58                           | 42.2                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 25                   | 2.0     | 0.113            | 7.0                  | LOS A            | 0.6                                  | 4.3                    | 0.38         | 0.59                           | 42.4                  |
| 5                               | T    | 49                   | 2.0     | 0.113            | 6.0                  | LOS A            | 0.6                                  | 4.3                    | 0.38         | 0.51                           | 42.7                  |
| 6                               | R    | 35                   | 2.0     | 0.113            | 10.0                 | LOS A            | 0.6                                  | 4.3                    | 0.38         | 0.72                           | 40.7                  |
| Approach                        |      | 109                  | 2.0     | 0.113            | 7.5                  | LOS A            | 0.6                                  | 4.3                    | 0.38         | 0.60                           | 42.0                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 139                  | 2.0     | 0.357            | 8.9                  | LOS A            | 2.2                                  | 15.6                   | 0.63         | 0.74                           | 41.3                  |
| 8                               | T    | 119                  | 2.0     | 0.357            | 7.9                  | LOS A            | 2.2                                  | 15.6                   | 0.63         | 0.70                           | 41.6                  |
| 9                               | R    | 29                   | 2.0     | 0.357            | 12.0                 | LOS A            | 2.2                                  | 15.6                   | 0.63         | 0.83                           | 39.5                  |
| Approach                        |      | 287                  | 2.0     | 0.357            | 8.8                  | LOS A            | 2.2                                  | 15.6                   | 0.63         | 0.73                           | 41.2                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 35                   | 2.0     | 0.343            | 8.2                  | LOS A            | 2.1                                  | 14.8                   | 0.55         | 0.70                           | 42.1                  |
| 11                              | T    | 253                  | 2.0     | 0.343            | 7.2                  | LOS A            | 2.1                                  | 14.8                   | 0.55         | 0.64                           | 42.1                  |
| 12                              | R    | 15                   | 2.0     | 0.343            | 11.2                 | LOS A            | 2.1                                  | 14.8                   | 0.55         | 0.82                           | 40.1                  |
| Approach                        |      | 302                  | 2.0     | 0.343            | 7.5                  | LOS A            | 2.1                                  | 14.8                   | 0.55         | 0.66                           | 42.0                  |
| All Vehicles                    |      | 942                  | 2.0     | 0.357            | 7.8                  | LOS A            | 2.2                                  | 15.6                   | 0.50         | 0.65                           | 41.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Smith (Ex Thurs PM)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 29                   | 2.0     | 0.255            | 8.2                  | LOS A            | 1.4                                  | 10.3                   | 0.55         | 0.70                           | 42.0                  |
| 2                               | T    | 157                  | 2.0     | 0.255            | 7.3                  | LOS A            | 1.4                                  | 10.3                   | 0.55         | 0.64                           | 42.1                  |
| 3                               | R    | 29                   | 2.0     | 0.255            | 11.3                 | LOS A            | 1.4                                  | 10.3                   | 0.55         | 0.81                           | 40.0                  |
| Approach                        |      | 216                  | 2.0     | 0.255            | 8.0                  | LOS A            | 1.4                                  | 10.3                   | 0.55         | 0.67                           | 41.8                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 58                   | 2.0     | 0.318            | 7.0                  | LOS A            | 2.0                                  | 14.1                   | 0.42         | 0.61                           | 42.4                  |
| 5                               | T    | 208                  | 2.0     | 0.318            | 6.1                  | LOS A            | 2.0                                  | 14.1                   | 0.42         | 0.53                           | 42.6                  |
| 6                               | R    | 64                   | 2.0     | 0.318            | 10.1                 | LOS A            | 2.0                                  | 14.1                   | 0.42         | 0.75                           | 40.7                  |
| Approach                        |      | 331                  | 2.0     | 0.318            | 7.0                  | LOS A            | 2.0                                  | 14.1                   | 0.42         | 0.59                           | 42.2                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 122                  | 2.0     | 0.252            | 6.9                  | LOS A            | 1.5                                  | 10.5                   | 0.38         | 0.59                           | 42.4                  |
| 8                               | T    | 104                  | 2.0     | 0.252            | 5.9                  | LOS A            | 1.5                                  | 10.5                   | 0.38         | 0.51                           | 42.8                  |
| 9                               | R    | 35                   | 2.0     | 0.252            | 10.0                 | LOS A            | 1.5                                  | 10.5                   | 0.38         | 0.73                           | 40.8                  |
| Approach                        |      | 261                  | 2.0     | 0.252            | 6.9                  | LOS A            | 1.5                                  | 10.5                   | 0.38         | 0.58                           | 42.3                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 23                   | 2.0     | 0.150            | 7.6                  | LOS A            | 0.8                                  | 5.6                    | 0.47         | 0.65                           | 42.3                  |
| 11                              | T    | 99                   | 2.0     | 0.150            | 6.7                  | LOS A            | 0.8                                  | 5.6                    | 0.47         | 0.58                           | 42.5                  |
| 12                              | R    | 12                   | 2.0     | 0.150            | 10.7                 | LOS A            | 0.8                                  | 5.6                    | 0.47         | 0.78                           | 40.4                  |
| Approach                        |      | 134                  | 2.0     | 0.150            | 7.2                  | LOS A            | 0.8                                  | 5.6                    | 0.47         | 0.61                           | 42.3                  |
| All Vehicles                    |      | 941                  | 2.0     | 0.318            | 7.2                  | LOS A            | 2.0                                  | 14.1                   | 0.44         | 0.61                           | 42.1                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Smith (Ex Sat)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 20                   | 2.0     | 0.161            | 6.9                  | LOS A            | 0.9                                  | 6.1                    | 0.35         | 0.60                           | 42.6                  |
| 2                               | T    | 107                  | 2.0     | 0.161            | 5.9                  | LOS A            | 0.9                                  | 6.1                    | 0.35         | 0.51                           | 43.0                  |
| 3                               | R    | 34                   | 2.0     | 0.161            | 9.9                  | LOS A            | 0.9                                  | 6.1                    | 0.35         | 0.75                           | 40.8                  |
| Approach                        |      | 161                  | 2.0     | 0.161            | 6.9                  | LOS A            | 0.9                                  | 6.1                    | 0.35         | 0.57                           | 42.4                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 18                   | 2.0     | 0.140            | 6.8                  | LOS A            | 0.7                                  | 5.2                    | 0.34         | 0.59                           | 42.6                  |
| 5                               | T    | 83                   | 2.0     | 0.140            | 5.9                  | LOS A            | 0.7                                  | 5.2                    | 0.34         | 0.50                           | 43.0                  |
| 6                               | R    | 40                   | 2.0     | 0.140            | 9.9                  | LOS A            | 0.7                                  | 5.2                    | 0.34         | 0.74                           | 40.8                  |
| Approach                        |      | 141                  | 2.0     | 0.140            | 7.1                  | LOS A            | 0.7                                  | 5.2                    | 0.34         | 0.58                           | 42.3                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 88                   | 2.0     | 0.207            | 6.9                  | LOS A            | 1.1                                  | 8.2                    | 0.37         | 0.60                           | 42.5                  |
| 8                               | T    | 102                  | 2.0     | 0.207            | 6.0                  | LOS A            | 1.1                                  | 8.2                    | 0.37         | 0.52                           | 42.8                  |
| 9                               | R    | 19                   | 2.0     | 0.207            | 10.0                 | LOS A            | 1.1                                  | 8.2                    | 0.37         | 0.75                           | 40.8                  |
| Approach                        |      | 209                  | 2.0     | 0.207            | 6.8                  | LOS A            | 1.1                                  | 8.2                    | 0.37         | 0.57                           | 42.5                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 11                   | 2.0     | 0.129            | 7.1                  | LOS A            | 0.7                                  | 4.7                    | 0.39         | 0.61                           | 42.5                  |
| 11                              | T    | 99                   | 2.0     | 0.129            | 6.1                  | LOS A            | 0.7                                  | 4.7                    | 0.39         | 0.53                           | 42.9                  |
| 12                              | R    | 15                   | 2.0     | 0.129            | 10.2                 | LOS A            | 0.7                                  | 4.7                    | 0.39         | 0.77                           | 40.7                  |
| Approach                        |      | 124                  | 2.0     | 0.129            | 6.7                  | LOS A            | 0.7                                  | 4.7                    | 0.39         | 0.57                           | 42.6                  |
| All Vehicles                    |      | 636                  | 2.0     | 0.207            | 6.9                  | LOS A            | 1.1                                  | 8.2                    | 0.36         | 0.57                           | 42.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (Ex Thurs  
AM)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 158                  | 2.0     | 0.311            | 8.8                  | LOS A            | 1.9                                  | 13.4                           | 0.62         | 0.73                           | 41.2                  |
| 2                               | T    | 15                   | 2.0     | 0.311            | 7.8                  | LOS A            | 1.9                                  | 13.4                           | 0.62         | 0.68                           | 41.4                  |
| 3                               | R    | 75                   | 2.0     | 0.311            | 11.8                 | LOS A            | 1.9                                  | 13.4                           | 0.62         | 0.80                           | 39.4                  |
| Approach                        |      | 247                  | 2.0     | 0.311            | 9.6                  | LOS A            | 1.9                                  | 13.4                           | 0.62         | 0.75                           | 40.6                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 54                   | 2.0     | 0.426            | 8.4                  | LOS A            | 2.9                                  | 20.3                           | 0.61         | 0.72                           | 41.9                  |
| 5                               | T    | 312                  | 2.0     | 0.426            | 7.4                  | LOS A            | 2.9                                  | 20.3                           | 0.61         | 0.67                           | 41.9                  |
| 6                               | R    | 11                   | 2.0     | 0.426            | 11.4                 | LOS A            | 2.9                                  | 20.3                           | 0.61         | 0.82                           | 40.0                  |
| Approach                        |      | 376                  | 2.0     | 0.426            | 7.7                  | LOS A            | 2.9                                  | 20.3                           | 0.61         | 0.68                           | 41.8                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 5                    | 2.0     | 0.175            | 14.2                 | LOS A            | 1.0                                  | 7.5                            | 0.84         | 0.89                           | 37.3                  |
| 8                               | T    | 35                   | 2.0     | 0.175            | 13.3                 | LOS A            | 1.0                                  | 7.5                            | 0.84         | 0.87                           | 37.5                  |
| 9                               | R    | 35                   | 2.0     | 0.175            | 17.3                 | LOS B            | 1.0                                  | 7.5                            | 0.84         | 0.93                           | 35.9                  |
| Approach                        |      | 75                   | 2.0     | 0.175            | 15.2                 | LOS B            | 1.0                                  | 7.5                            | 0.84         | 0.90                           | 36.7                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 21                   | 2.0     | 0.704            | 7.2                  | LOS A            | 8.4                                  | 59.7                           | 0.60         | 0.58                           | 41.8                  |
| 11                              | T    | 628                  | 2.0     | 0.704            | 6.2                  | LOS A            | 8.4                                  | 59.7                           | 0.60         | 0.53                           | 41.8                  |
| 12                              | R    | 204                  | 2.0     | 0.704            | 10.2                 | LOS A            | 8.4                                  | 59.7                           | 0.60         | 0.68                           | 40.6                  |
| Approach                        |      | 854                  | 2.0     | 0.704            | 7.2                  | LOS A            | 8.4                                  | 59.7                           | 0.60         | 0.56                           | 41.5                  |
| All Vehicles                    |      | 1552                 | 2.0     | 0.704            | 8.1                  | LOS A            | 8.4                                  | 59.7                           | 0.61         | 0.64                           | 41.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (Ex Thurs PM)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 174                  | 2.0     | 0.427            | 11.7                 | LOS A            | 2.9                                  | 20.9                           | 0.81         | 0.91                           | 39.0                  |
| 2                               | T    | 53                   | 2.0     | 0.427            | 10.8                 | LOS A            | 2.9                                  | 20.9                           | 0.81         | 0.89                           | 39.2                  |
| 3                               | R    | 35                   | 2.0     | 0.427            | 14.8                 | LOS B            | 2.9                                  | 20.9                           | 0.81         | 0.95                           | 37.5                  |
| Approach                        |      | 261                  | 2.0     | 0.427            | 11.9                 | LOS A            | 2.9                                  | 20.9                           | 0.81         | 0.91                           | 38.8                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 61                   | 2.0     | 0.634            | 9.4                  | LOS A            | 6.0                                  | 42.8                           | 0.71         | 0.76                           | 41.2                  |
| 5                               | T    | 525                  | 2.0     | 0.634            | 8.4                  | LOS A            | 6.0                                  | 42.8                           | 0.71         | 0.72                           | 41.5                  |
| 6                               | R    | 22                   | 2.0     | 0.634            | 12.4                 | LOS A            | 6.0                                  | 42.8                           | 0.71         | 0.84                           | 39.4                  |
| Approach                        |      | 608                  | 2.0     | 0.634            | 8.7                  | LOS A            | 6.0                                  | 42.8                           | 0.71         | 0.73                           | 41.4                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 12                   | 2.0     | 0.102            | 8.9                  | LOS A            | 0.5                                  | 3.8                            | 0.58         | 0.69                           | 41.0                  |
| 8                               | T    | 18                   | 2.0     | 0.102            | 8.0                  | LOS A            | 0.5                                  | 3.8                            | 0.58         | 0.64                           | 41.4                  |
| 9                               | R    | 46                   | 2.0     | 0.102            | 12.0                 | LOS A            | 0.5                                  | 3.8                            | 0.58         | 0.77                           | 39.2                  |
| Approach                        |      | 76                   | 2.0     | 0.102            | 10.6                 | LOS A            | 0.5                                  | 3.8                            | 0.58         | 0.73                           | 40.0                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 56                   | 2.0     | 0.415            | 6.8                  | LOS A            | 3.1                                  | 22.2                           | 0.41         | 0.58                           | 42.3                  |
| 11                              | T    | 233                  | 2.0     | 0.415            | 5.8                  | LOS A            | 3.1                                  | 22.2                           | 0.41         | 0.50                           | 42.6                  |
| 12                              | R    | 182                  | 2.0     | 0.415            | 9.8                  | LOS A            | 3.1                                  | 22.2                           | 0.41         | 0.71                           | 40.7                  |
| Approach                        |      | 471                  | 2.0     | 0.415            | 7.5                  | LOS A            | 3.1                                  | 22.2                           | 0.41         | 0.59                           | 41.8                  |
| All Vehicles                    |      | 1416                 | 2.0     | 0.634            | 9.0                  | LOS A            | 6.0                                  | 42.8                           | 0.62         | 0.72                           | 40.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (Ex Sat)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 113                  | 2.0     | 0.199            | 8.7                  | LOS A            | 1.1                                  | 7.8                            | 0.58         | 0.71                           | 41.4                  |
| 2                               | T    | 19                   | 2.0     | 0.199            | 7.7                  | LOS A            | 1.1                                  | 7.8                            | 0.58         | 0.65                           | 41.7                  |
| 3                               | R    | 24                   | 2.0     | 0.199            | 11.7                 | LOS A            | 1.1                                  | 7.8                            | 0.58         | 0.79                           | 39.5                  |
| Approach                        |      | 156                  | 2.0     | 0.199            | 9.0                  | LOS A            | 1.1                                  | 7.8                            | 0.58         | 0.71                           | 41.1                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 28                   | 2.0     | 0.385            | 7.6                  | LOS A            | 2.4                                  | 17.4                           | 0.50         | 0.66                           | 42.2                  |
| 5                               | T    | 333                  | 2.0     | 0.385            | 6.7                  | LOS A            | 2.4                                  | 17.4                           | 0.50         | 0.60                           | 42.4                  |
| 6                               | R    | 15                   | 2.0     | 0.385            | 10.7                 | LOS A            | 2.4                                  | 17.4                           | 0.50         | 0.80                           | 40.5                  |
| Approach                        |      | 376                  | 2.0     | 0.385            | 6.9                  | LOS A            | 2.4                                  | 17.4                           | 0.50         | 0.61                           | 42.3                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 16                   | 2.0     | 0.094            | 8.9                  | LOS A            | 0.5                                  | 3.4                            | 0.56         | 0.69                           | 41.1                  |
| 8                               | T    | 21                   | 2.0     | 0.094            | 7.9                  | LOS A            | 0.5                                  | 3.4                            | 0.56         | 0.63                           | 41.5                  |
| 9                               | R    | 34                   | 2.0     | 0.094            | 12.0                 | LOS A            | 0.5                                  | 3.4                            | 0.56         | 0.78                           | 39.3                  |
| Approach                        |      | 71                   | 2.0     | 0.094            | 10.1                 | LOS A            | 0.5                                  | 3.4                            | 0.56         | 0.71                           | 40.3                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 34                   | 2.0     | 0.362            | 6.3                  | LOS A            | 2.5                                  | 18.1                           | 0.26         | 0.55                           | 42.9                  |
| 11                              | T    | 272                  | 2.0     | 0.362            | 5.3                  | LOS A            | 2.5                                  | 18.1                           | 0.26         | 0.46                           | 43.4                  |
| 12                              | R    | 152                  | 2.0     | 0.362            | 9.4                  | LOS A            | 2.5                                  | 18.1                           | 0.26         | 0.72                           | 40.9                  |
| Approach                        |      | 457                  | 2.0     | 0.362            | 6.7                  | LOS A            | 2.5                                  | 18.1                           | 0.26         | 0.55                           | 42.5                  |
| All Vehicles                    |      | 1059                 | 2.0     | 0.385            | 7.4                  | LOS A            | 2.5                                  | 18.1                           | 0.41         | 0.61                           | 42.1                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (Ex Thurs  
AM)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 268                  | 2.0     | 0.305            | 8.1                  | LOS A            | 4.4                                  | 31.4                           | 0.55         | 0.47                           | 40.5                  |
| 6                               | R    | 268                  | 2.0     | 0.888            | 44.2                 | LOS D            | 9.4                                  | 67.2                           | 1.00         | 1.16                           | 24.2                  |
| Approach                        |      | 537                  | 2.0     | 0.888            | 26.2                 | LOS B            | 9.4                                  | 67.2                           | 0.78         | 0.81                           | 30.3                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 268                  | 2.0     | 0.562            | 19.1                 | LOS B            | 5.6                                  | 39.7                           | 0.69         | 0.77                           | 34.2                  |
| 9                               | R    | 408                  | 2.0     | 0.853            | 39.1                 | LOS C            | 14.9                                 | 105.9                          | 1.00         | 1.01                           | 25.8                  |
| Approach                        |      | 677                  | 2.0     | 0.853            | 31.2                 | LOS C            | 14.9                                 | 105.9                          | 0.88         | 0.91                           | 28.6                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 333                  | 2.0     | 0.308            | 9.7                  | LOS A            | 3.5                                  | 25.2                           | 0.36         | 0.70                           | 40.5                  |
| 11                              | T    | 618                  | 2.0     | 0.869            | 29.7                 | LOS C            | 22.6                                 | 161.1                          | 1.00         | 1.09                           | 27.9                  |
| Approach                        |      | 951                  | 2.0     | 0.869            | 22.7                 | LOS B            | 22.6                                 | 161.1                          | 0.77         | 0.96                           | 31.3                  |
| All Vehicles                    |      | 2164                 | 2.0     | 0.888            | 26.2                 | LOS B            | 22.6                                 | 161.1                          | 0.81         | 0.91                           | 30.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 20.0                 | LOS C            | 0.1                                        | 0.1                            | 0.78         | 0.78                           |
| P7                                 | Across W approach | 53                   | 25.9                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| All Pedestrians                    |                   | 106                  | 22.9                 | LOS C            |                                            |                                | 0.84         | 0.84                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (Ex Thurs PM)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 447                  | 2.0     | 0.502            | 9.9                  | LOS A            | 8.1                                  | 57.4                           | 0.70         | 0.60                           | 38.7                  |
| 6                               | R    | 260                  | 2.0     | 0.573            | 21.1                 | LOS B            | 5.7                                  | 40.4                           | 0.91         | 0.82                           | 33.1                  |
| Approach                        |      | 707                  | 2.0     | 0.573            | 14.0                 | LOS A            | 8.1                                  | 57.4                           | 0.77         | 0.68                           | 36.5                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 243                  | 2.0     | 0.425            | 15.2                 | LOS B            | 3.9                                  | 27.5                           | 0.61         | 0.75                           | 36.6                  |
| 9                               | R    | 398                  | 2.0     | 0.761            | 29.4                 | LOS C            | 11.1                                 | 79.3                           | 0.97         | 0.92                           | 29.3                  |
| Approach                        |      | 641                  | 2.0     | 0.761            | 24.0                 | LOS B            | 11.1                                 | 79.3                           | 0.83         | 0.86                           | 31.7                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 233                  | 2.0     | 0.216            | 10.0                 | LOS A            | 2.3                                  | 16.6                           | 0.39         | 0.70                           | 40.3                  |
| 11                              | T    | 233                  | 2.0     | 0.423            | 18.0                 | LOS B            | 5.3                                  | 37.9                           | 0.86         | 0.71                           | 33.4                  |
| Approach                        |      | 465                  | 2.0     | 0.423            | 14.0                 | LOS A            | 5.3                                  | 37.9                           | 0.62         | 0.71                           | 36.5                  |
| All Vehicles                    |      | 1814                 | 2.0     | 0.761            | 17.6                 | LOS B            | 11.1                                 | 79.3                           | 0.76         | 0.75                           | 34.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 22.3                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| P7                                 | Across W approach | 53                   | 22.3                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| All Pedestrians                    |                   | 106                  | 22.3                 | LOS C            |                                            |                                | 0.89         | 0.89                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (Ex Sat)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 5                               | T    | 281               | 2.0  | 0.315         | 8.9               | LOS A            | 4.5                            | 32.3                     | 0.62         | 0.53                        | 39.7               |
| 6                               | R    | 201               | 2.0  | 0.451         | 21.0              | LOS B            | 4.2                            | 30.1                     | 0.87         | 0.79                        | 33.2               |
| Approach                        |      | 482               | 2.0  | 0.451         | 13.9              | LOS A            | 4.5                            | 32.3                     | 0.73         | 0.64                        | 36.7               |
| North: Goodall Street           |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 195               | 2.0  | 0.340         | 15.0              | LOS B            | 3.0                            | 21.4                     | 0.59         | 0.74                        | 36.8               |
| 9                               | R    | 209               | 2.0  | 0.400         | 24.4              | LOS B            | 4.8                            | 34.0                     | 0.85         | 0.79                        | 31.5               |
| Approach                        |      | 404               | 2.0  | 0.400         | 19.9              | LOS B            | 4.8                            | 34.0                     | 0.73         | 0.77                        | 33.8               |
| West: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 10                              | L    | 165               | 2.0  | 0.157         | 9.9               | LOS A            | 1.6                            | 11.6                     | 0.37         | 0.69                        | 40.4               |
| 11                              | T    | 269               | 2.0  | 0.482         | 18.2              | LOS B            | 6.2                            | 44.2                     | 0.87         | 0.72                        | 33.3               |
| Approach                        |      | 435               | 2.0  | 0.482         | 15.0              | LOS B            | 6.2                            | 44.2                     | 0.68         | 0.71                        | 35.7               |
| All Vehicles                    |      | 1321              | 2.0  | 0.482         | 16.1              | LOS B            | 6.2                            | 44.2                     | 0.71         | 0.70                        | 35.4               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P5                                 | Across N approach | 53                | 22.3              | LOS C            | 0.1                                  | 0.1                      | 0.89         | 0.89                        |
| P7                                 | Across W approach | 53                | 22.3              | LOS C            | 0.1                                  | 0.1                      | 0.89         | 0.89                        |
| All Pedestrians                    |                   | 106               | 22.3              | LOS C            |                                      |                          | 0.89         | 0.89                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Dunmore-Pendle (Ex Thurs  
AM)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 236                  | 2.0     | 0.204            | 5.9                  | LOS A            | 3.1                                  | 22.4                           | 0.48         | 0.41                           | 42.5                  |
| 3                               | R    | 516                  | 2.0     | 0.780            | 25.8                 | LOS B            | 12.7                                 | 90.1                           | 0.95         | 1.03                           | 30.8                  |
| Approach                        |      | 752                  | 2.0     | 0.780            | 19.5                 | LOS B            | 12.7                                 | 90.1                           | 0.80         | 0.83                           | 33.7                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 306                  | 2.0     | 0.314            | 15.0                 | LOS B            | 5.1                                  | 36.0                           | 0.60         | 0.76                           | 36.8                  |
| 6                               | R    | 263                  | 2.0     | 0.719            | 33.4                 | LOS C            | 7.9                                  | 56.3                           | 0.99         | 0.89                           | 27.7                  |
| Approach                        |      | 569                  | 2.0     | 0.719            | 23.5                 | LOS B            | 7.9                                  | 56.3                           | 0.78         | 0.82                           | 31.9                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 408                  | 2.0     | 0.450            | 14.3                 | LOS A            | 6.7                                  | 47.8                           | 0.60         | 0.76                           | 37.2                  |
| 8                               | T    | 188                  | 2.0     | 0.367            | 19.8                 | LOS B            | 4.6                                  | 32.9                           | 0.86         | 0.70                           | 32.4                  |
| Approach                        |      | 597                  | 2.0     | 0.450            | 16.0                 | LOS B            | 6.7                                  | 47.8                           | 0.68         | 0.74                           | 35.6                  |
| All Vehicles                    |      | 1918                 | 2.0     | 0.780            | 19.6                 | LOS B            | 12.7                                 | 90.1                           | 0.76         | 0.80                           | 33.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 12.0                 | LOS B            | 0.1                                        | 0.1                            | 0.63         | 0.63                           |
| P3                                 | Across E approach | 53                   | 24.3                 | LOS C            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| All Pedestrians                    |                   | 106                  | 18.2                 | LOS B            |                                            |                                | 0.77         | 0.77                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (Ex Thurs PM)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 277                  | 2.0     | 0.308            | 10.8                 | LOS A            | 5.1                                  | 36.2                           | 0.66         | 0.56                           | 38.2                  |
| 3                               | R    | 255                  | 2.0     | 0.573            | 22.5                 | LOS B            | 6.0                                  | 42.7                           | 0.91         | 0.82                           | 32.4                  |
| Approach                        |      | 532                  | 2.0     | 0.573            | 16.4                 | LOS B            | 6.0                                  | 42.7                           | 0.78         | 0.68                           | 35.2                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 420                  | 2.0     | 0.430            | 15.7                 | LOS B            | 7.5                                  | 53.5                           | 0.65         | 0.78                           | 36.3                  |
| 6                               | R    | 398                  | 2.0     | 0.652            | 25.5                 | LOS B            | 10.3                                 | 73.2                           | 0.91         | 0.84                           | 31.0                  |
| Approach                        |      | 818                  | 2.0     | 0.652            | 20.5                 | LOS B            | 10.3                                 | 73.2                           | 0.77         | 0.81                           | 33.5                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 199                  | 2.0     | 0.184            | 9.7                  | LOS A            | 1.9                                  | 13.9                           | 0.36         | 0.69                           | 40.6                  |
| 8                               | T    | 188                  | 2.0     | 0.367            | 19.8                 | LOS B            | 4.6                                  | 32.9                           | 0.86         | 0.70                           | 32.4                  |
| Approach                        |      | 387                  | 2.0     | 0.367            | 14.6                 | LOS B            | 4.6                                  | 32.9                           | 0.60         | 0.70                           | 36.2                  |
| All Vehicles                    |      | 1737                 | 2.0     | 0.652            | 17.9                 | LOS B            | 10.3                                 | 73.2                           | 0.74         | 0.75                           | 34.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 12.0                 | LOS B            | 0.1                                        | 0.1                            | 0.63         | 0.63                           |
| P3                                 | Across E approach | 53                   | 24.3                 | LOS C            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| All Pedestrians                    |                   | 106                  | 18.2                 | LOS B            |                                            |                                | 0.77         | 0.77                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (Ex Sat)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 2                               | T    | 303               | 2.0  | 0.449         | 6.5               | LOS A            | 4.2                            | 29.6                     | 0.57         | 0.48                        | 41.5               |
| 3                               | R    | 217               | 2.0  | 0.449         | 16.0              | LOS B            | 4.2                            | 29.6                     | 0.79         | 0.80                        | 36.2               |
| Approach                        |      | 520               | 2.0  | 0.449         | 10.4              | LOS A            | 4.2                            | 29.6                     | 0.66         | 0.61                        | 39.1               |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 4                               | L    | 255               | 2.0  | 0.316         | 16.5              | LOS B            | 4.1                            | 29.4                     | 0.69         | 0.77                        | 35.8               |
| 6                               | R    | 238               | 2.0  | 0.650         | 28.2              | LOS B            | 5.8                            | 41.4                     | 0.97         | 0.86                        | 29.8               |
| Approach                        |      | 493               | 2.0  | 0.650         | 22.1              | LOS B            | 5.8                            | 41.4                     | 0.82         | 0.81                        | 32.6               |
| North: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 226               | 2.0  | 0.211         | 10.4              | LOS A            | 2.3                            | 16.2                     | 0.44         | 0.71                        | 40.0               |
| 8                               | T    | 222               | 2.0  | 0.361         | 14.5              | LOS B            | 4.3                            | 30.6                     | 0.81         | 0.67                        | 35.5               |
| Approach                        |      | 448               | 2.0  | 0.361         | 12.5              | LOS A            | 4.3                            | 30.6                     | 0.62         | 0.69                        | 37.6               |
| All Vehicles                    |      | 1461              | 2.0  | 0.650         | 15.0              | LOS B            | 5.8                            | 41.4                     | 0.70         | 0.70                        | 36.2               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 14.4              | LOS B            | 0.1                                  | 0.1                      | 0.76         | 0.76                        |
| P3                                 | Across E approach | 53                | 19.4              | LOS B            | 0.1                                  | 0.1                      | 0.88         | 0.88                        |
| All Pedestrians                    |                   | 106               | 16.9              | LOS B            |                                      |                          | 0.82         | 0.82                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Thurs  
AM)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 274                  | 2.0     | 0.147            | 1.6                  | LOS A            | 1.1                                  | 8.0                            | 0.47         | 0.00                           | 44.5                  |
| 3                               | R    | 5                    | 2.0     | 0.147            | 8.4                  | LOS A            | 1.1                                  | 8.0                            | 0.47         | 0.90                           | 43.1                  |
| Approach                        |      | 279                  | 2.0     | 0.147            | 1.7                  | NA               | 1.1                                  | 8.0                            | 0.47         | 0.02                           | 44.5                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 5                    | 2.0     | 0.022            | 11.3                 | LOS A            | 0.1                                  | 0.5                            | 0.51         | 0.62                           | 39.3                  |
| 6                               | R    | 5                    | 2.0     | 0.022            | 11.6                 | LOS A            | 0.1                                  | 0.5                            | 0.51         | 0.78                           | 39.1                  |
| Approach                        |      | 11                   | 2.0     | 0.022            | 11.4                 | LOS A            | 0.1                                  | 0.5                            | 0.51         | 0.70                           | 39.2                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 5                    | 2.0     | 0.160            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.92                           | 43.3                  |
| 8                               | T    | 302                  | 2.0     | 0.160            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 307                  | 2.0     | 0.160            | 0.1                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.02                           | 49.9                  |
| All Vehicles                    |      | 597                  | 2.0     | 0.160            | 1.0                  | NA               | 1.1                                  | 8.0                            | 0.23         | 0.03                           | 47.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Thurs  
PM)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 287                  | 2.0     | 0.161            | 1.6                  | LOS A            | 1.2                                  | 8.8                            | 0.48         | 0.00                           | 44.4                  |
| 3                               | R    | 13                   | 2.0     | 0.161            | 8.4                  | LOS A            | 1.2                                  | 8.8                            | 0.48         | 0.89                           | 43.0                  |
| Approach                        |      | 300                  | 2.0     | 0.161            | 1.9                  | NA               | 1.2                                  | 8.8                            | 0.48         | 0.04                           | 44.4                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 13                   | 2.0     | 0.034            | 10.4                 | LOS A            | 0.1                                  | 0.8                            | 0.48         | 0.64                           | 39.9                  |
| 6                               | R    | 6                    | 2.0     | 0.034            | 10.8                 | LOS A            | 0.1                                  | 0.8                            | 0.48         | 0.80                           | 39.8                  |
| Approach                        |      | 19                   | 2.0     | 0.034            | 10.5                 | LOS A            | 0.1                                  | 0.8                            | 0.48         | 0.69                           | 39.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 6                    | 2.0     | 0.160            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.91                           | 43.3                  |
| 8                               | T    | 301                  | 2.0     | 0.160            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 307                  | 2.0     | 0.160            | 0.1                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.02                           | 49.8                  |
| All Vehicles                    |      | 626                  | 2.0     | 0.161            | 1.3                  | NA               | 1.2                                  | 8.8                            | 0.24         | 0.05                           | 46.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Sat)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 2                               | T    | 183                  | 2.0     | 0.101            | 1.1                  | LOS A            | 0.7                                  | 4.9                    | 0.39         | 0.00                           | 45.3                  |
| 3                               | R    | 6                    | 2.0     | 0.101            | 7.9                  | LOS A            | 0.7                                  | 4.9                    | 0.39         | 0.88                           | 43.0                  |
| Approach                        |      | 189                  | 2.0     | 0.101            | 1.3                  | NA               | 0.7                                  | 4.9                    | 0.39         | 0.03                           | 45.3                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 13                   | 2.0     | 0.029            | 9.0                  | LOS A            | 0.1                                  | 0.7                    | 0.40         | 0.60                           | 41.1                  |
| 6                               | R    | 7                    | 2.0     | 0.029            | 9.3                  | LOS A            | 0.1                                  | 0.7                    | 0.40         | 0.73                           | 40.9                  |
| Approach                        |      | 20                   | 2.0     | 0.029            | 9.1                  | LOS A            | 0.1                                  | 0.7                    | 0.40         | 0.65                           | 41.0                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 16                   | 2.0     | 0.125            | 6.5                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.89                           | 43.3                  |
| 8                               | T    | 223                  | 2.0     | 0.125            | 0.0                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 239                  | 2.0     | 0.125            | 0.4                  | NA               | 0.0                                  | 0.0                    | 0.00         | 0.06                           | 49.5                  |
| All Vehicles                    |      | 448                  | 2.0     | 0.125            | 1.2                  | NA               | 0.7                                  | 4.9                    | 0.18         | 0.07                           | 47.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Thurs  
AM)

13S1210100  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 2                               | T    | 253                  | 2.0     | 0.137            | 1.1                  | LOS A            | 1.0                                  | 6.9                    | 0.41         | 0.00                           | 45.2                  |
| 3                               | R    | 6                    | 2.0     | 0.137            | 7.9                  | LOS A            | 1.0                                  | 6.9                    | 0.41         | 0.88                           | 43.0                  |
| Approach                        |      | 259                  | 2.0     | 0.137            | 1.3                  | NA               | 1.0                                  | 6.9                    | 0.41         | 0.02                           | 45.1                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 16                   | 2.0     | 0.033            | 9.1                  | LOS A            | 0.1                                  | 0.8                    | 0.41         | 0.61                           | 41.0                  |
| 6                               | R    | 6                    | 2.0     | 0.033            | 9.5                  | LOS A            | 0.1                                  | 0.8                    | 0.41         | 0.75                           | 40.8                  |
| Approach                        |      | 22                   | 2.0     | 0.033            | 9.2                  | LOS A            | 0.1                                  | 0.8                    | 0.41         | 0.65                           | 40.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 7                    | 2.0     | 0.126            | 6.5                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.91                           | 43.3                  |
| 8                               | T    | 235                  | 2.0     | 0.126            | 0.0                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 242                  | 2.0     | 0.126            | 0.2                  | NA               | 0.0                                  | 0.0                    | 0.00         | 0.03                           | 49.8                  |
| All Vehicles                    |      | 523                  | 2.0     | 0.137            | 1.1                  | NA               | 1.0                                  | 6.9                    | 0.22         | 0.05                           | 46.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Thurs  
PM)

13S1210100  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 2                               | T    | 262                  | 2.0     | 0.154            | 1.8                  | LOS A            | 1.2                                  | 8.4                    | 0.49         | 0.00                           | 44.2                  |
| 3                               | R    | 18                   | 2.0     | 0.154            | 8.6                  | LOS A            | 1.2                                  | 8.4                    | 0.49         | 0.89                           | 42.9                  |
| Approach                        |      | 280                  | 2.0     | 0.154            | 2.2                  | NA               | 1.2                                  | 8.4                    | 0.49         | 0.06                           | 44.1                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 27                   | 2.0     | 0.065            | 10.3                 | LOS A            | 0.2                                  | 1.6                    | 0.49         | 0.67                           | 40.0                  |
| 6                               | R    | 11                   | 2.0     | 0.065            | 10.7                 | LOS A            | 0.2                                  | 1.6                    | 0.49         | 0.83                           | 39.9                  |
| Approach                        |      | 38                   | 2.0     | 0.065            | 10.4                 | LOS A            | 0.2                                  | 1.6                    | 0.49         | 0.72                           | 40.0                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 15                   | 2.0     | 0.176            | 6.5                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 323                  | 2.0     | 0.176            | 0.0                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 338                  | 2.0     | 0.176            | 0.3                  | NA               | 0.0                                  | 0.0                    | 0.00         | 0.04                           | 49.7                  |
| All Vehicles                    |      | 656                  | 2.0     | 0.176            | 1.7                  | NA               | 1.2                                  | 8.4                    | 0.24         | 0.09                           | 46.5                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Sat)

13S1210100  
Jones Street-Oatlands Street  
Giveaway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 2                               | T    | 175                  | 2.0     | 0.110            | 1.1                  | LOS A            | 0.7                                  | 5.1                    | 0.38         | 0.00                           | 45.3                  |
| 3                               | R    | 22                   | 2.0     | 0.110            | 7.9                  | LOS A            | 0.7                                  | 5.1                    | 0.38         | 0.85                           | 42.9                  |
| Approach                        |      | 197                  | 2.0     | 0.110            | 1.8                  | NA               | 0.7                                  | 5.1                    | 0.38         | 0.10                           | 45.0                  |
| East: Oatland Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 16                   | 2.0     | 0.031            | 8.7                  | LOS A            | 0.1                                  | 0.8                    | 0.39         | 0.60                           | 41.3                  |
| 6                               | R    | 6                    | 2.0     | 0.031            | 9.1                  | LOS A            | 0.1                                  | 0.8                    | 0.39         | 0.73                           | 41.1                  |
| Approach                        |      | 22                   | 2.0     | 0.031            | 8.8                  | LOS A            | 0.1                                  | 0.8                    | 0.39         | 0.64                           | 41.3                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 9                    | 2.0     | 0.123            | 6.5                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 227                  | 2.0     | 0.123            | 0.0                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 237                  | 2.0     | 0.123            | 0.3                  | NA               | 0.0                                  | 0.0                    | 0.00         | 0.04                           | 49.7                  |
| All Vehicles                    |      | 456                  | 2.0     | 0.123            | 1.4                  | NA               | 0.7                                  | 5.1                    | 0.18         | 0.09                           | 47.1                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Smith (2027 Thurs  
AM)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 5                    | 2.0     | 0.257            | 6.8                  | LOS A            | 1.5                                  | 10.7                           | 0.36         | 0.59                           | 42.5                  |
| 2                               | T    | 167                  | 2.0     | 0.257            | 5.9                  | LOS A            | 1.5                                  | 10.7                           | 0.36         | 0.51                           | 42.9                  |
| 3                               | R    | 101                  | 2.0     | 0.257            | 9.9                  | LOS A            | 1.5                                  | 10.7                           | 0.36         | 0.73                           | 40.8                  |
| Approach                        |      | 274                  | 2.0     | 0.257            | 7.4                  | LOS A            | 1.5                                  | 10.7                           | 0.36         | 0.59                           | 42.1                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 28                   | 2.0     | 0.130            | 7.1                  | LOS A            | 0.7                                  | 5.0                            | 0.41         | 0.60                           | 42.3                  |
| 5                               | T    | 56                   | 2.0     | 0.130            | 6.2                  | LOS A            | 0.7                                  | 5.0                            | 0.41         | 0.53                           | 42.6                  |
| 6                               | R    | 39                   | 2.0     | 0.130            | 10.2                 | LOS A            | 0.7                                  | 5.0                            | 0.41         | 0.73                           | 40.6                  |
| Approach                        |      | 123                  | 2.0     | 0.130            | 7.7                  | LOS A            | 0.7                                  | 5.0                            | 0.41         | 0.61                           | 41.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 157                  | 2.0     | 0.422            | 9.5                  | LOS A            | 2.7                                  | 19.4                           | 0.69         | 0.79                           | 40.8                  |
| 8                               | T    | 134                  | 2.0     | 0.422            | 8.5                  | LOS A            | 2.7                                  | 19.4                           | 0.69         | 0.75                           | 41.1                  |
| 9                               | R    | 34                   | 2.0     | 0.422            | 12.6                 | LOS A            | 2.7                                  | 19.4                           | 0.69         | 0.86                           | 39.1                  |
| Approach                        |      | 324                  | 2.0     | 0.422            | 9.4                  | LOS A            | 2.7                                  | 19.4                           | 0.69         | 0.78                           | 40.8                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 39                   | 2.0     | 0.400            | 8.6                  | LOS A            | 2.5                                  | 18.1                           | 0.61         | 0.73                           | 41.8                  |
| 11                              | T    | 285                  | 2.0     | 0.400            | 7.7                  | LOS A            | 2.5                                  | 18.1                           | 0.61         | 0.68                           | 41.9                  |
| 12                              | R    | 17                   | 2.0     | 0.400            | 11.7                 | LOS A            | 2.5                                  | 18.1                           | 0.61         | 0.84                           | 39.8                  |
| Approach                        |      | 341                  | 2.0     | 0.400            | 8.0                  | LOS A            | 2.5                                  | 18.1                           | 0.61         | 0.69                           | 41.8                  |
| All Vehicles                    |      | 1062                 | 2.0     | 0.422            | 8.2                  | LOS A            | 2.7                                  | 19.4                           | 0.55         | 0.68                           | 41.5                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

Processed: Wednesday, 19 March 2014 8:46:07 AM

SIDRA INTERSECTION 5.1.13.2093

Project: P:\13S1200-1299\13S1210100 Bonds Pendle Hill Amended Report\Modelling\140318sid - 13S1210100

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Smith (2027 Thurs  
PM)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 33                   | 2.0     | 0.297            | 8.6                  | LOS A            | 1.7                                  | 12.5                           | 0.59         | 0.73                           | 41.6                  |
| 2                               | T    | 177                  | 2.0     | 0.297            | 7.7                  | LOS A            | 1.7                                  | 12.5                           | 0.59         | 0.68                           | 41.9                  |
| 3                               | R    | 33                   | 2.0     | 0.297            | 11.7                 | LOS A            | 1.7                                  | 12.5                           | 0.59         | 0.83                           | 39.7                  |
| Approach                        |      | 242                  | 2.0     | 0.297            | 8.4                  | LOS A            | 1.7                                  | 12.5                           | 0.59         | 0.70                           | 41.5                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 65                   | 2.0     | 0.365            | 7.3                  | LOS A            | 2.4                                  | 17.0                           | 0.46         | 0.63                           | 42.2                  |
| 5                               | T    | 236                  | 2.0     | 0.365            | 6.3                  | LOS A            | 2.4                                  | 17.0                           | 0.46         | 0.56                           | 42.4                  |
| 6                               | R    | 72                   | 2.0     | 0.365            | 10.3                 | LOS A            | 2.4                                  | 17.0                           | 0.46         | 0.76                           | 40.6                  |
| Approach                        |      | 373                  | 2.0     | 0.365            | 7.3                  | LOS A            | 2.4                                  | 17.0                           | 0.46         | 0.61                           | 42.0                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 138                  | 2.0     | 0.289            | 7.1                  | LOS A            | 1.8                                  | 12.5                           | 0.42         | 0.61                           | 42.3                  |
| 8                               | T    | 118                  | 2.0     | 0.289            | 6.1                  | LOS A            | 1.8                                  | 12.5                           | 0.42         | 0.53                           | 42.6                  |
| 9                               | R    | 39                   | 2.0     | 0.289            | 10.1                 | LOS A            | 1.8                                  | 12.5                           | 0.42         | 0.74                           | 40.7                  |
| Approach                        |      | 295                  | 2.0     | 0.289            | 7.1                  | LOS A            | 1.8                                  | 12.5                           | 0.42         | 0.59                           | 42.2                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 26                   | 2.0     | 0.174            | 7.9                  | LOS A            | 0.9                                  | 6.7                            | 0.50         | 0.67                           | 42.2                  |
| 11                              | T    | 112                  | 2.0     | 0.174            | 6.9                  | LOS A            | 0.9                                  | 6.7                            | 0.50         | 0.60                           | 42.3                  |
| 12                              | R    | 13                   | 2.0     | 0.174            | 10.9                 | LOS A            | 0.9                                  | 6.7                            | 0.50         | 0.79                           | 40.2                  |
| Approach                        |      | 151                  | 2.0     | 0.174            | 7.4                  | LOS A            | 0.9                                  | 6.7                            | 0.50         | 0.63                           | 42.1                  |
| All Vehicles                    |      | 1060                 | 2.0     | 0.365            | 7.5                  | LOS A            | 2.4                                  | 17.0                           | 0.49         | 0.63                           | 42.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

Processed: Wednesday, 19 March 2014 8:46:07 AM

SIDRA INTERSECTION 5.1.13.2093

Project: P:\13S1200-1299\13S1210100 Bonds Pendle Hill Amended Report\Modelling\140318sid - 13S1210100

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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Smith (2027 Sat)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
|---------------------------------|------|----------------------|---------|---------------------|-------------------------|---------------------|--------------------------------------|------------------------|-----------------|-----------------------------------|--------------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg.<br>Satn<br>v/c | Average<br>Delay<br>sec | Level of<br>Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop.<br>Queued | Effective<br>Stop Rate<br>per veh | Average<br>Speed<br>km/h |
| South: Jones Street             |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 1                               | L    | 22                   | 2.0     | 0.184               | 7.0                     | LOS A               | 1.0                                  | 7.1                    | 0.38            | 0.61                              | 42.5                     |
| 2                               | T    | 121                  | 2.0     | 0.184               | 6.1                     | LOS A               | 1.0                                  | 7.1                    | 0.38            | 0.53                              | 42.8                     |
| 3                               | R    | 38                   | 2.0     | 0.184               | 10.1                    | LOS A               | 1.0                                  | 7.1                    | 0.38            | 0.75                              | 40.7                     |
| Approach                        |      | 181                  | 2.0     | 0.184               | 7.0                     | LOS A               | 1.0                                  | 7.1                    | 0.38            | 0.58                              | 42.3                     |
| East: Smith Street              |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 4                               | L    | 20                   | 2.0     | 0.161               | 7.0                     | LOS A               | 0.9                                  | 6.1                    | 0.37            | 0.60                              | 42.5                     |
| 5                               | T    | 94                   | 2.0     | 0.161               | 6.0                     | LOS A               | 0.9                                  | 6.1                    | 0.37            | 0.51                              | 42.8                     |
| 6                               | R    | 45                   | 2.0     | 0.161               | 10.0                    | LOS A               | 0.9                                  | 6.1                    | 0.37            | 0.74                              | 40.8                     |
| Approach                        |      | 159                  | 2.0     | 0.161               | 7.3                     | LOS A               | 0.9                                  | 6.1                    | 0.37            | 0.59                              | 42.2                     |
| North: Jones Street             |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 7                               | L    | 100                  | 2.0     | 0.239               | 7.1                     | LOS A               | 1.4                                  | 9.7                    | 0.41            | 0.61                              | 42.4                     |
| 8                               | T    | 116                  | 2.0     | 0.239               | 6.2                     | LOS A               | 1.4                                  | 9.7                    | 0.41            | 0.54                              | 42.7                     |
| 9                               | R    | 21                   | 2.0     | 0.239               | 10.2                    | LOS A               | 1.4                                  | 9.7                    | 0.41            | 0.75                              | 40.7                     |
| Approach                        |      | 237                  | 2.0     | 0.239               | 6.9                     | LOS A               | 1.4                                  | 9.7                    | 0.41            | 0.59                              | 42.4                     |
| West: Smith Street              |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 10                              | L    | 12                   | 2.0     | 0.149               | 7.3                     | LOS A               | 0.8                                  | 5.5                    | 0.42            | 0.63                              | 42.5                     |
| 11                              | T    | 112                  | 2.0     | 0.149               | 6.3                     | LOS A               | 0.8                                  | 5.5                    | 0.42            | 0.55                              | 42.7                     |
| 12                              | R    | 17                   | 2.0     | 0.149               | 10.4                    | LOS A               | 0.8                                  | 5.5                    | 0.42            | 0.78                              | 40.6                     |
| Approach                        |      | 140                  | 2.0     | 0.149               | 6.9                     | LOS A               | 0.8                                  | 5.5                    | 0.42            | 0.58                              | 42.4                     |
| All Vehicles                    |      | 717                  | 2.0     | 0.239               | 7.0                     | LOS A               | 1.4                                  | 9.7                    | 0.40            | 0.59                              | 42.3                     |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Thurs  
AM)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 179                  | 2.0     | 0.371            | 9.3                  | LOS A            | 2.4                                  | 16.8                           | 0.68         | 0.77                           | 40.8                  |
| 2                               | T    | 17                   | 2.0     | 0.371            | 8.3                  | LOS A            | 2.4                                  | 16.8                           | 0.68         | 0.73                           | 41.1                  |
| 3                               | R    | 84                   | 2.0     | 0.371            | 12.4                 | LOS A            | 2.4                                  | 16.8                           | 0.68         | 0.83                           | 39.0                  |
| Approach                        |      | 280                  | 2.0     | 0.371            | 10.2                 | LOS A            | 2.4                                  | 16.8                           | 0.68         | 0.79                           | 40.2                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 61                   | 2.0     | 0.504            | 9.0                  | LOS A            | 3.7                                  | 26.6                           | 0.69         | 0.77                           | 41.5                  |
| 5                               | T    | 352                  | 2.0     | 0.504            | 8.0                  | LOS A            | 3.7                                  | 26.6                           | 0.69         | 0.73                           | 41.5                  |
| 6                               | R    | 13                   | 2.0     | 0.504            | 12.1                 | LOS A            | 3.7                                  | 26.6                           | 0.69         | 0.85                           | 39.6                  |
| Approach                        |      | 425                  | 2.0     | 0.504            | 8.3                  | LOS A            | 3.7                                  | 26.6                           | 0.69         | 0.73                           | 41.5                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 5                    | 2.0     | 0.252            | 16.6                 | LOS B            | 1.6                                  | 11.5                           | 0.92         | 0.97                           | 35.7                  |
| 8                               | T    | 39                   | 2.0     | 0.252            | 15.7                 | LOS B            | 1.6                                  | 11.5                           | 0.92         | 0.96                           | 35.8                  |
| 9                               | R    | 39                   | 2.0     | 0.252            | 19.7                 | LOS B            | 1.6                                  | 11.5                           | 0.92         | 0.98                           | 34.5                  |
| Approach                        |      | 83                   | 2.0     | 0.252            | 17.6                 | LOS B            | 1.6                                  | 11.5                           | 0.92         | 0.97                           | 35.2                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 24                   | 2.0     | 0.808            | 7.8                  | LOS A            | 12.1                                 | 86.1                           | 0.80         | 0.60                           | 41.2                  |
| 11                              | T    | 709                  | 2.0     | 0.808            | 6.8                  | LOS A            | 12.1                                 | 86.1                           | 0.80         | 0.57                           | 40.9                  |
| 12                              | R    | 231                  | 2.0     | 0.808            | 10.8                 | LOS A            | 12.1                                 | 86.1                           | 0.80         | 0.65                           | 40.4                  |
| Approach                        |      | 964                  | 2.0     | 0.808            | 7.8                  | LOS A            | 12.1                                 | 86.1                           | 0.80         | 0.59                           | 40.8                  |
| All Vehicles                    |      | 1753                 | 2.0     | 0.808            | 8.8                  | LOS A            | 12.1                                 | 86.1                           | 0.76         | 0.67                           | 40.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Thurs  
PM)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 196                  | 2.0     | 0.543            | 15.0                 | LOS B            | 4.5                                  | 32.0                   | 0.90         | 1.05                           | 36.8                  |
| 2                               | T    | 59                   | 2.0     | 0.543            | 14.0                 | LOS A            | 4.5                                  | 32.0                   | 0.90         | 1.04                           | 36.9                  |
| 3                               | R    | 39                   | 2.0     | 0.543            | 18.0                 | LOS B            | 4.5                                  | 32.0                   | 0.90         | 1.07                           | 35.5                  |
| Approach                        |      | 294                  | 2.0     | 0.543            | 15.2                 | LOS B            | 4.5                                  | 32.0                   | 0.90         | 1.05                           | 36.6                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 68                   | 2.0     | 0.741            | 12.1                 | LOS A            | 9.5                                  | 67.6                   | 0.85         | 0.89                           | 39.2                  |
| 5                               | T    | 594                  | 2.0     | 0.741            | 11.1                 | LOS A            | 9.5                                  | 67.6                   | 0.85         | 0.87                           | 39.3                  |
| 6                               | R    | 25                   | 2.0     | 0.741            | 15.1                 | LOS B            | 9.5                                  | 67.6                   | 0.85         | 0.93                           | 37.6                  |
| Approach                        |      | 687                  | 2.0     | 0.741            | 11.4                 | LOS A            | 9.5                                  | 67.6                   | 0.85         | 0.88                           | 39.3                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 13                   | 2.0     | 0.123            | 9.5                  | LOS A            | 0.7                                  | 4.7                    | 0.63         | 0.72                           | 40.6                  |
| 8                               | T    | 20                   | 2.0     | 0.123            | 8.5                  | LOS A            | 0.7                                  | 4.7                    | 0.63         | 0.68                           | 41.0                  |
| 9                               | R    | 53                   | 2.0     | 0.123            | 12.5                 | LOS A            | 0.7                                  | 4.7                    | 0.63         | 0.80                           | 38.8                  |
| Approach                        |      | 85                   | 2.0     | 0.123            | 11.1                 | LOS A            | 0.7                                  | 4.7                    | 0.63         | 0.76                           | 39.6                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 62                   | 2.0     | 0.476            | 7.0                  | LOS A            | 3.9                                  | 27.6                   | 0.47         | 0.59                           | 42.1                  |
| 11                              | T    | 262                  | 2.0     | 0.476            | 6.0                  | LOS A            | 3.9                                  | 27.6                   | 0.47         | 0.52                           | 42.3                  |
| 12                              | R    | 206                  | 2.0     | 0.476            | 10.0                 | LOS A            | 3.9                                  | 27.6                   | 0.47         | 0.71                           | 40.6                  |
| Approach                        |      | 531                  | 2.0     | 0.476            | 7.7                  | LOS A            | 3.9                                  | 27.6                   | 0.47         | 0.60                           | 41.6                  |
| All Vehicles                    |      | 1597                 | 2.0     | 0.741            | 10.8                 | LOS A            | 9.5                                  | 67.6                   | 0.72         | 0.81                           | 39.5                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Sat)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 127                  | 2.0     | 0.237            | 9.1                  | LOS A            | 1.4                                  | 9.6                    | 0.63         | 0.74                           | 41.0                  |
| 2                               | T    | 21                   | 2.0     | 0.237            | 8.2                  | LOS A            | 1.4                                  | 9.6                    | 0.63         | 0.70                           | 41.3                  |
| 3                               | R    | 27                   | 2.0     | 0.237            | 12.2                 | LOS A            | 1.4                                  | 9.6                    | 0.63         | 0.82                           | 39.1                  |
| Approach                        |      | 176                  | 2.0     | 0.237            | 9.5                  | LOS A            | 1.4                                  | 9.6                    | 0.63         | 0.75                           | 40.7                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 33                   | 2.0     | 0.447            | 8.0                  | LOS A            | 3.0                                  | 21.5                   | 0.56         | 0.69                           | 42.1                  |
| 5                               | T    | 376                  | 2.0     | 0.447            | 7.1                  | LOS A            | 3.0                                  | 21.5                   | 0.56         | 0.63                           | 42.1                  |
| 6                               | R    | 17                   | 2.0     | 0.447            | 11.1                 | LOS A            | 3.0                                  | 21.5                   | 0.56         | 0.81                           | 40.3                  |
| Approach                        |      | 425                  | 2.0     | 0.447            | 7.3                  | LOS A            | 3.0                                  | 21.5                   | 0.56         | 0.64                           | 42.0                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 18                   | 2.0     | 0.112            | 9.4                  | LOS A            | 0.6                                  | 4.1                    | 0.61         | 0.72                           | 40.7                  |
| 8                               | T    | 24                   | 2.0     | 0.112            | 8.5                  | LOS A            | 0.6                                  | 4.1                    | 0.61         | 0.67                           | 41.1                  |
| 9                               | R    | 38                   | 2.0     | 0.112            | 12.5                 | LOS A            | 0.6                                  | 4.1                    | 0.61         | 0.80                           | 38.9                  |
| Approach                        |      | 80                   | 2.0     | 0.112            | 10.6                 | LOS A            | 0.6                                  | 4.1                    | 0.61         | 0.74                           | 39.9                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 38                   | 2.0     | 0.412            | 6.4                  | LOS A            | 3.1                                  | 22.1                   | 0.30         | 0.55                           | 42.7                  |
| 11                              | T    | 307                  | 2.0     | 0.412            | 5.4                  | LOS A            | 3.1                                  | 22.1                   | 0.30         | 0.46                           | 43.2                  |
| 12                              | R    | 172                  | 2.0     | 0.412            | 9.4                  | LOS A            | 3.1                                  | 22.1                   | 0.30         | 0.71                           | 40.9                  |
| Approach                        |      | 517                  | 2.0     | 0.412            | 6.8                  | LOS A            | 3.1                                  | 22.1                   | 0.30         | 0.55                           | 42.3                  |
| All Vehicles                    |      | 1198                 | 2.0     | 0.447            | 7.6                  | LOS A            | 3.1                                  | 22.1                   | 0.46         | 0.63                           | 41.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027  
Thurs AM)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 85 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 303                  | 2.0     | 0.381            | 9.1                  | LOS A            | 6.1                                  | 43.3                           | 0.52         | 0.45                           | 39.7                  |
| 6                               | R    | 303                  | 2.0     | 0.913            | 59.1                 | LOS E            | 14.1                                 | 100.3                          | 1.00         | 1.23                           | 20.6                  |
| Approach                        |      | 606                  | 2.0     | 0.913            | 34.1                 | LOS C            | 14.1                                 | 100.3                          | 0.76         | 0.84                           | 27.1                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 303                  | 2.0     | 0.745            | 26.3                 | LOS B            | 9.0                                  | 64.3                           | 0.69         | 0.83                           | 30.6                  |
| 9                               | R    | 461                  | 2.0     | 0.931            | 59.1                 | LOS E            | 24.9                                 | 177.3                          | 1.00         | 1.09                           | 20.6                  |
| Approach                        |      | 764                  | 2.0     | 0.931            | 46.1                 | LOS D            | 24.9                                 | 177.3                          | 0.88         | 0.98                           | 23.7                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 376                  | 2.0     | 0.387            | 10.6                 | LOS A            | 5.2                                  | 37.2                           | 0.36         | 0.71                           | 39.8                  |
| 11                              | T    | 698                  | 2.0     | 0.934            | 47.8                 | LOS D            | 37.8                                 | 269.4                          | 1.00         | 1.19                           | 22.4                  |
| Approach                        |      | 1074                 | 2.0     | 0.934            | 34.8                 | LOS C            | 37.8                                 | 269.4                          | 0.78         | 1.02                           | 26.5                  |
| All Vehicles                    |      | 2444                 | 2.0     | 0.934            | 38.2                 | LOS C            | 37.8                                 | 269.4                          | 0.80         | 0.96                           | 25.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 22.6                 | LOS C            | 0.1                                        | 0.1                            | 0.73         | 0.73                           |
| P7                                 | Across W approach | 53                   | 30.5                 | LOS D            | 0.1                                        | 0.1                            | 0.85         | 0.85                           |
| All Pedestrians                    |                   | 106                  | 26.6                 | LOS C            |                                            |                                | 0.79         | 0.79                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027  
Thurs PM)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 506                  | 2.0     | 0.612            | 12.6                 | LOS A            | 10.9                                 | 77.4                           | 0.77         | 0.68                           | 36.7                  |
| 6                               | R    | 294                  | 2.0     | 0.740            | 28.3                 | LOS B            | 8.1                                  | 57.9                           | 0.99         | 0.94                           | 29.7                  |
| Approach                        |      | 800                  | 2.0     | 0.740            | 18.4                 | LOS B            | 10.9                                 | 77.4                           | 0.85         | 0.78                           | 33.8                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 275                  | 2.0     | 0.479            | 14.8                 | LOS B            | 4.4                                  | 31.6                           | 0.58         | 0.74                           | 36.9                  |
| 9                               | R    | 449                  | 2.0     | 0.736            | 27.8                 | LOS B            | 12.6                                 | 90.1                           | 0.94         | 0.89                           | 30.0                  |
| Approach                        |      | 724                  | 2.0     | 0.736            | 22.8                 | LOS B            | 12.6                                 | 90.1                           | 0.81         | 0.84                           | 32.3                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 262                  | 2.0     | 0.243            | 9.8                  | LOS A            | 2.7                                  | 19.0                           | 0.37         | 0.70                           | 40.5                  |
| 11                              | T    | 262                  | 2.0     | 0.511            | 20.8                 | LOS B            | 6.7                                  | 47.9                           | 0.90         | 0.75                           | 31.9                  |
| Approach                        |      | 524                  | 2.0     | 0.511            | 15.3                 | LOS B            | 6.7                                  | 47.9                           | 0.64         | 0.72                           | 35.7                  |
| All Vehicles                    |      | 2048                 | 2.0     | 0.740            | 19.2                 | LOS B            | 12.6                                 | 90.1                           | 0.78         | 0.78                           | 33.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 24.3                 | LOS C            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| P7                                 | Across W approach | 53                   | 20.8                 | LOS C            | 0.1                                        | 0.1                            | 0.83         | 0.83                           |
| All Pedestrians                    |                   | 106                  | 22.6                 | LOS C            |                                            |                                | 0.87         | 0.87                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027 Sat)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 5                               | T    | 318               | 2.0  | 0.356         | 9.1               | LOS A            | 5.3                            | 37.4                     | 0.64         | 0.54                        | 39.5               |
| 6                               | R    | 227               | 2.0  | 0.535         | 22.2              | LOS B            | 5.0                            | 35.9                     | 0.91         | 0.81                        | 32.5               |
| Approach                        |      | 545               | 2.0  | 0.535         | 14.6              | LOS B            | 5.3                            | 37.4                     | 0.75         | 0.65                        | 36.2               |
| North: Goodall Street           |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 220               | 2.0  | 0.385         | 15.1              | LOS B            | 3.4                            | 24.5                     | 0.60         | 0.74                        | 36.7               |
| 9                               | R    | 237               | 2.0  | 0.453         | 24.7              | LOS B            | 5.5                            | 39.1                     | 0.87         | 0.80                        | 31.3               |
| Approach                        |      | 457               | 2.0  | 0.453         | 20.1              | LOS B            | 5.5                            | 39.1                     | 0.74         | 0.77                        | 33.7               |
| West: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 10                              | L    | 186               | 2.0  | 0.168         | 10.0              | LOS A            | 2.1                            | 14.9                     | 0.38         | 0.71                        | 40.4               |
| 11                              | T    | 304               | 2.0  | 0.514         | 17.6              | LOS B            | 6.7                            | 47.6                     | 0.85         | 0.71                        | 33.6               |
| Approach                        |      | 491               | 2.0  | 0.514         | 14.7              | LOS B            | 6.7                            | 47.6                     | 0.67         | 0.71                        | 35.9               |
| All Vehicles                    |      | 1493              | 2.0  | 0.535         | 16.3              | LOS B            | 6.7                            | 47.6                     | 0.72         | 0.71                        | 35.3               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P5                                 | Across N approach | 53                | 22.3              | LOS C            | 0.1                                  | 0.1                      | 0.89         | 0.89                        |
| P7                                 | Across W approach | 53                | 22.3              | LOS C            | 0.1                                  | 0.1                      | 0.89         | 0.89                        |
| All Pedestrians                    |                   | 106               | 22.3              | LOS C            |                                      |                          | 0.89         | 0.89                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Thurs  
AM)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 267                  | 2.0     | 0.226            | 6.0                  | LOS A            | 3.8                                  | 26.8                           | 0.48         | 0.40                           | 42.4                  |
| 3                               | R    | 582                  | 2.0     | 0.831            | 31.2                 | LOS C            | 15.9                                 | 113.0                          | 0.97         | 1.10                           | 28.5                  |
| Approach                        |      | 849                  | 2.0     | 0.831            | 23.3                 | LOS B            | 15.9                                 | 113.0                          | 0.81         | 0.88                           | 31.8                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 345                  | 2.0     | 0.331            | 14.5                 | LOS A            | 5.8                                  | 41.5                           | 0.57         | 0.75                           | 37.1                  |
| 6                               | R    | 297                  | 2.0     | 0.811            | 38.7                 | LOS C            | 10.4                                 | 73.8                           | 1.00         | 0.96                           | 25.9                  |
| Approach                        |      | 642                  | 2.0     | 0.811            | 25.7                 | LOS B            | 10.4                                 | 73.8                           | 0.77         | 0.85                           | 30.9                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 461                  | 2.0     | 0.548            | 16.5                 | LOS B            | 9.1                                  | 64.6                           | 0.66         | 0.79                           | 35.8                  |
| 8                               | T    | 213                  | 2.0     | 0.449            | 23.0                 | LOS B            | 5.9                                  | 42.0                           | 0.89         | 0.74                           | 30.8                  |
| Approach                        |      | 674                  | 2.0     | 0.548            | 18.5                 | LOS B            | 9.1                                  | 64.6                           | 0.73         | 0.77                           | 34.1                  |
| All Vehicles                    |      | 2165                 | 2.0     | 0.831            | 22.5                 | LOS B            | 15.9                                 | 113.0                          | 0.77         | 0.84                           | 32.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 11.1                 | LOS B            | 0.1                                        | 0.1                            | 0.58         | 0.58                           |
| P3                                 | Across E approach | 53                   | 26.8                 | LOS C            | 0.1                                        | 0.1                            | 0.91         | 0.91                           |
| All Pedestrians                    |                   | 106                  | 18.9                 | LOS B            |                                            |                                | 0.75         | 0.75                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Thurs PM)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 313                  | 2.0     | 0.348            | 11.1                 | LOS A            | 5.9                                  | 41.9                           | 0.68         | 0.58                           | 38.0                  |
| 3                               | R    | 287                  | 2.0     | 0.672            | 24.8                 | LOS B            | 7.4                                  | 52.9                           | 0.96         | 0.86                           | 31.3                  |
| Approach                        |      | 600                  | 2.0     | 0.672            | 17.7                 | LOS B            | 7.4                                  | 52.9                           | 0.81         | 0.71                           | 34.4                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 475                  | 2.0     | 0.486            | 16.0                 | LOS B            | 8.8                                  | 62.9                           | 0.67         | 0.79                           | 36.1                  |
| 6                               | R    | 449                  | 2.0     | 0.736            | 27.8                 | LOS B            | 12.6                                 | 90.1                           | 0.94         | 0.89                           | 30.0                  |
| Approach                        |      | 924                  | 2.0     | 0.736            | 21.7                 | LOS B            | 12.6                                 | 90.1                           | 0.80         | 0.84                           | 32.8                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 225                  | 2.0     | 0.209            | 9.7                  | LOS A            | 2.2                                  | 16.0                           | 0.36         | 0.69                           | 40.5                  |
| 8                               | T    | 213                  | 2.0     | 0.414            | 20.1                 | LOS B            | 5.3                                  | 37.7                           | 0.87         | 0.72                           | 32.3                  |
| Approach                        |      | 438                  | 2.0     | 0.414            | 14.8                 | LOS B            | 5.3                                  | 37.7                           | 0.61         | 0.71                           | 36.0                  |
| All Vehicles                    |      | 1962                 | 2.0     | 0.736            | 18.9                 | LOS B            | 12.6                                 | 90.1                           | 0.76         | 0.77                           | 34.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 12.0                 | LOS B            | 0.1                                        | 0.1                            | 0.63         | 0.63                           |
| P3                                 | Across E approach | 53                   | 24.3                 | LOS C            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| All Pedestrians                    |                   | 106                  | 18.2                 | LOS B            |                                            |                                | 0.77         | 0.77                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Sat)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 2                               | T    | 342               | 2.0  | 0.520         | 6.7               | LOS A            | 4.9                            | 35.2                     | 0.58         | 0.49                        | 41.3               |
| 3                               | R    | 245               | 2.0  | 0.520         | 17.1              | LOS B            | 4.9                            | 35.2                     | 0.84         | 0.81                        | 35.5               |
| Approach                        |      | 587               | 2.0  | 0.520         | 11.0              | LOS A            | 4.9                            | 35.2                     | 0.69         | 0.63                        | 38.7               |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 4                               | L    | 287               | 2.0  | 0.357         | 16.7              | LOS B            | 4.8                            | 33.9                     | 0.71         | 0.78                        | 35.7               |
| 6                               | R    | 268               | 2.0  | 0.733         | 29.7              | LOS C            | 6.9                            | 49.2                     | 0.99         | 0.92                        | 29.1               |
| Approach                        |      | 556               | 2.0  | 0.733         | 23.0              | LOS B            | 6.9                            | 49.2                     | 0.84         | 0.84                        | 32.2               |
| North: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 256               | 2.0  | 0.238         | 10.5              | LOS A            | 2.6                            | 18.7                     | 0.44         | 0.71                        | 39.9               |
| 8                               | T    | 251               | 2.0  | 0.407         | 14.8              | LOS B            | 4.9                            | 35.1                     | 0.83         | 0.69                        | 35.3               |
| Approach                        |      | 506               | 2.0  | 0.407         | 12.6              | LOS A            | 4.9                            | 35.1                     | 0.63         | 0.70                        | 37.5               |
| All Vehicles                    |      | 1649              | 2.0  | 0.733         | 15.5              | LOS B            | 6.9                            | 49.2                     | 0.72         | 0.72                        | 35.9               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 14.4              | LOS B            | 0.1                                  | 0.1                      | 0.76         | 0.76                        |
| P3                                 | Across E approach | 53                | 19.4              | LOS B            | 0.1                                  | 0.1                      | 0.88         | 0.88                        |
| All Pedestrians                    |                   | 106               | 16.9              | LOS B            |                                      |                          | 0.82         | 0.82                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Jones-Rogers (2027+Dev  
Thurs AM)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 359                  | 2.0     | 0.195            | 1.8                  | LOS A            | 1.6                                  | 11.4                           | 0.52         | 0.00                           | 44.1                  |
| 3                               | R    | 8                    | 2.0     | 0.195            | 8.6                  | LOS A            | 1.6                                  | 11.4                           | 0.52         | 0.91                           | 43.0                  |
| Approach                        |      | 367                  | 2.0     | 0.195            | 2.0                  | NA               | 1.6                                  | 11.4                           | 0.52         | 0.02                           | 44.0                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 13                   | 2.0     | 0.042            | 11.8                 | LOS A            | 0.1                                  | 1.0                            | 0.53         | 0.66                           | 38.9                  |
| 6                               | R    | 7                    | 2.0     | 0.042            | 12.1                 | LOS A            | 0.1                                  | 1.0                            | 0.53         | 0.84                           | 38.8                  |
| Approach                        |      | 20                   | 2.0     | 0.042            | 11.9                 | LOS A            | 0.1                                  | 1.0                            | 0.53         | 0.73                           | 38.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 6                    | 2.0     | 0.173            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.92                           | 43.3                  |
| 8                               | T    | 326                  | 2.0     | 0.173            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 333                  | 2.0     | 0.173            | 0.1                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.02                           | 49.9                  |
| All Vehicles                    |      | 720                  | 2.0     | 0.195            | 1.4                  | NA               | 1.6                                  | 11.4                           | 0.28         | 0.04                           | 46.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Rogers (2027+Dev  
Thurs PM)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 345                  | 2.0     | 0.200            | 2.0                  | LOS A            | 1.6                                  | 11.7                           | 0.53         | 0.00                           | 43.9                  |
| 3                               | R    | 21                   | 2.0     | 0.200            | 8.8                  | LOS A            | 1.6                                  | 11.7                           | 0.53         | 0.90                           | 42.8                  |
| Approach                        |      | 366                  | 2.0     | 0.200            | 2.4                  | NA               | 1.6                                  | 11.7                           | 0.53         | 0.05                           | 43.8                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 25                   | 2.0     | 0.071            | 11.4                 | LOS A            | 0.2                                  | 1.7                            | 0.52         | 0.69                           | 39.2                  |
| 6                               | R    | 11                   | 2.0     | 0.071            | 11.7                 | LOS A            | 0.2                                  | 1.7                            | 0.52         | 0.85                           | 39.1                  |
| Approach                        |      | 36                   | 2.0     | 0.071            | 11.5                 | LOS A            | 0.2                                  | 1.7                            | 0.52         | 0.73                           | 39.2                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 9                    | 2.0     | 0.182            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.91                           | 43.3                  |
| 8                               | T    | 340                  | 2.0     | 0.182            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 349                  | 2.0     | 0.182            | 0.2                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.02                           | 49.8                  |
| All Vehicles                    |      | 752                  | 2.0     | 0.200            | 1.8                  | NA               | 1.6                                  | 11.7                           | 0.28         | 0.07                           | 46.1                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Rogers (2027+Dev Sat)

13S1210100  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 2                               | T    | 251                  | 2.0     | 0.151            | 1.6                  | LOS A            | 1.1                                  | 7.9                    | 0.47         | 0.00                           | 44.4                  |
| 3                               | R    | 22                   | 2.0     | 0.151            | 8.4                  | LOS A            | 1.1                                  | 7.9                    | 0.47         | 0.88                           | 42.9                  |
| Approach                        |      | 273                  | 2.0     | 0.151            | 2.1                  | NA               | 1.1                                  | 7.9                    | 0.47         | 0.07                           | 44.3                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 28                   | 2.0     | 0.069            | 10.1                 | LOS A            | 0.2                                  | 1.7                    | 0.47         | 0.66                           | 40.2                  |
| 6                               | R    | 13                   | 2.0     | 0.069            | 10.5                 | LOS A            | 0.2                                  | 1.7                    | 0.47         | 0.82                           | 40.0                  |
| Approach                        |      | 41                   | 2.0     | 0.069            | 10.2                 | LOS A            | 0.2                                  | 1.7                    | 0.47         | 0.71                           | 40.1                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 21                   | 2.0     | 0.162            | 6.5                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.89                           | 43.3                  |
| 8                               | T    | 291                  | 2.0     | 0.162            | 0.0                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 312                  | 2.0     | 0.162            | 0.4                  | NA               | 0.0                                  | 0.0                    | 0.00         | 0.06                           | 49.5                  |
| All Vehicles                    |      | 625                  | 2.0     | 0.162            | 1.8                  | NA               | 1.1                                  | 7.9                    | 0.24         | 0.11                           | 46.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027+Dev  
Thurs AM)

13S1210100  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 385                  | 2.0     | 0.209            | 4.0                  | LOS A            | 2.3                                  | 16.1                           | 0.69         | 0.00                           | 42.4                  |
| 3                               | R    | 6                    | 2.0     | 0.209            | 10.8                 | LOS A            | 2.3                                  | 16.1                           | 0.69         | 1.00                           | 41.7                  |
| Approach                        |      | 392                  | 2.0     | 0.209            | 4.1                  | NA               | 2.3                                  | 16.1                           | 0.69         | 0.02                           | 42.4                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 16                   | 2.0     | 0.129            | 19.9                 | LOS B            | 0.4                                  | 3.0                            | 0.75         | 0.89                           | 33.7                  |
| 6                               | R    | 16                   | 2.0     | 0.129            | 20.3                 | LOS B            | 0.4                                  | 3.0                            | 0.75         | 0.92                           | 33.6                  |
| Approach                        |      | 32                   | 2.0     | 0.129            | 20.1                 | LOS B            | 0.4                                  | 3.0                            | 0.75         | 0.90                           | 33.7                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 12                   | 2.0     | 0.294            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.91                           | 43.3                  |
| 8                               | T    | 554                  | 2.0     | 0.294            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 565                  | 2.0     | 0.294            | 0.1                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.02                           | 49.8                  |
| All Vehicles                    |      | 988                  | 2.0     | 0.294            | 2.4                  | NA               | 2.3                                  | 16.1                           | 0.30         | 0.05                           | 45.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027+Dev  
Thurs PM)

13S1210100  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 446                  | 2.0     | 0.255            | 4.0                  | LOS A            | 2.7                                  | 19.5                           | 0.70         | 0.00                           | 42.2                  |
| 3                               | R    | 18                   | 2.0     | 0.255            | 10.8                 | LOS A            | 2.7                                  | 19.5                           | 0.70         | 1.00                           | 41.6                  |
| Approach                        |      | 464                  | 2.0     | 0.255            | 4.3                  | NA               | 2.7                                  | 19.5                           | 0.70         | 0.04                           | 42.2                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 27                   | 2.0     | 0.314            | 26.4                 | LOS B            | 1.2                                  | 8.3                            | 0.81         | 0.99                           | 30.5                  |
| 6                               | R    | 38                   | 2.0     | 0.314            | 26.7                 | LOS B            | 1.2                                  | 8.3                            | 0.81         | 0.98                           | 30.4                  |
| Approach                        |      | 65                   | 2.0     | 0.314            | 26.6                 | LOS B            | 1.2                                  | 8.3                            | 0.81         | 0.99                           | 30.5                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 26                   | 2.0     | 0.282            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 515                  | 2.0     | 0.282            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 541                  | 2.0     | 0.282            | 0.3                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.04                           | 49.6                  |
| All Vehicles                    |      | 1071                 | 2.0     | 0.314            | 3.6                  | NA               | 2.7                                  | 19.5                           | 0.35         | 0.10                           | 44.5                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027+Dev Sat)

13S1210100  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 434                  | 2.0     | 0.253            | 3.7                  | LOS A            | 2.6                                  | 18.5                           | 0.68         | 0.00                           | 42.4                  |
| 3                               | R    | 22                   | 2.0     | 0.253            | 10.5                 | LOS A            | 2.6                                  | 18.5                           | 0.68         | 0.98                           | 41.8                  |
| Approach                        |      | 456                  | 2.0     | 0.253            | 4.1                  | NA               | 2.6                                  | 18.5                           | 0.68         | 0.05                           | 42.3                  |
| East: Oatland Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 16                   | 2.0     | 0.204            | 23.4                 | LOS B            | 0.7                                  | 4.9                            | 0.79         | 0.92                           | 31.9                  |
| 6                               | R    | 27                   | 2.0     | 0.204            | 23.7                 | LOS B            | 0.7                                  | 4.9                            | 0.79         | 0.94                           | 31.8                  |
| Approach                        |      | 43                   | 2.0     | 0.204            | 23.6                 | LOS B            | 0.7                                  | 4.9                            | 0.79         | 0.93                           | 31.8                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 31                   | 2.0     | 0.269            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 486                  | 2.0     | 0.269            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 517                  | 2.0     | 0.269            | 0.4                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.05                           | 49.5                  |
| All Vehicles                    |      | 1016                 | 2.0     | 0.269            | 3.0                  | NA               | 2.6                                  | 18.5                           | 0.34         | 0.09                           | 45.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

# MOVEMENT SUMMARY

Site: Jones-Smith (2027+Dev  
Thurs AM)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 5                    | 2.0     | 0.369            | 7.7                  | LOS A            | 2.4                                  | 17.3                           | 0.54         | 0.67                           | 42.0                  |
| 2                               | T    | 238                  | 2.0     | 0.369            | 6.8                  | LOS A            | 2.4                                  | 17.3                           | 0.54         | 0.61                           | 42.1                  |
| 3                               | R    | 101                  | 2.0     | 0.369            | 10.8                 | LOS A            | 2.4                                  | 17.3                           | 0.54         | 0.78                           | 40.3                  |
| Approach                        |      | 344                  | 2.0     | 0.369            | 8.0                  | LOS A            | 2.4                                  | 17.3                           | 0.54         | 0.66                           | 41.5                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 28                   | 2.0     | 0.285            | 9.0                  | LOS A            | 1.8                                  | 12.8                           | 0.68         | 0.75                           | 41.0                  |
| 5                               | T    | 56                   | 2.0     | 0.285            | 8.1                  | LOS A            | 1.8                                  | 12.8                           | 0.68         | 0.71                           | 41.1                  |
| 6                               | R    | 123                  | 2.0     | 0.285            | 12.1                 | LOS A            | 1.8                                  | 12.8                           | 0.68         | 0.82                           | 39.2                  |
| Approach                        |      | 207                  | 2.0     | 0.285            | 10.6                 | LOS A            | 1.8                                  | 12.8                           | 0.68         | 0.78                           | 39.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 256                  | 2.0     | 0.826            | 18.7                 | LOS B            | 13.2                                 | 94.3                           | 1.00         | 1.19                           | 34.7                  |
| 8                               | T    | 345                  | 2.0     | 0.826            | 17.7                 | LOS B            | 13.2                                 | 94.3                           | 1.00         | 1.19                           | 34.8                  |
| 9                               | R    | 42                   | 2.0     | 0.826            | 21.7                 | LOS B            | 13.2                                 | 94.3                           | 1.00         | 1.19                           | 33.6                  |
| Approach                        |      | 643                  | 2.0     | 0.826            | 18.4                 | LOS B            | 13.2                                 | 94.3                           | 1.00         | 1.19                           | 34.7                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 59                   | 2.0     | 0.494            | 11.1                 | LOS A            | 3.6                                  | 25.9                           | 0.75         | 0.88                           | 39.8                  |
| 11                              | T    | 285                  | 2.0     | 0.494            | 10.1                 | LOS A            | 3.6                                  | 25.9                           | 0.75         | 0.85                           | 40.1                  |
| 12                              | R    | 17                   | 2.0     | 0.494            | 14.1                 | LOS A            | 3.6                                  | 25.9                           | 0.75         | 0.95                           | 38.2                  |
| Approach                        |      | 361                  | 2.0     | 0.494            | 10.4                 | LOS A            | 3.6                                  | 25.9                           | 0.75         | 0.86                           | 40.0                  |
| All Vehicles                    |      | 1556                 | 2.0     | 0.826            | 13.2                 | LOS A            | 13.2                                 | 94.3                           | 0.80         | 0.94                           | 37.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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**SIDRA**  
**INTERSECTION**



# MOVEMENT SUMMARY

Site: Jones-Smith (2027+Dev  
Thurs PM)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 33                   | 2.0     | 0.450            | 10.0                 | LOS A            | 3.1                                  | 22.0                           | 0.73         | 0.83                           | 40.7                  |
| 2                               | T    | 267                  | 2.0     | 0.450            | 9.0                  | LOS A            | 3.1                                  | 22.0                           | 0.73         | 0.79                           | 40.9                  |
| 3                               | R    | 33                   | 2.0     | 0.450            | 13.0                 | LOS A            | 3.1                                  | 22.0                           | 0.73         | 0.90                           | 38.9                  |
| Approach                        |      | 333                  | 2.0     | 0.450            | 9.5                  | LOS A            | 3.1                                  | 22.0                           | 0.73         | 0.81                           | 40.7                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 65                   | 2.0     | 0.501            | 8.8                  | LOS A            | 3.6                                  | 25.8                           | 0.67         | 0.75                           | 41.4                  |
| 5                               | T    | 236                  | 2.0     | 0.501            | 7.9                  | LOS A            | 3.6                                  | 25.8                           | 0.67         | 0.70                           | 41.4                  |
| 6                               | R    | 131                  | 2.0     | 0.501            | 11.9                 | LOS A            | 3.6                                  | 25.8                           | 0.67         | 0.82                           | 39.5                  |
| Approach                        |      | 432                  | 2.0     | 0.501            | 9.2                  | LOS A            | 3.6                                  | 25.8                           | 0.67         | 0.75                           | 40.8                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 199                  | 2.0     | 0.460            | 7.3                  | LOS A            | 3.4                                  | 24.6                           | 0.50         | 0.62                           | 42.1                  |
| 8                               | T    | 226                  | 2.0     | 0.460            | 6.3                  | LOS A            | 3.4                                  | 24.6                           | 0.50         | 0.56                           | 42.2                  |
| 9                               | R    | 61                   | 2.0     | 0.460            | 10.3                 | LOS A            | 3.4                                  | 24.6                           | 0.50         | 0.74                           | 40.6                  |
| Approach                        |      | 486                  | 2.0     | 0.460            | 7.2                  | LOS A            | 3.4                                  | 24.6                           | 0.50         | 0.61                           | 41.9                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 60                   | 2.0     | 0.248            | 9.2                  | LOS A            | 1.4                                  | 10.2                           | 0.64         | 0.76                           | 41.2                  |
| 11                              | T    | 112                  | 2.0     | 0.248            | 8.2                  | LOS A            | 1.4                                  | 10.2                           | 0.64         | 0.71                           | 41.5                  |
| 12                              | R    | 13                   | 2.0     | 0.248            | 12.2                 | LOS A            | 1.4                                  | 10.2                           | 0.64         | 0.85                           | 39.3                  |
| Approach                        |      | 184                  | 2.0     | 0.248            | 8.8                  | LOS A            | 1.4                                  | 10.2                           | 0.64         | 0.73                           | 41.3                  |
| All Vehicles                    |      | 1435                 | 2.0     | 0.501            | 8.6                  | LOS A            | 3.6                                  | 25.8                           | 0.62         | 0.71                           | 41.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Smith (2027+Dev Sat)

13S1210100  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 22                   | 2.0     | 0.366            | 8.3                  | LOS A            | 2.3                                  | 16.4                   | 0.59         | 0.71                           | 41.9                  |
| 2                               | T    | 255                  | 2.0     | 0.366            | 7.4                  | LOS A            | 2.3                                  | 16.4                   | 0.59         | 0.66                           | 41.9                  |
| 3                               | R    | 38                   | 2.0     | 0.366            | 11.4                 | LOS A            | 2.3                                  | 16.4                   | 0.59         | 0.82                           | 40.0                  |
| Approach                        |      | 315                  | 2.0     | 0.366            | 7.9                  | LOS A            | 2.3                                  | 16.4                   | 0.59         | 0.68                           | 41.7                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 20                   | 2.0     | 0.295            | 8.5                  | LOS A            | 1.8                                  | 12.5                   | 0.59         | 0.71                           | 41.5                  |
| 5                               | T    | 94                   | 2.0     | 0.295            | 7.5                  | LOS A            | 1.8                                  | 12.5                   | 0.59         | 0.66                           | 41.6                  |
| 6                               | R    | 128                  | 2.0     | 0.295            | 11.6                 | LOS A            | 1.8                                  | 12.5                   | 0.59         | 0.79                           | 39.6                  |
| Approach                        |      | 242                  | 2.0     | 0.295            | 9.8                  | LOS A            | 1.8                                  | 12.5                   | 0.59         | 0.73                           | 40.5                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 183                  | 2.0     | 0.475            | 7.4                  | LOS A            | 3.6                                  | 25.5                   | 0.52         | 0.63                           | 42.0                  |
| 8                               | T    | 249                  | 2.0     | 0.475            | 6.4                  | LOS A            | 3.6                                  | 25.5                   | 0.52         | 0.57                           | 42.1                  |
| 9                               | R    | 63                   | 2.0     | 0.475            | 10.5                 | LOS A            | 3.6                                  | 25.5                   | 0.52         | 0.74                           | 40.5                  |
| Approach                        |      | 496                  | 2.0     | 0.475            | 7.3                  | LOS A            | 3.6                                  | 25.5                   | 0.52         | 0.61                           | 41.9                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 54                   | 2.0     | 0.240            | 9.1                  | LOS A            | 1.4                                  | 9.6                    | 0.62         | 0.75                           | 41.2                  |
| 11                              | T    | 112                  | 2.0     | 0.240            | 8.1                  | LOS A            | 1.4                                  | 9.6                    | 0.62         | 0.70                           | 41.6                  |
| 12                              | R    | 17                   | 2.0     | 0.240            | 12.2                 | LOS A            | 1.4                                  | 9.6                    | 0.62         | 0.84                           | 39.4                  |
| Approach                        |      | 182                  | 2.0     | 0.240            | 8.8                  | LOS A            | 1.4                                  | 9.6                    | 0.62         | 0.73                           | 41.3                  |
| All Vehicles                    |      | 1235                 | 2.0     | 0.475            | 8.2                  | LOS A            | 3.6                                  | 25.5                   | 0.56         | 0.67                           | 41.5                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027+Dev  
Thurs AM)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 199                  | 2.0     | 0.510            | 10.9                 | LOS A            | 4.0                                  | 28.3                   | 0.78         | 0.87                           | 39.4                  |
| 2                               | T    | 17                   | 2.0     | 0.510            | 10.0                 | LOS A            | 4.0                                  | 28.3                   | 0.78         | 0.85                           | 39.7                  |
| 3                               | R    | 152                  | 2.0     | 0.510            | 14.0                 | LOS A            | 4.0                                  | 28.3                   | 0.78         | 0.92                           | 37.8                  |
| Approach                        |      | 367                  | 2.0     | 0.510            | 12.2                 | LOS A            | 4.0                                  | 28.3                   | 0.78         | 0.89                           | 38.8                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 78                   | 2.0     | 0.575            | 10.0                 | LOS A            | 5.1                                  | 36.1                   | 0.76         | 0.82                           | 40.7                  |
| 5                               | T    | 388                  | 2.0     | 0.575            | 9.0                  | LOS A            | 5.1                                  | 36.1                   | 0.76         | 0.79                           | 41.0                  |
| 6                               | R    | 13                   | 2.0     | 0.575            | 13.0                 | LOS A            | 5.1                                  | 36.1                   | 0.76         | 0.88                           | 39.0                  |
| Approach                        |      | 479                  | 2.0     | 0.575            | 9.3                  | LOS A            | 5.1                                  | 36.1                   | 0.76         | 0.80                           | 40.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 5                    | 2.0     | 0.358            | 22.7                 | LOS B            | 2.5                                  | 17.6                   | 1.00         | 1.02                           | 32.3                  |
| 8                               | T    | 39                   | 2.0     | 0.358            | 21.7                 | LOS B            | 2.5                                  | 17.6                   | 1.00         | 1.02                           | 32.4                  |
| 9                               | R    | 39                   | 2.0     | 0.358            | 25.7                 | LOS B            | 2.5                                  | 17.6                   | 1.00         | 1.02                           | 31.5                  |
| Approach                        |      | 83                   | 2.0     | 0.358            | 23.7                 | LOS B            | 2.5                                  | 17.6                   | 1.00         | 1.02                           | 32.0                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 24                   | 2.0     | 0.977            | 27.4                 | LOS B            | 40.1                                 | 285.9                  | 1.00         | 1.11                           | 30.3                  |
| 11                              | T    | 785                  | 2.0     | 0.977            | 26.4                 | LOS B            | 40.1                                 | 285.9                  | 1.00         | 1.11                           | 30.4                  |
| 12                              | R    | 239                  | 2.0     | 0.977            | 30.4                 | LOS C            | 40.1                                 | 285.9                  | 1.00         | 1.11                           | 29.6                  |
| Approach                        |      | 1048                 | 2.0     | 0.977            | 27.3                 | LOS B            | 40.1                                 | 285.9                  | 1.00         | 1.11                           | 30.2                  |
| All Vehicles                    |      | 1978                 | 2.0     | 0.977            | 20.0                 | LOS B            | 40.1                                 | 285.9                  | 0.90         | 0.99                           | 33.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027+Dev  
Thurs PM)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 229                  | 2.0     | 0.735            | 22.7                 | LOS B            | 8.1                                  | 57.9                           | 1.00         | 1.23                           | 32.3                  |
| 2                               | T    | 59                   | 2.0     | 0.735            | 21.7                 | LOS B            | 8.1                                  | 57.9                           | 1.00         | 1.23                           | 32.4                  |
| 3                               | R    | 67                   | 2.0     | 0.735            | 25.7                 | LOS B            | 8.1                                  | 57.9                           | 1.00         | 1.23                           | 31.5                  |
| Approach                        |      | 356                  | 2.0     | 0.735            | 23.1                 | LOS B            | 8.1                                  | 57.9                           | 1.00         | 1.23                           | 32.2                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 87                   | 2.0     | 0.839            | 16.2                 | LOS B            | 14.8                                 | 105.6                          | 1.00         | 1.07                           | 36.4                  |
| 5                               | T    | 646                  | 2.0     | 0.839            | 15.3                 | LOS B            | 14.8                                 | 105.6                          | 1.00         | 1.06                           | 36.4                  |
| 6                               | R    | 25                   | 2.0     | 0.839            | 19.3                 | LOS B            | 14.8                                 | 105.6                          | 1.00         | 1.07                           | 35.2                  |
| Approach                        |      | 759                  | 2.0     | 0.839            | 15.5                 | LOS B            | 14.8                                 | 105.6                          | 1.00         | 1.06                           | 36.4                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 13                   | 2.0     | 0.138            | 10.4                 | LOS A            | 0.8                                  | 5.5                            | 0.69         | 0.77                           | 39.9                  |
| 8                               | T    | 20                   | 2.0     | 0.138            | 9.4                  | LOS A            | 0.8                                  | 5.5                            | 0.69         | 0.74                           | 40.2                  |
| 9                               | R    | 53                   | 2.0     | 0.138            | 13.5                 | LOS A            | 0.8                                  | 5.5                            | 0.69         | 0.83                           | 38.2                  |
| Approach                        |      | 85                   | 2.0     | 0.138            | 12.1                 | LOS A            | 0.8                                  | 5.5                            | 0.69         | 0.80                           | 38.9                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 62                   | 2.0     | 0.565            | 7.4                  | LOS A            | 5.1                                  | 36.6                           | 0.59         | 0.62                           | 41.7                  |
| 11                              | T    | 314                  | 2.0     | 0.565            | 6.5                  | LOS A            | 5.1                                  | 36.6                           | 0.59         | 0.57                           | 41.7                  |
| 12                              | R    | 228                  | 2.0     | 0.565            | 10.5                 | LOS A            | 5.1                                  | 36.6                           | 0.59         | 0.72                           | 40.4                  |
| Approach                        |      | 604                  | 2.0     | 0.565            | 8.1                  | LOS A            | 5.1                                  | 36.6                           | 0.59         | 0.63                           | 41.2                  |
| All Vehicles                    |      | 1804                 | 2.0     | 0.839            | 14.4                 | LOS A            | 14.8                                 | 105.6                          | 0.85         | 0.94                           | 37.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027+Dev Sat)

13S1210100  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 169                  | 2.0     | 0.366            | 10.1                 | LOS A            | 2.3                                  | 16.5                           | 0.74         | 0.82                           | 40.1                  |
| 2                               | T    | 21                   | 2.0     | 0.366            | 9.2                  | LOS A            | 2.3                                  | 16.5                           | 0.74         | 0.79                           | 40.4                  |
| 3                               | R    | 58                   | 2.0     | 0.366            | 13.2                 | LOS A            | 2.3                                  | 16.5                           | 0.74         | 0.88                           | 38.4                  |
| Approach                        |      | 248                  | 2.0     | 0.366            | 10.8                 | LOS A            | 2.3                                  | 16.5                           | 0.74         | 0.83                           | 39.7                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 63                   | 2.0     | 0.580            | 9.3                  | LOS A            | 4.9                                  | 34.8                           | 0.69         | 0.77                           | 41.3                  |
| 5                               | T    | 448                  | 2.0     | 0.580            | 8.3                  | LOS A            | 4.9                                  | 34.8                           | 0.69         | 0.73                           | 41.5                  |
| 6                               | R    | 17                   | 2.0     | 0.580            | 12.4                 | LOS A            | 4.9                                  | 34.8                           | 0.69         | 0.85                           | 39.4                  |
| Approach                        |      | 528                  | 2.0     | 0.580            | 8.6                  | LOS A            | 4.9                                  | 34.8                           | 0.69         | 0.74                           | 41.4                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 18                   | 2.0     | 0.132            | 10.8                 | LOS A            | 0.7                                  | 5.2                            | 0.70         | 0.78                           | 39.6                  |
| 8                               | T    | 24                   | 2.0     | 0.132            | 9.8                  | LOS A            | 0.7                                  | 5.2                            | 0.70         | 0.74                           | 39.9                  |
| 9                               | R    | 38                   | 2.0     | 0.132            | 13.9                 | LOS A            | 0.7                                  | 5.2                            | 0.70         | 0.84                           | 38.0                  |
| Approach                        |      | 80                   | 2.0     | 0.132            | 12.0                 | LOS A            | 0.7                                  | 5.2                            | 0.70         | 0.80                           | 38.9                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 38                   | 2.0     | 0.530            | 6.8                  | LOS A            | 4.7                                  | 33.5                           | 0.44         | 0.57                           | 42.2                  |
| 11                              | T    | 380                  | 2.0     | 0.530            | 5.8                  | LOS A            | 4.7                                  | 33.5                           | 0.44         | 0.50                           | 42.5                  |
| 12                              | R    | 214                  | 2.0     | 0.530            | 9.8                  | LOS A            | 4.7                                  | 33.5                           | 0.44         | 0.70                           | 40.7                  |
| Approach                        |      | 632                  | 2.0     | 0.530            | 7.2                  | LOS A            | 4.7                                  | 33.5                           | 0.44         | 0.57                           | 41.8                  |
| All Vehicles                    |      | 1488                 | 2.0     | 0.580            | 8.6                  | LOS A            | 4.9                                  | 34.8                           | 0.60         | 0.69                           | 41.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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**INTERSECTION**



# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027+Dev  
Thurs AM)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 90 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 356                  | 2.0     | 0.439            | 8.4                  | LOS A            | 7.1                                  | 50.9                           | 0.50         | 0.43                           | 40.4                  |
| 6                               | R    | 316                  | 2.0     | 0.847            | 52.4                 | LOS D            | 13.7                                 | 97.3                           | 1.00         | 1.13                           | 22.1                  |
| Approach                        |      | 672                  | 2.0     | 0.847            | 29.1                 | LOS C            | 13.7                                 | 97.3                           | 0.73         | 0.76                           | 29.1                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 333                  | 2.0     | 0.859            | 34.6                 | LOS C            | 11.5                                 | 81.6                           | 0.82         | 0.89                           | 27.3                  |
| 9                               | R    | 461                  | 2.0     | 1.030            | 107.8                | LOS F            | 35.6                                 | 253.5                          | 1.00         | 1.32                           | 13.9                  |
| Approach                        |      | 794                  | 2.0     | 1.030            | 77.1                 | LOS F            | 35.6                                 | 253.5                          | 0.93         | 1.14                           | 17.5                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 376                  | 2.0     | 0.410            | 11.5                 | LOS A            | 5.9                                  | 42.1                           | 0.39         | 0.71                           | 39.2                  |
| 11                              | T    | 773                  | 2.0     | 1.003            | 79.8                 | LOS F            | 56.0                                 | 398.9                          | 1.00         | 1.44                           | 16.6                  |
| Approach                        |      | 1148                 | 2.0     | 1.003            | 57.4                 | LOS E            | 56.0                                 | 398.9                          | 0.80         | 1.20                           | 20.5                  |
| All Vehicles                    |      | 2614                 | 2.0     | 1.030            | 56.1                 | LOS D            | 56.0                                 | 398.9                          | 0.82         | 1.07                           | 21.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 22.8                 | LOS C            | 0.1                                        | 0.1                            | 0.71         | 0.71                           |
| P7                                 | Across W approach | 53                   | 33.8                 | LOS D            | 0.1                                        | 0.1                            | 0.87         | 0.87                           |
| All Pedestrians                    |                   | 106                  | 28.3                 | LOS C            |                                            |                                | 0.79         | 0.79                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027+Dev  
Thurs PM)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 595                  | 2.0     | 0.669            | 11.1                 | LOS A            | 11.9                                 | 84.9                           | 0.78         | 0.69                           | 37.8                  |
| 6                               | R    | 327                  | 2.0     | 0.874            | 36.7                 | LOS C            | 9.7                                  | 68.9                           | 1.00         | 1.14                           | 26.5                  |
| Approach                        |      | 922                  | 2.0     | 0.874            | 20.2                 | LOS B            | 11.9                                 | 84.9                           | 0.86         | 0.85                           | 32.8                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 325                  | 2.0     | 0.570            | 15.7                 | LOS B            | 5.5                                  | 38.9                           | 0.65         | 0.76                           | 36.3                  |
| 9                               | R    | 449                  | 2.0     | 0.859            | 35.2                 | LOS C            | 14.5                                 | 103.4                          | 1.00         | 1.03                           | 27.0                  |
| Approach                        |      | 775                  | 2.0     | 0.859            | 27.0                 | LOS B            | 14.5                                 | 103.4                          | 0.85         | 0.92                           | 30.3                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 262                  | 2.0     | 0.243            | 10.1                 | LOS A            | 2.7                                  | 19.1                           | 0.40         | 0.71                           | 40.3                  |
| 11                              | T    | 386                  | 2.0     | 0.702            | 21.0                 | LOS B            | 10.1                                 | 72.3                           | 0.95         | 0.86                           | 31.7                  |
| Approach                        |      | 648                  | 2.0     | 0.702            | 16.6                 | LOS B            | 10.1                                 | 72.3                           | 0.73         | 0.80                           | 34.7                  |
| All Vehicles                    |      | 2345                 | 2.0     | 0.874            | 21.4                 | LOS B            | 14.5                                 | 103.4                          | 0.82         | 0.86                           | 32.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 22.3                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| P7                                 | Across W approach | 53                   | 22.3                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| All Pedestrians                    |                   | 106                  | 22.3                 | LOS C            |                                            |                                | 0.89         | 0.89                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027+Dev Sat)

13S1210100

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 476                  | 2.0     | 0.531            | 8.6                  | LOS A            | 8.6                                  | 61.6                           | 0.61         | 0.54                           | 39.9                  |
| 6                               | R    | 291                  | 2.0     | 0.685            | 28.1                 | LOS B            | 8.2                                  | 58.7                           | 0.97         | 0.92                           | 29.8                  |
| Approach                        |      | 766                  | 2.0     | 0.685            | 16.0                 | LOS B            | 8.6                                  | 61.6                           | 0.75         | 0.68                           | 35.4                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 283                  | 2.0     | 0.580            | 18.5                 | LOS B            | 5.8                                  | 41.1                           | 0.68         | 0.77                           | 34.6                  |
| 9                               | R    | 237                  | 2.0     | 0.525            | 30.1                 | LOS C            | 6.7                                  | 47.9                           | 0.92         | 0.81                           | 29.0                  |
| Approach                        |      | 520                  | 2.0     | 0.580            | 23.8                 | LOS B            | 6.7                                  | 47.9                           | 0.79         | 0.79                           | 31.8                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 186                  | 2.0     | 0.217            | 12.0                 | LOS A            | 2.3                                  | 16.3                           | 0.60         | 0.74                           | 38.9                  |
| 11                              | T    | 462                  | 2.0     | 0.665            | 19.3                 | LOS B            | 12.4                                 | 88.4                           | 0.90         | 0.78                           | 32.6                  |
| Approach                        |      | 648                  | 2.0     | 0.665            | 17.2                 | LOS B            | 12.4                                 | 88.4                           | 0.81         | 0.77                           | 34.2                  |
| All Vehicles                    |      | 1935                 | 2.0     | 0.685            | 18.5                 | LOS B            | 12.4                                 | 88.4                           | 0.78         | 0.74                           | 33.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 20.8                 | LOS C            | 0.1                                        | 0.1                            | 0.80         | 0.80                           |
| P7                                 | Across W approach | 53                   | 26.8                 | LOS C            | 0.1                                        | 0.1                            | 0.91         | 0.91                           |
| All Pedestrians                    |                   | 106                  | 23.8                 | LOS C            |                                            |                                | 0.85         | 0.85                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027+Dev  
Thurs AM)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 75 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 267                  | 2.0     | 0.217            | 6.0                  | LOS A            | 4.0                                  | 28.8                           | 0.45         | 0.38                           | 42.5                  |
| 3                               | R    | 646                  | 2.0     | 0.817            | 31.1                 | LOS C            | 18.0                                 | 128.0                          | 0.94         | 1.07                           | 28.6                  |
| Approach                        |      | 914                  | 2.0     | 0.817            | 23.8                 | LOS B            | 18.0                                 | 128.0                          | 0.80         | 0.87                           | 31.6                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 394                  | 2.0     | 0.343            | 13.6                 | LOS A            | 6.8                                  | 48.5                           | 0.51         | 0.74                           | 37.7                  |
| 6                               | R    | 301                  | 2.0     | 0.822            | 43.6                 | LOS D            | 12.1                                 | 86.0                           | 1.00         | 0.96                           | 24.4                  |
| Approach                        |      | 695                  | 2.0     | 0.822            | 26.6                 | LOS B            | 12.1                                 | 86.0                           | 0.72         | 0.84                           | 30.5                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 471                  | 2.0     | 0.639            | 20.5                 | LOS B            | 11.8                                 | 83.9                           | 0.73         | 0.80                           | 33.5                  |
| 8                               | T    | 213                  | 2.0     | 0.518            | 29.0                 | LOS C            | 7.1                                  | 50.5                           | 0.93         | 0.77                           | 28.3                  |
| Approach                        |      | 683                  | 2.0     | 0.639            | 23.1                 | LOS B            | 11.8                                 | 83.9                           | 0.79         | 0.79                           | 31.7                  |
| All Vehicles                    |      | 2292                 | 2.0     | 0.822            | 24.4                 | LOS B            | 18.0                                 | 128.0                          | 0.77         | 0.84                           | 31.3                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 9.6                  | LOS A            | 0.1                                        | 0.1                            | 0.51         | 0.51                           |
| P3                                 | Across E approach | 53                   | 31.7                 | LOS D            | 0.1                                        | 0.1                            | 0.92         | 0.92                           |
| All Pedestrians                    |                   | 106                  | 20.7                 | LOS C            |                                            |                                | 0.71         | 0.71                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027+Dev  
Thurs PM)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 313                  | 2.0     | 0.330            | 10.8                 | LOS A            | 6.0                                  | 43.0                           | 0.65         | 0.55                           | 38.2                  |
| 3                               | R    | 395                  | 2.0     | 0.794            | 31.9                 | LOS C            | 11.6                                 | 82.8                           | 0.99         | 1.04                           | 28.3                  |
| Approach                        |      | 707                  | 2.0     | 0.794            | 22.6                 | LOS B            | 11.6                                 | 82.8                           | 0.84         | 0.82                           | 31.9                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 552                  | 2.0     | 0.529            | 15.8                 | LOS B            | 10.8                                 | 77.2                           | 0.66         | 0.79                           | 36.2                  |
| 6                               | R    | 461                  | 2.0     | 0.779            | 31.5                 | LOS C            | 14.8                                 | 105.1                          | 0.97         | 0.92                           | 28.4                  |
| Approach                        |      | 1013                 | 2.0     | 0.779            | 23.0                 | LOS B            | 14.8                                 | 105.1                          | 0.80         | 0.85                           | 32.2                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 242                  | 2.0     | 0.245            | 11.0                 | LOS A            | 3.0                                  | 21.2                           | 0.41         | 0.71                           | 39.5                  |
| 8                               | T    | 213                  | 2.0     | 0.449            | 23.0                 | LOS B            | 5.9                                  | 42.0                           | 0.89         | 0.74                           | 30.8                  |
| Approach                        |      | 455                  | 2.0     | 0.449            | 16.7                 | LOS B            | 5.9                                  | 42.0                           | 0.64         | 0.72                           | 34.9                  |
| All Vehicles                    |      | 2175                 | 2.0     | 0.794            | 21.5                 | LOS B            | 14.8                                 | 105.1                          | 0.78         | 0.82                           | 32.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 11.1                 | LOS B            | 0.1                                        | 0.1                            | 0.58         | 0.58                           |
| P3                                 | Across E approach | 53                   | 26.8                 | LOS C            | 0.1                                        | 0.1                            | 0.91         | 0.91                           |
| All Pedestrians                    |                   | 106                  | 18.9                 | LOS B            |                                            |                                | 0.75         | 0.75                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027+Dev Sat)

13S1210100

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 2                               | T    | 342               | 2.0  | 0.317         | 6.4               | LOS A            | 4.5                            | 32.1                     | 0.57         | 0.49                        | 41.8               |
| 3                               | R    | 382               | 2.0  | 0.755         | 22.1              | LOS B            | 8.6                            | 61.4                     | 0.97         | 0.94                        | 32.6               |
| Approach                        |      | 724               | 2.0  | 0.755         | 14.7              | LOS B            | 8.6                            | 61.4                     | 0.78         | 0.73                        | 36.4               |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 4                               | L    | 424               | 2.0  | 0.527         | 17.7              | LOS B            | 7.7                            | 55.1                     | 0.78         | 0.81                        | 35.1               |
| 6                               | R    | 289               | 2.0  | 0.790         | 31.5              | LOS C            | 7.8                            | 55.8                     | 1.00         | 0.97                        | 28.4               |
| Approach                        |      | 714               | 2.0  | 0.790         | 23.3              | LOS B            | 7.8                            | 55.8                     | 0.87         | 0.87                        | 32.0               |
| North: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 277               | 2.0  | 0.258         | 10.6              | LOS A            | 2.9                            | 20.5                     | 0.45         | 0.72                        | 39.9               |
| 8                               | T    | 251               | 2.0  | 0.407         | 14.8              | LOS B            | 4.9                            | 35.1                     | 0.83         | 0.69                        | 35.3               |
| Approach                        |      | 527               | 2.0  | 0.407         | 12.6              | LOS A            | 4.9                            | 35.1                     | 0.63         | 0.70                        | 37.6               |
| All Vehicles                    |      | 1965              | 2.0  | 0.790         | 17.3              | LOS B            | 8.6                            | 61.4                     | 0.77         | 0.77                        | 35.0               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 14.4              | LOS B            | 0.1                                  | 0.1                      | 0.76         | 0.76                        |
| P3                                 | Across E approach | 53                | 19.4              | LOS B            | 0.1                                  | 0.1                      | 0.88         | 0.88                        |
| All Pedestrians                    |                   | 106               | 16.9              | LOS B            |                                      |                          | 0.82         | 0.82                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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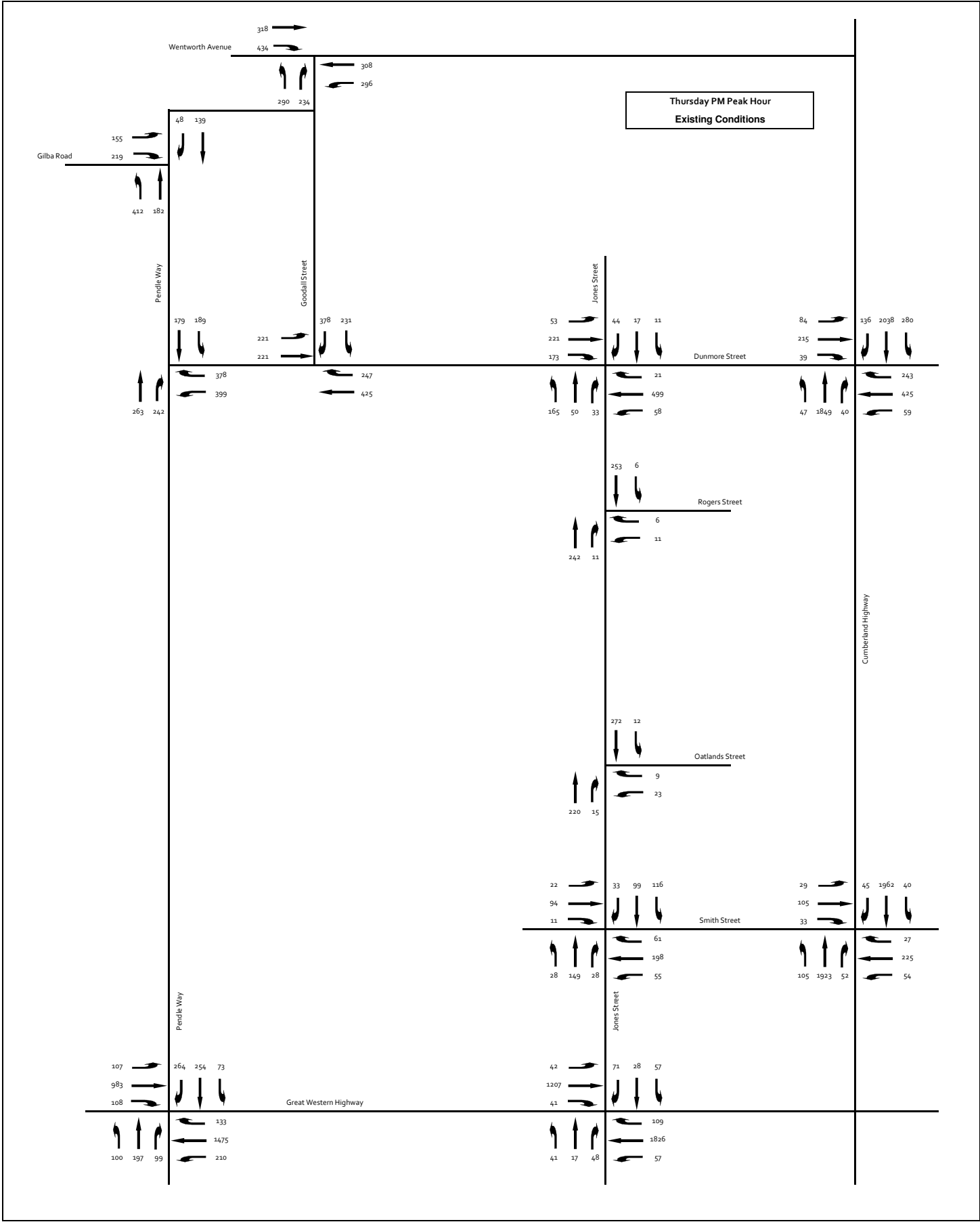
## Attachment 2

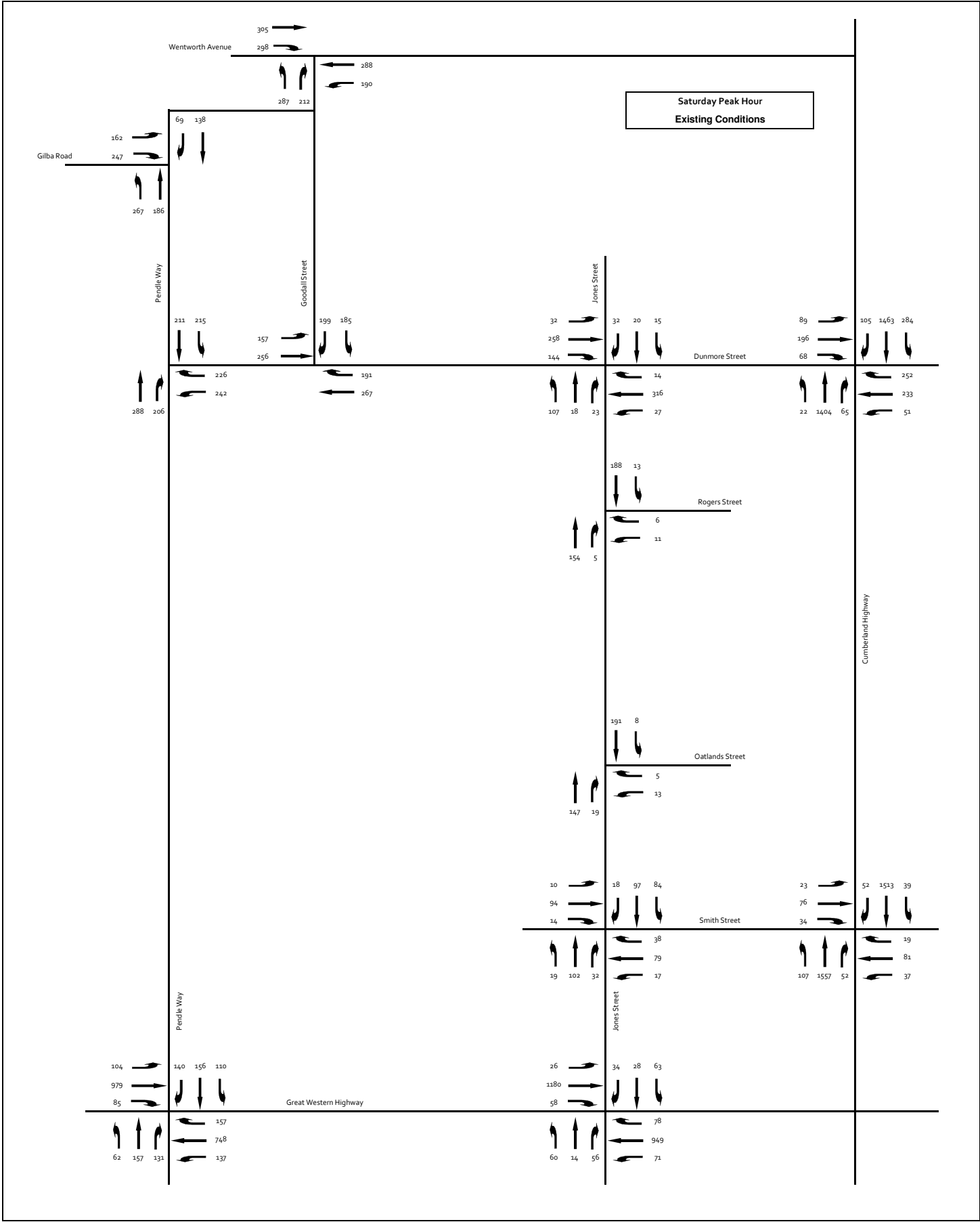
Attachment 2A - Existing Peak Hour Intersection Turning Movement Diagrams for Thursday PM & Saturday Midday

Attachment 2B – 2027 Future Base Peak Hour Intersection Turning Movement Diagrams for Thursday PM & Saturday Midday

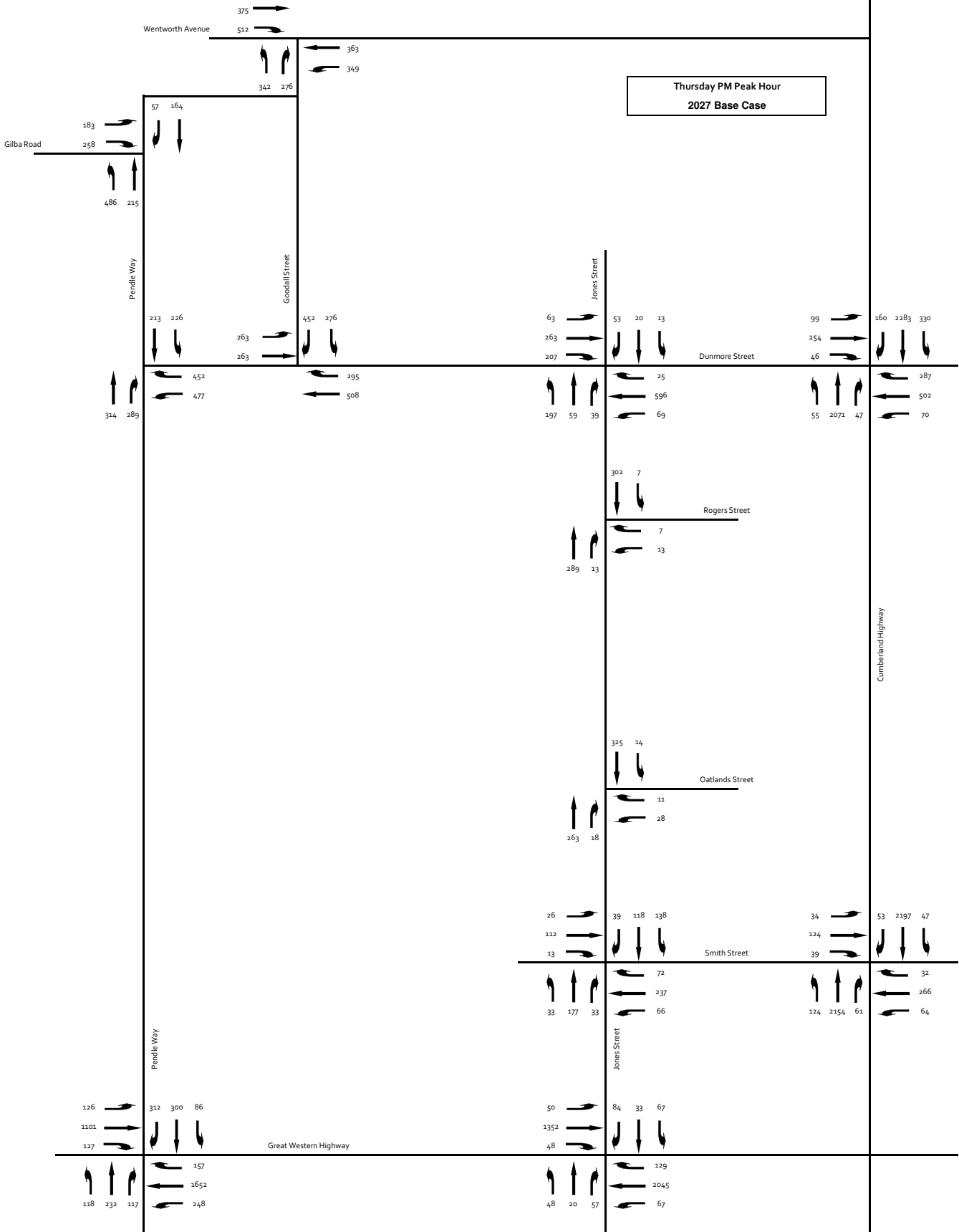
Attachment 2C – 2027 Post Development Peak Hour Intersection Turning Movement Diagrams for Thursday PM & Saturday Midday

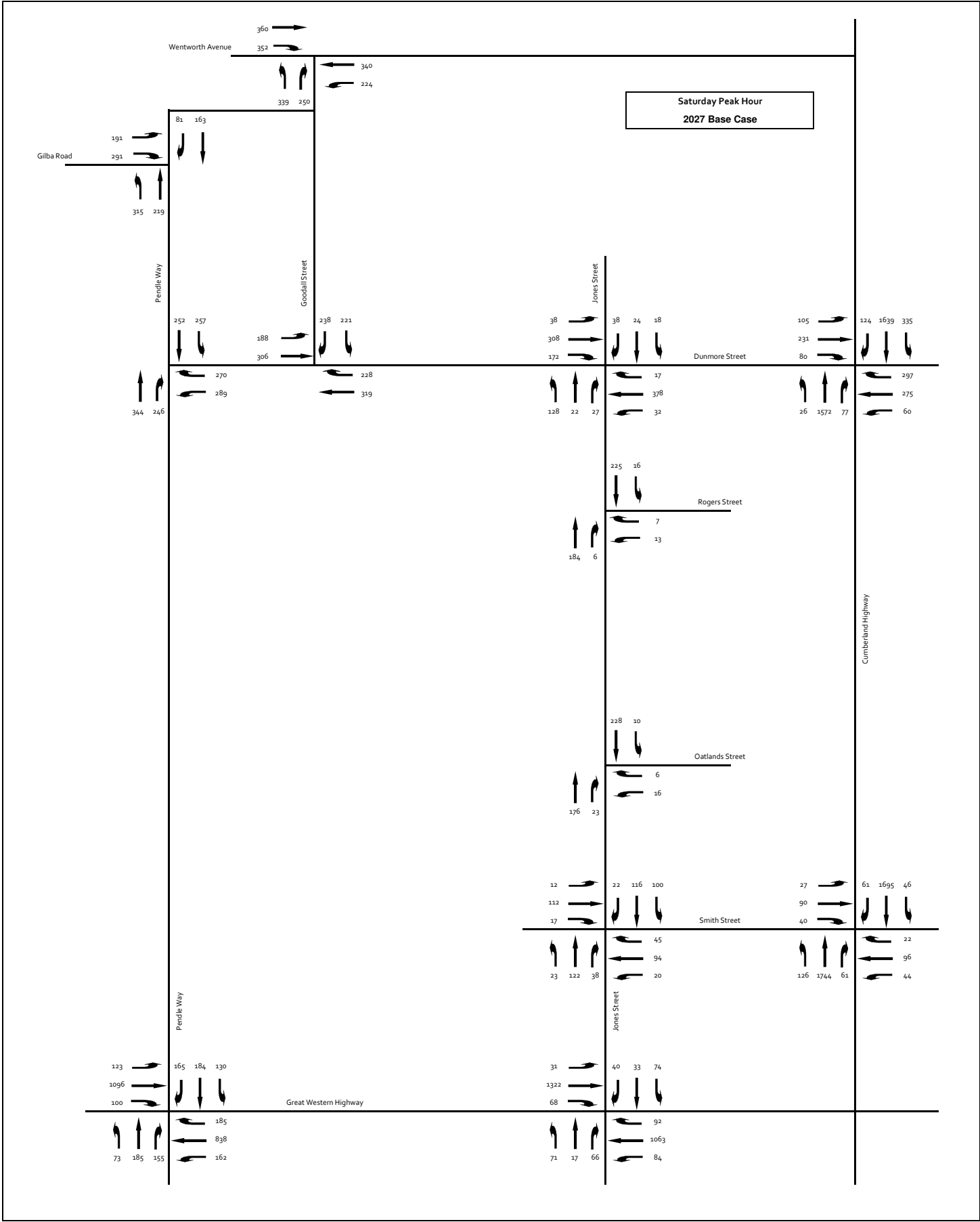
## Attachment 2A - Existing Peak Hour Intersection Turning Movement Diagrams for Thursday PM & Saturday Midday



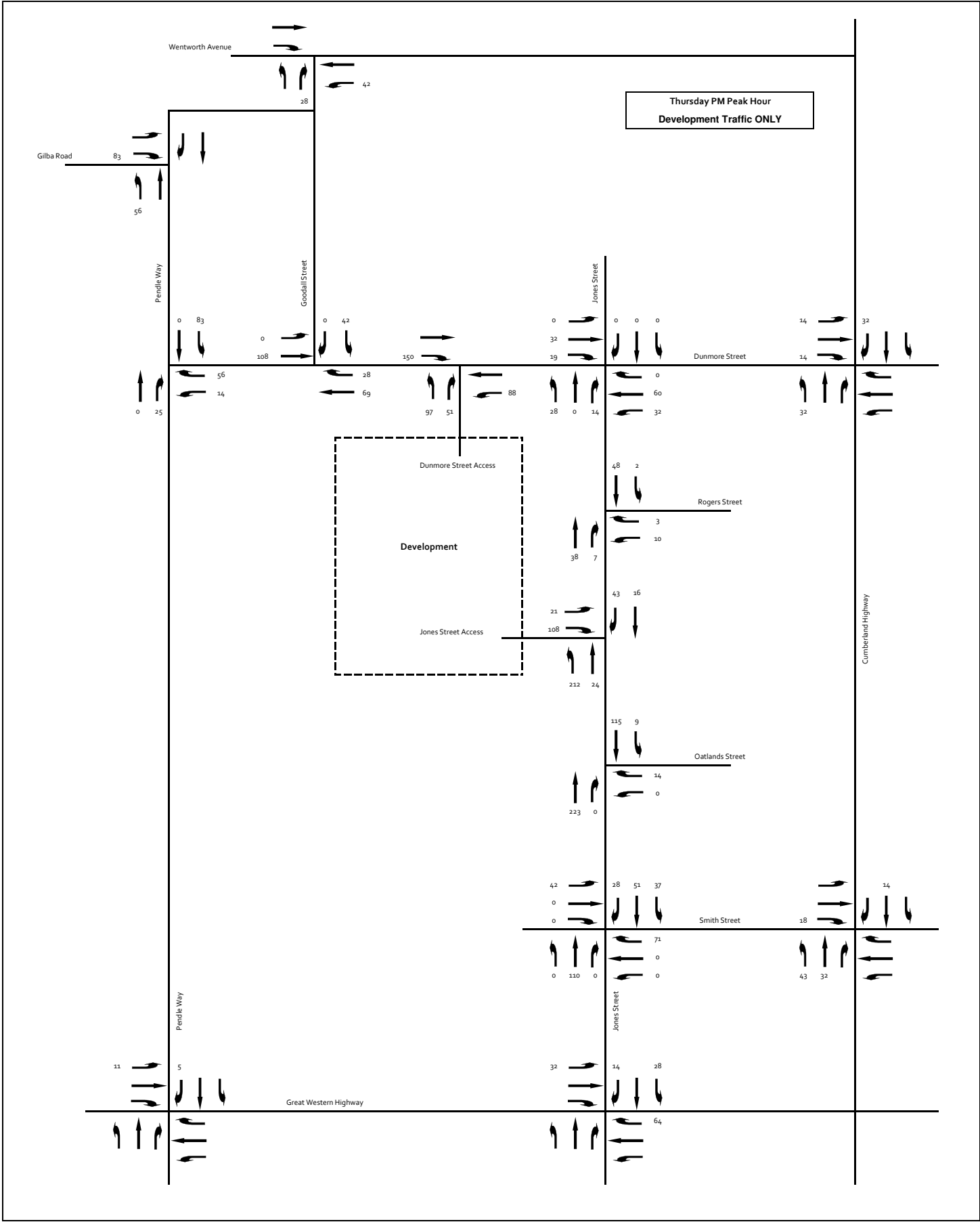


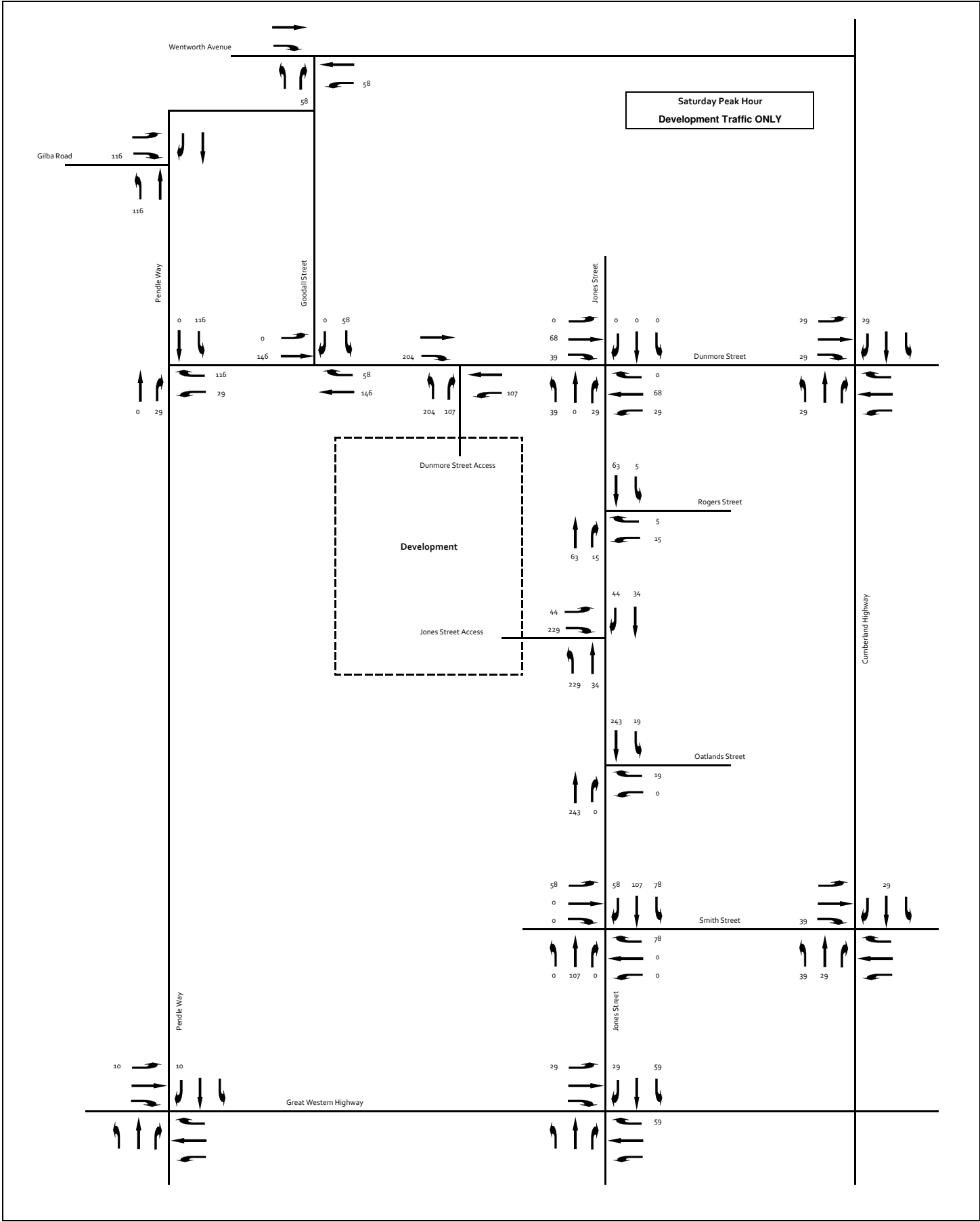
## Attachment 2B – 2027 Future Base Peak Hour Intersection Turning Movement Diagrams for Thursday PM & Saturday Midday

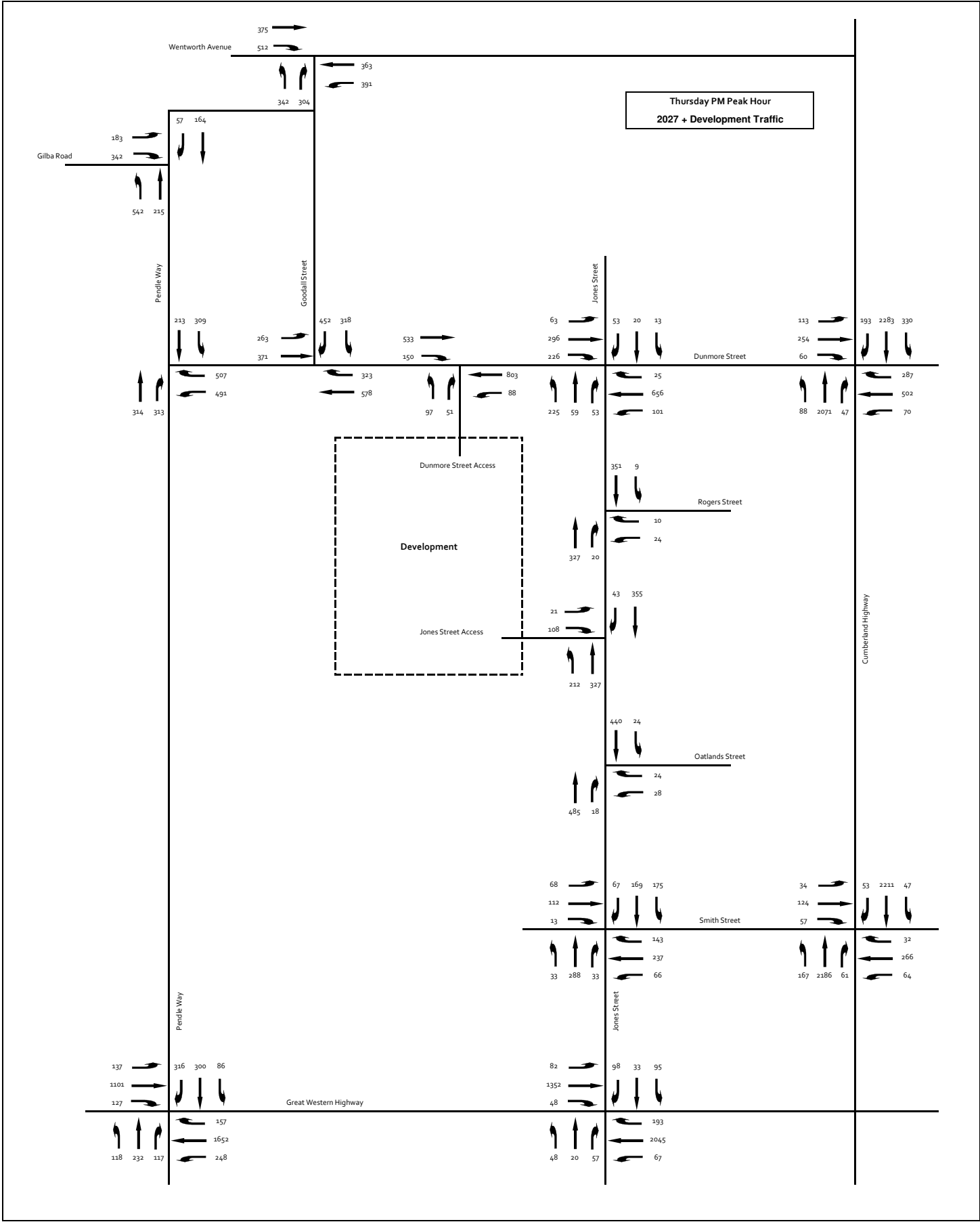


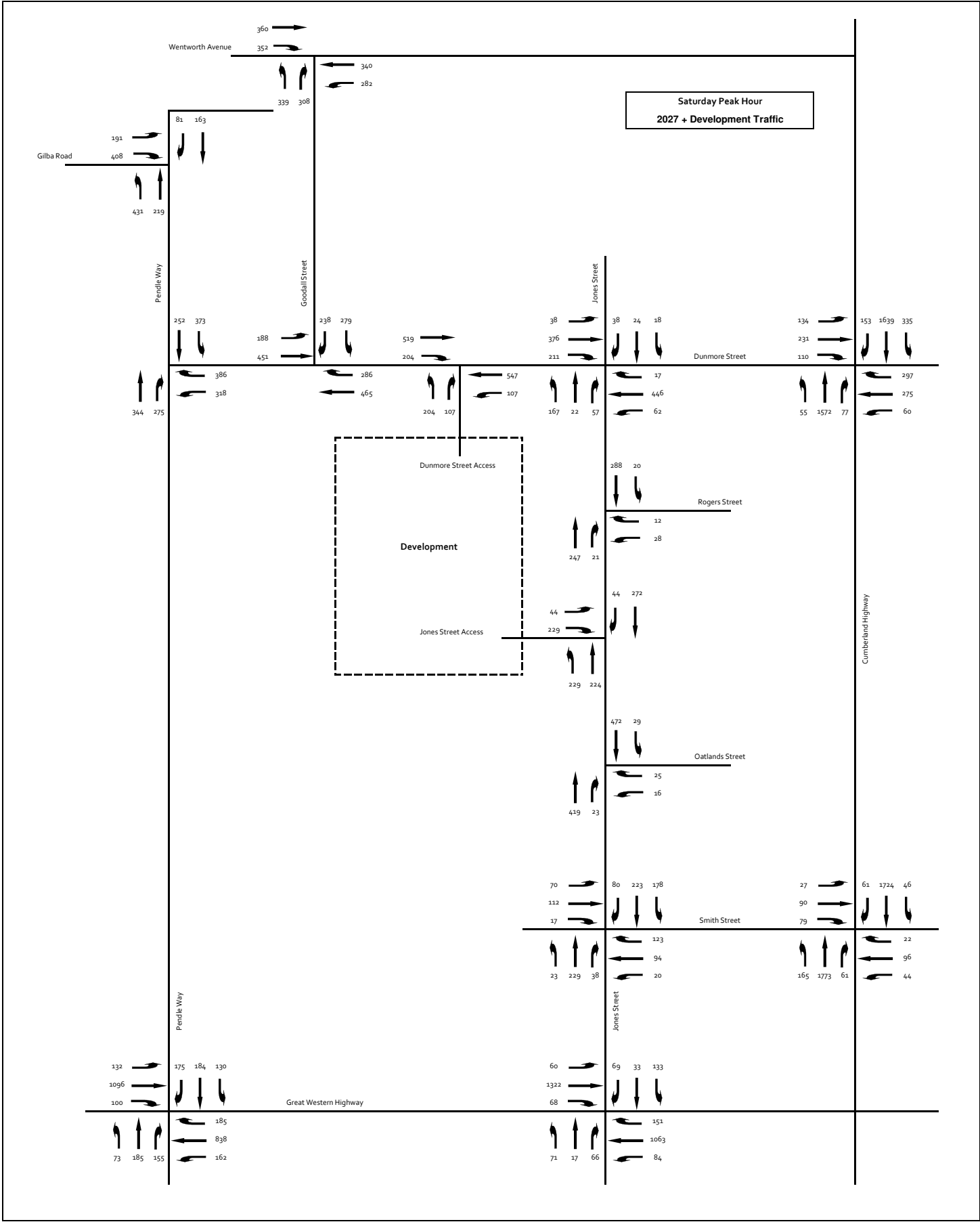


Attachment 2C – 2027 Post Development Peak Hour  
Intersection Turning Movement Diagrams for Thursday PM &  
Saturday Midday









## Attachment 3

Attachment 3A – SIDRA Output (Existing Thursday PM & Saturday Midday)

Attachment 3B – SIDRA Output (2027 Future Base Thursday PM & Saturday Midday)

Attachment 3C – SIDRA Output (2027 Post Development Thursday PM & Saturday Midday)

## Attachment 3A – SIDRA Output (Existing Thursday PM & Saturday Midday)

| Intersection                     | Peak | Leg   | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile | Level of Service (LOS) |
|----------------------------------|------|-------|----------------------------|---------------------|-----------------------------|------------------------|
| Jones Street/<br>Rogers Street   | PM   | South | 0.14                       | 1                   | 7                           | A                      |
|                                  |      | East  | 0.02                       | 8                   | 0                           | A                      |
|                                  |      | North | 0.14                       | 0                   | 0                           | A                      |
|                                  |      | All   | 0.14                       | 1                   | 7                           | A                      |
|                                  | Sat  | South | 0.09                       | 1                   | 4                           | A                      |
|                                  |      | East  | 0.02                       | 7                   | 0                           | A                      |
|                                  |      | North | 0.11                       | 0                   | 0                           | A                      |
|                                  |      | All   | 0.11                       | 1                   | 4                           | A                      |
| Jones Street/<br>Oatlands Street | PM   | South | 0.13                       | 2                   | 6                           | A                      |
|                                  |      | East  | 0.03                       | 8                   | 1                           | A                      |
|                                  |      | North | 0.16                       | 0                   | 0                           | A                      |
|                                  |      | All   | 0.16                       | 1                   | 6                           | A                      |
|                                  | Sat  | South | 0.09                       | 1                   | 4                           | A                      |
|                                  |      | East  | 0.02                       | 7                   | 0                           | A                      |
|                                  |      | North | 0.11                       | 0                   | 0                           | A                      |
|                                  |      | All   | 0.11                       | 1                   | 4                           | A                      |
| Jones Street/<br>Smith Street    | PM   | South | 0.25                       | 11                  | 10                          | A                      |
|                                  |      | East  | 0.32                       | 10                  | 14                          | A                      |
|                                  |      | North | 0.25                       | 10                  | 10                          | A                      |
|                                  |      | West  | 0.15                       | 11                  | 6                           | A                      |
|                                  |      | All   | 0.32                       | 7                   | 14                          | A                      |
|                                  | Sat  | South | 0.16                       | 10                  | 6                           | A                      |
|                                  |      | East  | 0.14                       | 10                  | 5                           | A                      |
|                                  |      | North | 0.21                       | 10                  | 8                           | A                      |
|                                  |      | West  | 0.13                       | 10                  | 5                           | A                      |
|                                  |      | All   | 0.21                       | 7                   | 8                           | A                      |
| Jones Street/<br>Dunmore Street  | PM   | South | 0.43                       | 15                  | 21                          | A                      |
|                                  |      | East  | 0.63                       | 12                  | 43                          | A                      |
|                                  |      | North | 0.10                       | 12                  | 4                           | A                      |
|                                  |      | West  | 0.41                       | 10                  | 22                          | A                      |
|                                  |      | All   | 0.63                       | 9                   | 43                          | A                      |
|                                  | Sat  | South | 0.20                       | 12                  | 8                           | A                      |
|                                  |      | East  | 0.38                       | 11                  | 17                          | A                      |
|                                  |      | North | 0.09                       | 12                  | 3                           | A                      |
|                                  |      | West  | 0.36                       | 9                   | 18                          | A                      |
|                                  |      | All   | 0.38                       | 7                   | 18                          | A                      |

| Intersection                              | Peak | Leg   | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile | Level of Service (LOS) |
|-------------------------------------------|------|-------|----------------------------|---------------------|-----------------------------|------------------------|
| Goodall Street/<br>Dunmore Street         | PM   | East  | 0.57                       | 14                  | 57                          | A                      |
|                                           |      | North | 0.76                       | 24                  | 79                          | B                      |
|                                           |      | West  | 0.42                       | 14                  | 38                          | A                      |
|                                           |      | All   | 0.76                       | 18                  | 79                          | B                      |
|                                           | Sat  | East  | 0.45                       | 14                  | 32                          | A                      |
|                                           |      | North | 0.40                       | 20                  | 34                          | B                      |
|                                           |      | West  | 0.48                       | 15                  | 44                          | B                      |
|                                           |      | All   | 0.48                       | 16                  | 44                          | B                      |
| Pendle Way/<br>Dunmore Street             | PM   | South | 0.57                       | 16                  | 43                          | B                      |
|                                           |      | East  | 0.65                       | 20                  | 73                          | B                      |
|                                           |      | North | 0.37                       | 15                  | 33                          | B                      |
|                                           |      | All   | 0.65                       | 18                  | 73                          | B                      |
|                                           | Sat  | South | 0.45                       | 10                  | 30                          | A                      |
|                                           |      | East  | 0.65                       | 22                  | 41                          | B                      |
|                                           |      | North | 0.36                       | 12                  | 31                          | A                      |
|                                           |      | All   | 0.65                       | 15                  | 41                          | B                      |
| Great Western<br>Highway/ Jones<br>Street | PM   | South | 0.43                       | 62                  | 31                          | E                      |
|                                           |      | East  | 0.51                       | 14                  | 157                         | A                      |
|                                           |      | North | 0.62                       | 60                  | 50                          | E                      |
|                                           |      | West  | 0.42                       | 22                  | 122                         | B                      |
|                                           |      | All   | 0.62                       | 20                  | 157                         | B                      |
|                                           | Sat  | South | 0.59                       | 60                  | 33                          | E                      |
|                                           |      | East  | 0.34                       | 19                  | 102                         | B                      |
|                                           |      | North | 0.59                       | 56                  | 31                          | D                      |
|                                           |      | West  | 0.39                       | 19                  | 102                         | B                      |
|                                           |      | All   | 0.59                       | 23                  | 102                         | B                      |
| Cumberland<br>Highway/<br>Dunmore Street  | PM   | South | 0.70                       | 37                  | 244                         | C                      |
|                                           |      | East  | 0.83                       | 40                  | 187                         | C                      |
|                                           |      | North | 0.75                       | 35                  | 276                         | C                      |
|                                           |      | West  | 0.53                       | 57                  | 78                          | E                      |
|                                           |      | All   | 0.83                       | 38                  | 276                         | C                      |
|                                           | Sat  | South | 0.71                       | 38                  | 177                         | C                      |
|                                           |      | East  | 0.86                       | 41                  | 155                         | C                      |
|                                           |      | North | 0.73                       | 35                  | 183                         | C                      |
|                                           |      | West  | 0.52                       | 52                  | 76                          | D                      |
|                                           |      | All   | 0.86                       | 38                  | 183                         | C                      |

| Intersection                     | Peak | Leg   | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile | Level of Service (LOS) |
|----------------------------------|------|-------|----------------------------|---------------------|-----------------------------|------------------------|
| Cumberland Highway/ Smith Street | PM   | South | 0.59                       | 11                  | 123                         | A                      |
|                                  |      | East  | 0.86                       | 69                  | 121                         | E                      |
|                                  |      | North | 0.59                       | 10                  | 114                         | A                      |
|                                  |      | West  | 0.67                       | 67                  | 53                          | E                      |
|                                  |      | All   | 0.86                       | 16                  | 123                         | B                      |
|                                  | Sat  | South | 0.46                       | 14                  | 127                         | A                      |
|                                  |      | East  | 0.54                       | 59                  | 46                          | E                      |
|                                  |      | North | 0.43                       | 13                  | 115                         | A                      |
|                                  |      | West  | 0.64                       | 65                  | 45                          | E                      |
|                                  |      | All   | 0.64                       | 17                  | 127                         | B                      |
| Pendle Way/ Gilba Road           | PM   | South | 0.59                       | 16                  | 17                          | B                      |
|                                  |      | North | 0.85                       | 41                  | 43                          | C                      |
|                                  |      | West  | 0.21                       | 8                   | 0                           | A                      |
|                                  |      | All   | 0.85                       | 15                  | 43                          | B                      |
|                                  | Sat  | South | 0.59                       | 17                  | 18                          | B                      |
|                                  |      | North | 0.86                       | 39                  | 46                          | C                      |
|                                  |      | West  | 0.23                       | 8                   | 0                           | A                      |
|                                  |      | All   | 0.86                       | 16                  | 46                          | B                      |
| Goodall Street/ Wentworth Avenue | PM   | South | 0.71                       | 29                  | 75                          | C                      |
|                                  |      | East  | 0.73                       | 30                  | 92                          | C                      |
|                                  |      | West  | 0.55                       | 20                  | 112                         | B                      |
|                                  |      | All   | 0.73                       | 26                  | 112                         | B                      |
|                                  | Sat  | South | 0.86                       | 34                  | 86                          | C                      |
|                                  |      | East  | 0.76                       | 32                  | 91                          | C                      |
|                                  |      | West  | 0.47                       | 19                  | 104                         | B                      |
|                                  |      | All   | 0.86                       | 27                  | 104                         | B                      |
| Cumberland Highway/ Pendle Way   | PM   | South | 0.93                       | 74                  | 101                         | F                      |
|                                  |      | East  | 0.90                       | 35                  | 191                         | C                      |
|                                  |      | North | 0.79                       | 59                  | 179                         | E                      |
|                                  |      | West  | 0.54                       | 36                  | 135                         | C                      |
|                                  |      | All   | 0.93                       | 43                  | 191                         | D                      |
|                                  | Sat  | South | 0.81                       | 62                  | 93                          | E                      |
|                                  |      | East  | 0.99                       | 37                  | 104                         | C                      |
|                                  |      | North | 0.70                       | 51                  | 106                         | D                      |
|                                  |      | West  | 0.53                       | 37                  | 134                         | C                      |
|                                  |      | All   | 0.99                       | 42                  | 134                         | C                      |

# MOVEMENT SUMMARY

Site: Jones-Rogers (Ex Thurs PM)

13S1210200  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 2                               | T    | 255                  | 2.0     | 0.141            | 1.0                  | LOS A            | 0.9                                  | 6.5                    | 0.40         | 0.00                           | 45.2                  |
| 3                               | R    | 12                   | 2.0     | 0.141            | 7.8                  | LOS A            | 0.9                                  | 6.5                    | 0.40         | 0.87                           | 43.0                  |
| Approach                        |      | 266                  | 2.0     | 0.141            | 1.3                  | NA               | 0.9                                  | 6.5                    | 0.40         | 0.04                           | 45.1                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 12                   | 2.0     | 0.017            | 7.9                  | LOS A            | 0.1                                  | 0.4                    | 0.37         | 0.58                           | 41.9                  |
| 6                               | R    | 6                    | 2.0     | 0.017            | 8.2                  | LOS A            | 0.1                                  | 0.4                    | 0.37         | 0.70                           | 41.8                  |
| Approach                        |      | 18                   | 2.0     | 0.017            | 8.0                  | LOS A            | 0.1                                  | 0.4                    | 0.37         | 0.62                           | 41.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 6                    | 2.0     | 0.142            | 6.5                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.91                           | 43.3                  |
| 8                               | T    | 266                  | 2.0     | 0.142            | 0.0                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 273                  | 2.0     | 0.142            | 0.1                  | NA               | 0.0                                  | 0.0                    | 0.00         | 0.02                           | 49.8                  |
| All Vehicles                    |      | 557                  | 2.0     | 0.142            | 1.0                  | NA               | 0.9                                  | 6.5                    | 0.20         | 0.05                           | 47.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Monday, 2 March 2015 1:01:56 PM  
SIDRA INTERSECTION 5.1.13.2093

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# MOVEMENT SUMMARY

Site: Jones-Rogers (Ex Sat)

13S1210200  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 162                  | 2.0     | 0.088            | 0.7                  | LOS A            | 0.5                                  | 3.7                            | 0.33         | 0.00                           | 46.0                  |
| 3                               | R    | 5                    | 2.0     | 0.088            | 7.5                  | LOS A            | 0.5                                  | 3.7                            | 0.33         | 0.87                           | 43.0                  |
| Approach                        |      | 167                  | 2.0     | 0.088            | 0.9                  | NA               | 0.5                                  | 3.7                            | 0.33         | 0.03                           | 45.9                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 12                   | 2.0     | 0.015            | 7.4                  | LOS A            | 0.1                                  | 0.4                            | 0.31         | 0.56                           | 42.1                  |
| 6                               | R    | 6                    | 2.0     | 0.015            | 7.7                  | LOS A            | 0.1                                  | 0.4                            | 0.31         | 0.66                           | 42.1                  |
| Approach                        |      | 18                   | 2.0     | 0.015            | 7.5                  | LOS A            | 0.1                                  | 0.4                            | 0.31         | 0.60                           | 42.1                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 14                   | 2.0     | 0.110            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.89                           | 43.3                  |
| 8                               | T    | 198                  | 2.0     | 0.110            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 212                  | 2.0     | 0.110            | 0.4                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.06                           | 49.5                  |
| All Vehicles                    |      | 397                  | 2.0     | 0.110            | 0.9                  | NA               | 0.5                                  | 3.7                            | 0.15         | 0.07                           | 47.5                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Monday, 2 March 2015 1:02:03 PM  
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# MOVEMENT SUMMARY

Site: Jones-Oatlands (Ex Thurs  
PM)

13S1210200  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 232                  | 2.0     | 0.132            | 1.1                  | LOS A            | 0.9                                  | 6.1                            | 0.42         | 0.00                           | 45.0                  |
| 3                               | R    | 16                   | 2.0     | 0.132            | 7.9                  | LOS A            | 0.9                                  | 6.1                            | 0.42         | 0.87                           | 43.0                  |
| Approach                        |      | 247                  | 2.0     | 0.132            | 1.6                  | NA               | 0.9                                  | 6.1                            | 0.42         | 0.06                           | 44.9                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 24                   | 2.0     | 0.032            | 7.8                  | LOS A            | 0.1                                  | 0.8                            | 0.38         | 0.60                           | 41.9                  |
| 6                               | R    | 9                    | 2.0     | 0.032            | 8.2                  | LOS A            | 0.1                                  | 0.8                            | 0.38         | 0.72                           | 41.9                  |
| Approach                        |      | 34                   | 2.0     | 0.032            | 7.9                  | LOS A            | 0.1                                  | 0.8                            | 0.38         | 0.63                           | 41.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 13                   | 2.0     | 0.156            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 286                  | 2.0     | 0.156            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 299                  | 2.0     | 0.156            | 0.3                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.04                           | 49.7                  |
| All Vehicles                    |      | 580                  | 2.0     | 0.156            | 1.3                  | NA               | 0.9                                  | 6.1                            | 0.20         | 0.08                           | 47.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Monday, 2 March 2015 1:02:10 PM  
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# MOVEMENT SUMMARY

Site: Jones-Oatlands (Ex Sat)

13S1210200  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 155                  | 2.0     | 0.094            | 0.7                  | LOS A            | 0.5                                  | 3.9                            | 0.33         | 0.00                           | 45.9                  |
| 3                               | R    | 20                   | 2.0     | 0.094            | 7.5                  | LOS A            | 0.5                                  | 3.9                            | 0.33         | 0.84                           | 42.9                  |
| Approach                        |      | 175                  | 2.0     | 0.094            | 1.5                  | NA               | 0.5                                  | 3.9                            | 0.33         | 0.10                           | 45.5                  |
| East: Oatland Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 14                   | 2.0     | 0.016            | 7.3                  | LOS A            | 0.1                                  | 0.4                            | 0.30         | 0.56                           | 42.2                  |
| 6                               | R    | 5                    | 2.0     | 0.016            | 7.7                  | LOS A            | 0.1                                  | 0.4                            | 0.30         | 0.67                           | 42.1                  |
| Approach                        |      | 19                   | 2.0     | 0.016            | 7.4                  | LOS A            | 0.1                                  | 0.4                            | 0.30         | 0.59                           | 42.2                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 8                    | 2.0     | 0.109            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 201                  | 2.0     | 0.109            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 209                  | 2.0     | 0.109            | 0.3                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.04                           | 49.7                  |
| All Vehicles                    |      | 403                  | 2.0     | 0.109            | 1.1                  | NA               | 0.5                                  | 3.9                            | 0.16         | 0.09                           | 47.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Monday, 2 March 2015 1:02:16 PM  
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# MOVEMENT SUMMARY

Site: Jones-Smith (Ex Thurs PM)

13S1210200  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                  |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Jones Street             |      |                   |      |               |                   |                  |                                |                  |              |                             |                    |
| 1                               | L    | 29                | 2.0  | 0.255         | 8.2               | LOS A            | 1.4                            | 10.3             | 0.55         | 0.70                        | 42.0               |
| 2                               | T    | 157               | 2.0  | 0.255         | 7.3               | LOS A            | 1.4                            | 10.3             | 0.55         | 0.64                        | 42.1               |
| 3                               | R    | 29                | 2.0  | 0.255         | 11.3              | LOS A            | 1.4                            | 10.3             | 0.55         | 0.81                        | 40.0               |
| Approach                        |      | 216               | 2.0  | 0.255         | 8.0               | LOS A            | 1.4                            | 10.3             | 0.55         | 0.67                        | 41.8               |
| East: Smith Street              |      |                   |      |               |                   |                  |                                |                  |              |                             |                    |
| 4                               | L    | 58                | 2.0  | 0.318         | 7.0               | LOS A            | 2.0                            | 14.1             | 0.42         | 0.61                        | 42.4               |
| 5                               | T    | 208               | 2.0  | 0.318         | 6.1               | LOS A            | 2.0                            | 14.1             | 0.42         | 0.53                        | 42.6               |
| 6                               | R    | 64                | 2.0  | 0.318         | 10.1              | LOS A            | 2.0                            | 14.1             | 0.42         | 0.75                        | 40.7               |
| Approach                        |      | 331               | 2.0  | 0.318         | 7.0               | LOS A            | 2.0                            | 14.1             | 0.42         | 0.59                        | 42.2               |
| North: Jones Street             |      |                   |      |               |                   |                  |                                |                  |              |                             |                    |
| 7                               | L    | 122               | 2.0  | 0.252         | 6.9               | LOS A            | 1.5                            | 10.5             | 0.38         | 0.59                        | 42.4               |
| 8                               | T    | 104               | 2.0  | 0.252         | 5.9               | LOS A            | 1.5                            | 10.5             | 0.38         | 0.51                        | 42.8               |
| 9                               | R    | 35                | 2.0  | 0.252         | 10.0              | LOS A            | 1.5                            | 10.5             | 0.38         | 0.73                        | 40.8               |
| Approach                        |      | 261               | 2.0  | 0.252         | 6.9               | LOS A            | 1.5                            | 10.5             | 0.38         | 0.58                        | 42.3               |
| West: Smith Street              |      |                   |      |               |                   |                  |                                |                  |              |                             |                    |
| 10                              | L    | 23                | 2.0  | 0.150         | 7.6               | LOS A            | 0.8                            | 5.6              | 0.47         | 0.65                        | 42.3               |
| 11                              | T    | 99                | 2.0  | 0.150         | 6.7               | LOS A            | 0.8                            | 5.6              | 0.47         | 0.58                        | 42.5               |
| 12                              | R    | 12                | 2.0  | 0.150         | 10.7              | LOS A            | 0.8                            | 5.6              | 0.47         | 0.78                        | 40.4               |
| Approach                        |      | 134               | 2.0  | 0.150         | 7.2               | LOS A            | 0.8                            | 5.6              | 0.47         | 0.61                        | 42.3               |
| All Vehicles                    |      | 941               | 2.0  | 0.318         | 7.2               | LOS A            | 2.0                            | 14.1             | 0.44         | 0.61                        | 42.1               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

Processed: Monday, 2 March 2015 1:02:36 PM

SIDRA INTERSECTION 5.1.13.2093

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# MOVEMENT SUMMARY

Site: Jones-Smith (Ex Sat)

13S1210200  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 20                   | 2.0     | 0.161            | 6.9                  | LOS A            | 0.9                                  | 6.1                    | 0.35         | 0.60                           | 42.6                  |
| 2                               | T    | 107                  | 2.0     | 0.161            | 5.9                  | LOS A            | 0.9                                  | 6.1                    | 0.35         | 0.51                           | 43.0                  |
| 3                               | R    | 34                   | 2.0     | 0.161            | 9.9                  | LOS A            | 0.9                                  | 6.1                    | 0.35         | 0.75                           | 40.8                  |
| Approach                        |      | 161                  | 2.0     | 0.161            | 6.9                  | LOS A            | 0.9                                  | 6.1                    | 0.35         | 0.57                           | 42.4                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 18                   | 2.0     | 0.140            | 6.8                  | LOS A            | 0.7                                  | 5.2                    | 0.34         | 0.59                           | 42.6                  |
| 5                               | T    | 83                   | 2.0     | 0.140            | 5.9                  | LOS A            | 0.7                                  | 5.2                    | 0.34         | 0.50                           | 43.0                  |
| 6                               | R    | 40                   | 2.0     | 0.140            | 9.9                  | LOS A            | 0.7                                  | 5.2                    | 0.34         | 0.74                           | 40.8                  |
| Approach                        |      | 141                  | 2.0     | 0.140            | 7.1                  | LOS A            | 0.7                                  | 5.2                    | 0.34         | 0.58                           | 42.3                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 88                   | 2.0     | 0.207            | 6.9                  | LOS A            | 1.1                                  | 8.2                    | 0.37         | 0.60                           | 42.5                  |
| 8                               | T    | 102                  | 2.0     | 0.207            | 6.0                  | LOS A            | 1.1                                  | 8.2                    | 0.37         | 0.52                           | 42.8                  |
| 9                               | R    | 19                   | 2.0     | 0.207            | 10.0                 | LOS A            | 1.1                                  | 8.2                    | 0.37         | 0.75                           | 40.8                  |
| Approach                        |      | 209                  | 2.0     | 0.207            | 6.8                  | LOS A            | 1.1                                  | 8.2                    | 0.37         | 0.57                           | 42.5                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 11                   | 2.0     | 0.129            | 7.1                  | LOS A            | 0.7                                  | 4.7                    | 0.39         | 0.61                           | 42.5                  |
| 11                              | T    | 99                   | 2.0     | 0.129            | 6.1                  | LOS A            | 0.7                                  | 4.7                    | 0.39         | 0.53                           | 42.9                  |
| 12                              | R    | 15                   | 2.0     | 0.129            | 10.2                 | LOS A            | 0.7                                  | 4.7                    | 0.39         | 0.77                           | 40.7                  |
| Approach                        |      | 124                  | 2.0     | 0.129            | 6.7                  | LOS A            | 0.7                                  | 4.7                    | 0.39         | 0.57                           | 42.6                  |
| All Vehicles                    |      | 636                  | 2.0     | 0.207            | 6.9                  | LOS A            | 1.1                                  | 8.2                    | 0.36         | 0.57                           | 42.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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SIDRA INTERSECTION 5.1.13.2093

Project: P:\13S1200-1299\13S1210200 - Bonds Pendle Hill Additional Modelling\Modelling\150302sid -

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (Ex Thurs PM)

13S1210200  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 174                  | 2.0     | 0.427            | 11.7                 | LOS A            | 2.9                                  | 20.9                           | 0.81         | 0.91                           | 39.0                  |
| 2                               | T    | 53                   | 2.0     | 0.427            | 10.8                 | LOS A            | 2.9                                  | 20.9                           | 0.81         | 0.89                           | 39.2                  |
| 3                               | R    | 35                   | 2.0     | 0.427            | 14.8                 | LOS B            | 2.9                                  | 20.9                           | 0.81         | 0.95                           | 37.5                  |
| Approach                        |      | 261                  | 2.0     | 0.427            | 11.9                 | LOS A            | 2.9                                  | 20.9                           | 0.81         | 0.91                           | 38.8                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 61                   | 2.0     | 0.634            | 9.4                  | LOS A            | 6.0                                  | 42.8                           | 0.71         | 0.76                           | 41.2                  |
| 5                               | T    | 525                  | 2.0     | 0.634            | 8.4                  | LOS A            | 6.0                                  | 42.8                           | 0.71         | 0.72                           | 41.5                  |
| 6                               | R    | 22                   | 2.0     | 0.634            | 12.4                 | LOS A            | 6.0                                  | 42.8                           | 0.71         | 0.84                           | 39.4                  |
| Approach                        |      | 608                  | 2.0     | 0.634            | 8.7                  | LOS A            | 6.0                                  | 42.8                           | 0.71         | 0.73                           | 41.4                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 12                   | 2.0     | 0.102            | 8.9                  | LOS A            | 0.5                                  | 3.8                            | 0.58         | 0.69                           | 41.0                  |
| 8                               | T    | 18                   | 2.0     | 0.102            | 8.0                  | LOS A            | 0.5                                  | 3.8                            | 0.58         | 0.64                           | 41.4                  |
| 9                               | R    | 46                   | 2.0     | 0.102            | 12.0                 | LOS A            | 0.5                                  | 3.8                            | 0.58         | 0.77                           | 39.2                  |
| Approach                        |      | 76                   | 2.0     | 0.102            | 10.6                 | LOS A            | 0.5                                  | 3.8                            | 0.58         | 0.73                           | 40.0                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 56                   | 2.0     | 0.415            | 6.8                  | LOS A            | 3.1                                  | 22.2                           | 0.41         | 0.58                           | 42.3                  |
| 11                              | T    | 233                  | 2.0     | 0.415            | 5.8                  | LOS A            | 3.1                                  | 22.2                           | 0.41         | 0.50                           | 42.6                  |
| 12                              | R    | 182                  | 2.0     | 0.415            | 9.8                  | LOS A            | 3.1                                  | 22.2                           | 0.41         | 0.71                           | 40.7                  |
| Approach                        |      | 471                  | 2.0     | 0.415            | 7.5                  | LOS A            | 3.1                                  | 22.2                           | 0.41         | 0.59                           | 41.8                  |
| All Vehicles                    |      | 1416                 | 2.0     | 0.634            | 9.0                  | LOS A            | 6.0                                  | 42.8                           | 0.62         | 0.72                           | 40.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (Ex Sat)

13S1210200  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 113                  | 2.0     | 0.199            | 8.7                  | LOS A            | 1.1                                  | 7.8                            | 0.58         | 0.71                           | 41.4                  |
| 2                               | T    | 19                   | 2.0     | 0.199            | 7.7                  | LOS A            | 1.1                                  | 7.8                            | 0.58         | 0.65                           | 41.7                  |
| 3                               | R    | 24                   | 2.0     | 0.199            | 11.7                 | LOS A            | 1.1                                  | 7.8                            | 0.58         | 0.79                           | 39.5                  |
| Approach                        |      | 156                  | 2.0     | 0.199            | 9.0                  | LOS A            | 1.1                                  | 7.8                            | 0.58         | 0.71                           | 41.1                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 28                   | 2.0     | 0.385            | 7.6                  | LOS A            | 2.4                                  | 17.4                           | 0.50         | 0.66                           | 42.2                  |
| 5                               | T    | 333                  | 2.0     | 0.385            | 6.7                  | LOS A            | 2.4                                  | 17.4                           | 0.50         | 0.60                           | 42.4                  |
| 6                               | R    | 15                   | 2.0     | 0.385            | 10.7                 | LOS A            | 2.4                                  | 17.4                           | 0.50         | 0.80                           | 40.5                  |
| Approach                        |      | 376                  | 2.0     | 0.385            | 6.9                  | LOS A            | 2.4                                  | 17.4                           | 0.50         | 0.61                           | 42.3                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 16                   | 2.0     | 0.094            | 8.9                  | LOS A            | 0.5                                  | 3.4                            | 0.56         | 0.69                           | 41.1                  |
| 8                               | T    | 21                   | 2.0     | 0.094            | 7.9                  | LOS A            | 0.5                                  | 3.4                            | 0.56         | 0.63                           | 41.5                  |
| 9                               | R    | 34                   | 2.0     | 0.094            | 12.0                 | LOS A            | 0.5                                  | 3.4                            | 0.56         | 0.78                           | 39.3                  |
| Approach                        |      | 71                   | 2.0     | 0.094            | 10.1                 | LOS A            | 0.5                                  | 3.4                            | 0.56         | 0.71                           | 40.3                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 34                   | 2.0     | 0.362            | 6.3                  | LOS A            | 2.5                                  | 18.1                           | 0.26         | 0.55                           | 42.9                  |
| 11                              | T    | 272                  | 2.0     | 0.362            | 5.3                  | LOS A            | 2.5                                  | 18.1                           | 0.26         | 0.46                           | 43.4                  |
| 12                              | R    | 152                  | 2.0     | 0.362            | 9.4                  | LOS A            | 2.5                                  | 18.1                           | 0.26         | 0.72                           | 40.9                  |
| Approach                        |      | 457                  | 2.0     | 0.362            | 6.7                  | LOS A            | 2.5                                  | 18.1                           | 0.26         | 0.55                           | 42.5                  |
| All Vehicles                    |      | 1059                 | 2.0     | 0.385            | 7.4                  | LOS A            | 2.5                                  | 18.1                           | 0.41         | 0.61                           | 42.1                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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SIDRA INTERSECTION 5.1.13.2093

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (Ex Thurs PM)

13S1210200

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 5                               | T    | 447               | 2.0  | 0.502         | 9.9               | LOS A            | 8.1                            | 57.4                     | 0.70         | 0.60                        | 38.7               |
| 6                               | R    | 260               | 2.0  | 0.573         | 21.1              | LOS B            | 5.7                            | 40.4                     | 0.91         | 0.82                        | 33.1               |
| Approach                        |      | 707               | 2.0  | 0.573         | 14.0              | LOS A            | 8.1                            | 57.4                     | 0.77         | 0.68                        | 36.5               |
| North: Goodall Street           |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 243               | 2.0  | 0.425         | 15.2              | LOS B            | 3.9                            | 27.5                     | 0.61         | 0.75                        | 36.6               |
| 9                               | R    | 398               | 2.0  | 0.761         | 29.4              | LOS C            | 11.1                           | 79.3                     | 0.97         | 0.92                        | 29.3               |
| Approach                        |      | 641               | 2.0  | 0.761         | 24.0              | LOS B            | 11.1                           | 79.3                     | 0.83         | 0.86                        | 31.7               |
| West: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 10                              | L    | 233               | 2.0  | 0.216         | 10.0              | LOS A            | 2.3                            | 16.6                     | 0.39         | 0.70                        | 40.3               |
| 11                              | T    | 233               | 2.0  | 0.423         | 18.0              | LOS B            | 5.3                            | 37.9                     | 0.86         | 0.71                        | 33.4               |
| Approach                        |      | 465               | 2.0  | 0.423         | 14.0              | LOS A            | 5.3                            | 37.9                     | 0.62         | 0.71                        | 36.5               |
| All Vehicles                    |      | 1814              | 2.0  | 0.761         | 17.6              | LOS B            | 11.1                           | 79.3                     | 0.76         | 0.75                        | 34.6               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P5                                 | Across N approach | 53                | 22.3              | LOS C            | 0.1                                  | 0.1                      | 0.89         | 0.89                        |
| P7                                 | Across W approach | 53                | 22.3              | LOS C            | 0.1                                  | 0.1                      | 0.89         | 0.89                        |
| All Pedestrians                    |                   | 106               | 22.3              | LOS C            |                                      |                          | 0.89         | 0.89                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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SIDRA INTERSECTION 5.1.13.2093

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (Ex Sat)

13S1210200

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 281                  | 2.0     | 0.315            | 8.9                  | LOS A            | 4.5                                  | 32.3                           | 0.62         | 0.53                           | 39.7                  |
| 6                               | R    | 201                  | 2.0     | 0.451            | 21.0                 | LOS B            | 4.2                                  | 30.1                           | 0.87         | 0.79                           | 33.2                  |
| Approach                        |      | 482                  | 2.0     | 0.451            | 13.9                 | LOS A            | 4.5                                  | 32.3                           | 0.73         | 0.64                           | 36.7                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 195                  | 2.0     | 0.340            | 15.0                 | LOS B            | 3.0                                  | 21.4                           | 0.59         | 0.74                           | 36.8                  |
| 9                               | R    | 209                  | 2.0     | 0.400            | 24.4                 | LOS B            | 4.8                                  | 34.0                           | 0.85         | 0.79                           | 31.5                  |
| Approach                        |      | 404                  | 2.0     | 0.400            | 19.9                 | LOS B            | 4.8                                  | 34.0                           | 0.73         | 0.77                           | 33.8                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 165                  | 2.0     | 0.157            | 9.9                  | LOS A            | 1.6                                  | 11.6                           | 0.37         | 0.69                           | 40.4                  |
| 11                              | T    | 269                  | 2.0     | 0.482            | 18.2                 | LOS B            | 6.2                                  | 44.2                           | 0.87         | 0.72                           | 33.3                  |
| Approach                        |      | 435                  | 2.0     | 0.482            | 15.0                 | LOS B            | 6.2                                  | 44.2                           | 0.68         | 0.71                           | 35.7                  |
| All Vehicles                    |      | 1321                 | 2.0     | 0.482            | 16.1                 | LOS B            | 6.2                                  | 44.2                           | 0.71         | 0.70                           | 35.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 22.3                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| P7                                 | Across W approach | 53                   | 22.3                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| All Pedestrians                    |                   | 106                  | 22.3                 | LOS C            |                                            |                                | 0.89         | 0.89                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (Ex Thurs PM)

13S1210200

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 277                  | 2.0     | 0.308            | 10.8                 | LOS A            | 5.1                                  | 36.2                           | 0.66         | 0.56                           | 38.2                  |
| 3                               | R    | 255                  | 2.0     | 0.573            | 22.5                 | LOS B            | 6.0                                  | 42.7                           | 0.91         | 0.82                           | 32.4                  |
| Approach                        |      | 532                  | 2.0     | 0.573            | 16.4                 | LOS B            | 6.0                                  | 42.7                           | 0.78         | 0.68                           | 35.2                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 420                  | 2.0     | 0.430            | 15.7                 | LOS B            | 7.5                                  | 53.5                           | 0.65         | 0.78                           | 36.3                  |
| 6                               | R    | 398                  | 2.0     | 0.652            | 25.5                 | LOS B            | 10.3                                 | 73.2                           | 0.91         | 0.84                           | 31.0                  |
| Approach                        |      | 818                  | 2.0     | 0.652            | 20.5                 | LOS B            | 10.3                                 | 73.2                           | 0.77         | 0.81                           | 33.5                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 199                  | 2.0     | 0.184            | 9.7                  | LOS A            | 1.9                                  | 13.9                           | 0.36         | 0.69                           | 40.6                  |
| 8                               | T    | 188                  | 2.0     | 0.367            | 19.8                 | LOS B            | 4.6                                  | 32.9                           | 0.86         | 0.70                           | 32.4                  |
| Approach                        |      | 387                  | 2.0     | 0.367            | 14.6                 | LOS B            | 4.6                                  | 32.9                           | 0.60         | 0.70                           | 36.2                  |
| All Vehicles                    |      | 1737                 | 2.0     | 0.652            | 17.9                 | LOS B            | 10.3                                 | 73.2                           | 0.74         | 0.75                           | 34.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 12.0                 | LOS B            | 0.1                                        | 0.1                            | 0.63         | 0.63                           |
| P3                                 | Across E approach | 53                   | 24.3                 | LOS C            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| All Pedestrians                    |                   | 106                  | 18.2                 | LOS B            |                                            |                                | 0.77         | 0.77                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Monday, 2 March 2015 1:03:13 PM

SIDRA INTERSECTION 5.1.13.2093

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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Dunmore-Pendle (Ex Sat)

13S1210200

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 2                               | T    | 303               | 2.0  | 0.449         | 6.5               | LOS A            | 4.2                            | 29.6                     | 0.57         | 0.48                        | 41.5               |
| 3                               | R    | 217               | 2.0  | 0.449         | 16.0              | LOS B            | 4.2                            | 29.6                     | 0.79         | 0.80                        | 36.2               |
| Approach                        |      | 520               | 2.0  | 0.449         | 10.4              | LOS A            | 4.2                            | 29.6                     | 0.66         | 0.61                        | 39.1               |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 4                               | L    | 255               | 2.0  | 0.316         | 16.5              | LOS B            | 4.1                            | 29.4                     | 0.69         | 0.77                        | 35.8               |
| 6                               | R    | 238               | 2.0  | 0.650         | 28.2              | LOS B            | 5.8                            | 41.4                     | 0.97         | 0.86                        | 29.8               |
| Approach                        |      | 493               | 2.0  | 0.650         | 22.1              | LOS B            | 5.8                            | 41.4                     | 0.82         | 0.81                        | 32.6               |
| North: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 226               | 2.0  | 0.211         | 10.4              | LOS A            | 2.3                            | 16.2                     | 0.44         | 0.71                        | 40.0               |
| 8                               | T    | 222               | 2.0  | 0.361         | 14.5              | LOS B            | 4.3                            | 30.6                     | 0.81         | 0.67                        | 35.5               |
| Approach                        |      | 448               | 2.0  | 0.361         | 12.5              | LOS A            | 4.3                            | 30.6                     | 0.62         | 0.69                        | 37.6               |
| All Vehicles                    |      | 1461              | 2.0  | 0.650         | 15.0              | LOS B            | 5.8                            | 41.4                     | 0.70         | 0.70                        | 36.2               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 14.4              | LOS B            | 0.1                                  | 0.1                      | 0.76         | 0.76                        |
| P3                                 | Across E approach | 53                | 19.4              | LOS B            | 0.1                                  | 0.1                      | 0.88         | 0.88                        |
| All Pedestrians                    |                   | 106               | 16.9              | LOS B            |                                      |                          | 0.82         | 0.82                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Jones St  
(Ex-PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Jones Street  
Existing Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Berith Rd - S            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 43                   | 2.4     | 0.427            | 55.2                 | LOS D            | 2.4                                  | 16.9          | 0.84         | 0.73                           | 24.3                  |
| 5                               | T    | 18                   | 0.0     | 0.329            | 60.4                 | LOS E            | 4.3                                  | 30.7          | 0.95         | 0.74                           | 19.4                  |
| 6                               | R    | 51                   | 2.1     | 0.329            | 68.1                 | LOS E            | 4.3                                  | 30.7          | 0.95         | 0.77                           | 21.6                  |
| Approach                        |      | 112                  | 1.9     | 0.427            | 61.9                 | LOS E            | 4.3                                  | 30.7          | 0.91         | 0.75                           | 22.2                  |
| East: Gt Western Hwy - E        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 60                   | 0.0     | 0.512            | 22.2                 | LOS B            | 21.9                                 | 155.7         | 0.54         | 1.11                           | 46.0                  |
| 8                               | T    | 1922                 | 1.8     | 0.512            | 12.1                 | LOS A            | 22.1                                 | 157.3         | 0.54         | 0.50                           | 54.3                  |
| 9                               | R    | 115                  | 0.0     | 0.455            | 48.5                 | LOS D            | 5.6                                  | 38.9          | 0.96         | 0.78                           | 27.8                  |
| Approach                        |      | 2097                 | 1.7     | 0.512            | 14.4                 | LOS A            | 22.1                                 | 157.3         | 0.57         | 0.53                           | 51.7                  |
| North: Jones St - N             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 60                   | 0.0     | 0.306            | 38.6                 | LOS C            | 2.6                                  | 18.5          | 0.69         | 0.73                           | 29.1                  |
| 11                              | T    | 29                   | 0.0     | 0.623            | 67.3                 | LOS E            | 7.1                                  | 50.3          | 1.00         | 0.81                           | 18.2                  |
| 12                              | R    | 75                   | 1.4     | 0.623            | 75.0                 | LOS F            | 7.1                                  | 50.3          | 1.00         | 0.81                           | 20.4                  |
| Approach                        |      | 164                  | 0.6     | 0.623            | 60.3                 | LOS E            | 7.1                                  | 50.3          | 0.89         | 0.78                           | 22.5                  |
| West: Gt Western Hwy - W        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 44                   | 0.0     | 0.416            | 29.5                 | LOS C            | 17.0                                 | 120.9         | 0.63         | 1.05                           | 40.0                  |
| 2                               | T    | 1271                 | 2.2     | 0.416            | 19.4                 | LOS B            | 17.2                                 | 122.5         | 0.63         | 0.56                           | 46.5                  |
| 3                               | R    | 43                   | 2.4     | 0.414            | 82.6                 | LOS F            | 3.0                                  | 21.5          | 1.00         | 0.74                           | 19.1                  |
| Approach                        |      | 1358                 | 2.2     | 0.416            | 21.7                 | LOS B            | 17.2                                 | 122.5         | 0.64         | 0.58                           | 44.6                  |
| All Vehicles                    |      | 3731                 | 1.8     | 0.623            | 20.5                 | LOS B            | 22.1                                 | 157.3         | 0.62         | 0.56                           | 44.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 11.2                 | LOS B            | 0.1                                        | 0.1           | 0.40         | 0.40                           |
| P7                                 | Across N approach | 53                   | 19.0                 | LOS B            | 0.1                                        | 0.1           | 0.52         | 0.52                           |
| P1                                 | Across W approach | 53                   | 60.4                 | LOS F            | 0.2                                        | 0.2           | 0.93         | 0.93                           |
| All Pedestrians                    |                   | 159                  | 30.2                 | LOS D            |                                            |               | 0.62         | 0.62                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Jones St  
(Ex-SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Jones Street  
Existing Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Berith Rd - S            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 63                   | 1.7     | 0.587            | 52.9                 | LOS D            | 3.3                                  | 23.8          | 0.86         | 0.76                           | 22.0                  |
| 5                               | T    | 15                   | 0.0     | 0.468            | 61.3                 | LOS E            | 4.6                                  | 32.9          | 0.98         | 0.77                           | 21.4                  |
| 6                               | R    | 59                   | 3.6     | 0.468            | 67.5                 | LOS E            | 4.6                                  | 32.9          | 0.98         | 0.78                           | 19.2                  |
| Approach                        |      | 137                  | 2.3     | 0.587            | 60.1                 | LOS E            | 4.6                                  | 32.9          | 0.93         | 0.77                           | 20.7                  |
| East: Gt Western Hwy - E        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 75                   | 1.4     | 0.282            | 23.8                 | LOS B            | 12.9                                 | 92.7          | 0.63         | 1.05                           | 45.0                  |
| 8                               | T    | 999                  | 3.5     | 0.282            | 16.7                 | LOS B            | 14.1                                 | 101.8         | 0.67         | 0.66                           | 48.2                  |
| 9                               | R    | 81                   | 3.9     | 0.343            | 48.9                 | LOS D            | 3.9                                  | 28.3          | 0.95         | 0.76                           | 27.7                  |
| Approach                        |      | 1155                 | 3.4     | 0.343            | 19.5                 | LOS B            | 14.1                                 | 101.8         | 0.69         | 0.69                           | 45.7                  |
| North: Jones St - N             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 66                   | 0.0     | 0.333            | 39.7                 | LOS C            | 2.9                                  | 20.1          | 0.73         | 0.74                           | 28.7                  |
| 11                              | T    | 29                   | 0.0     | 0.587            | 67.5                 | LOS E            | 4.3                                  | 30.9          | 1.00         | 0.78                           | 18.2                  |
| 12                              | R    | 36                   | 5.9     | 0.587            | 75.4                 | LOS F            | 4.3                                  | 30.9          | 1.00         | 0.78                           | 20.4                  |
| Approach                        |      | 132                  | 1.6     | 0.587            | 55.6                 | LOS D            | 4.3                                  | 30.9          | 0.86         | 0.76                           | 23.4                  |
| West: Gt Western Hwy - W        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 27                   | 0.0     | 0.382            | 25.9                 | LOS B            | 14.2                                 | 101.0         | 0.58         | 1.07                           | 42.8                  |
| 2                               | T    | 1242                 | 2.0     | 0.382            | 15.7                 | LOS B            | 14.3                                 | 101.9         | 0.58         | 0.52                           | 50.1                  |
| 3                               | R    | 61                   | 1.7     | 0.393            | 73.2                 | LOS F            | 3.8                                  | 27.1          | 0.99         | 0.76                           | 20.9                  |
| Approach                        |      | 1331                 | 2.0     | 0.393            | 18.6                 | LOS B            | 14.3                                 | 101.9         | 0.60         | 0.54                           | 47.4                  |
| All Vehicles                    |      | 2754                 | 2.6     | 0.587            | 22.8                 | LOS B            | 14.3                                 | 101.9         | 0.67         | 0.62                           | 42.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 10.8                 | LOS B            | 0.1                                        | 0.1           | 0.41         | 0.41                           |
| P7                                 | Across N approach | 53                   | 16.3                 | LOS B            | 0.1                                        | 0.1           | 0.50         | 0.50                           |
| P1                                 | Across W approach | 53                   | 58.2                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| All Pedestrians                    |                   | 159                  | 28.4                 | LOS C            |                                            |               | 0.62         | 0.62                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Dunmore St (Ex-PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Dunmore Street  
Existing Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Cumberland Hwy - S       |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L    | 49                | 0.0  | 0.697         | 43.7              | LOS D            | 33.8                           | 241.8      | 0.82         | 0.98                        | 30.1               |
| 2                               | T    | 1946              | 2.9  | 0.697         | 36.0              | LOS C            | 34.0                           | 243.6      | 0.82         | 0.75                        | 31.4               |
| 3                               | R    | 42                | 0.0  | 0.244         | 73.7              | LOS F            | 2.7                            | 19.2       | 0.97         | 0.74                        | 20.0               |
| Approach                        |      | 2038              | 2.8  | 0.697         | 36.9              | LOS C            | 34.0                           | 243.6      | 0.82         | 0.75                        | 31.0               |
| East: Dunmore St - E            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L    | 62                | 0.0  | 0.625         | 38.5              | LOS C            | 13.3                           | 93.8       | 0.73         | 0.83                        | 28.4               |
| 5                               | T    | 447               | 1.2  | 0.834         | 35.8              | LOS C            | 26.5                           | 186.8      | 0.86         | 0.76                        | 25.6               |
| 6                               | R    | 256               | 0.4  | 0.834         | 48.2              | LOS D            | 26.5                           | 186.8      | 1.00         | 0.91                        | 25.4               |
| Approach                        |      | 765               | 0.8  | 0.834         | 40.2              | LOS C            | 26.5                           | 186.8      | 0.90         | 0.82                        | 25.7               |
| North: Cumberland Hwy - N       |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L    | 295               | 1.4  | 0.487         | 22.4              | LOS B            | 7.2                            | 50.8       | 0.39         | 0.75                        | 39.4               |
| 8                               | T    | 2145              | 4.4  | 0.752         | 37.0              | LOS C            | 38.0                           | 276.3      | 0.85         | 0.78                        | 31.0               |
| 9                               | R    | 143               | 3.7  | 0.586         | 36.8              | LOS C            | 5.3                            | 38.2       | 0.95         | 0.82                        | 31.0               |
| Approach                        |      | 2583              | 4.0  | 0.752         | 35.3              | LOS C            | 38.0                           | 276.3      | 0.81         | 0.78                        | 31.7               |
| West: Dunmore St - W            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L    | 88                | 0.0  | 0.530         | 61.5              | LOS E            | 11.1                           | 78.1       | 0.94         | 0.82                        | 22.1               |
| 11                              | T    | 226               | 1.9  | 0.530         | 53.8              | LOS D            | 11.1                           | 78.1       | 0.94         | 0.78                        | 20.9               |
| 12                              | R    | 41                | 5.1  | 0.530         | 61.4              | LOS E            | 10.7                           | 76.8       | 0.94         | 0.82                        | 22.3               |
| Approach                        |      | 356               | 1.8  | 0.530         | 56.6              | LOS E            | 11.1                           | 78.1       | 0.94         | 0.79                        | 21.3               |
| All Vehicles                    |      | 5742              | 3.0  | 0.834         | 37.8              | LOS C            | 38.0                           | 276.3      | 0.83         | 0.78                        | 29.7               |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |            |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 39.4              | LOS D            | 0.2                                  | 0.2        | 0.75         | 0.75                        |
| P3                                 | Across E approach | 53                | 32.9              | LOS D            | 0.1                                  | 0.1        | 0.69         | 0.69                        |
| P5                                 | Across N approach | 53                | 58.5              | LOS E            | 0.2                                  | 0.2        | 0.91         | 0.91                        |
| P7                                 | Across W approach | 53                | 32.9              | LOS D            | 0.1                                  | 0.1        | 0.69         | 0.69                        |
| All Pedestrians                    |                   | 212               | 40.9              | LOS E            |                                      |            | 0.76         | 0.76                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: **Cumberland Hwy/Dunmore St (Ex-SAT)**

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Dunmore Street  
Existing Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Cumberland Hwy - S       |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 23                   | 0.0     | 0.711            | 43.6                 | LOS D            | 24.6                                 | 176.3                  | 0.84         | 0.97                           | 30.2                  |
| 2                               | T    | 1478                 | 3.0     | 0.711            | 35.9                 | LOS C            | 24.7                                 | 177.4                  | 0.84         | 0.76                           | 31.4                  |
| 3                               | R    | 68                   | 1.5     | 0.538            | 75.0                 | LOS F            | 4.4                                  | 31.4                   | 1.00         | 0.76                           | 19.8                  |
| Approach                        |      | 1569                 | 2.9     | 0.711            | 37.7                 | LOS C            | 24.7                                 | 177.4                  | 0.85         | 0.76                           | 30.6                  |
| East: Dunmore St - E            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 54                   | 3.9     | 0.519            | 33.6                 | LOS C            | 6.5                                  | 46.3                   | 0.68         | 0.81                           | 30.2                  |
| 5                               | T    | 245                  | 0.4     | 0.865            | 34.7                 | LOS C            | 22.0                                 | 155.2                  | 0.86         | 0.78                           | 25.9                  |
| 6                               | R    | 265                  | 0.8     | 0.865            | 49.3                 | LOS D            | 22.0                                 | 155.2                  | 1.00         | 0.97                           | 25.0                  |
| Approach                        |      | 564                  | 0.9     | 0.865            | 41.5                 | LOS C            | 22.0                                 | 155.2                  | 0.91         | 0.87                           | 25.8                  |
| North: Cumberland Hwy - N       |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 299                  | 1.8     | 0.638            | 26.9                 | LOS B            | 10.4                                 | 74.1                   | 0.60         | 0.78                           | 36.3                  |
| 8                               | T    | 1540                 | 2.7     | 0.725            | 36.1                 | LOS C            | 25.5                                 | 182.9                  | 0.85         | 0.77                           | 31.4                  |
| 9                               | R    | 111                  | 0.0     | 0.545            | 36.8                 | LOS C            | 4.1                                  | 28.5                   | 0.94         | 0.80                           | 30.9                  |
| Approach                        |      | 1949                 | 2.4     | 0.725            | 34.7                 | LOS C            | 25.5                                 | 182.9                  | 0.82         | 0.77                           | 32.0                  |
| West: Dunmore St - W            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 94                   | 0.0     | 0.520            | 56.0                 | LOS D            | 10.8                                 | 75.8                   | 0.93         | 0.82                           | 23.3                  |
| 11                              | T    | 206                  | 0.5     | 0.520            | 48.4                 | LOS D            | 10.8                                 | 75.8                   | 0.93         | 0.77                           | 22.0                  |
| 12                              | R    | 72                   | 1.5     | 0.520            | 55.9                 | LOS D            | 10.1                                 | 71.1                   | 0.93         | 0.82                           | 23.4                  |
| Approach                        |      | 372                  | 0.6     | 0.520            | 51.8                 | LOS D            | 10.8                                 | 75.8                   | 0.93         | 0.79                           | 22.6                  |
| All Vehicles                    |      | 4455                 | 2.2     | 0.865            | 38.1                 | LOS C            | 25.5                                 | 182.9                  | 0.85         | 0.78                           | 29.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                        |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 34.7                 | LOS D            | 0.1                                        | 0.1                    | 0.73         | 0.73                           |
| P3                                 | Across E approach | 53                   | 32.6                 | LOS D            | 0.1                                        | 0.1                    | 0.71         | 0.71                           |
| P5                                 | Across N approach | 53                   | 53.6                 | LOS E            | 0.2                                        | 0.2                    | 0.91         | 0.91                           |
| P7                                 | Across W approach | 53                   | 32.6                 | LOS D            | 0.1                                        | 0.1                    | 0.71         | 0.71                           |
| All Pedestrians                    |                   | 212                  | 38.3                 | LOS D            |                                            |                        | 0.76         | 0.76                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Smith St  
(Ex-PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Smith Street  
Existing Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Cumberland Hwy - S       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 111                  | 1.0     | 0.595            | 17.6                 | LOS B            | 17.2                                 | 123.2         | 0.40         | 0.96                           | 41.5                  |
| 2                               | T    | 2024                 | 3.0     | 0.595            | 8.5                  | LOS A            | 17.2                                 | 123.2         | 0.36         | 0.33                           | 47.2                  |
| 3                               | R    | 55                   | 0.0     | 0.375            | 76.5                 | LOS F            | 3.7                                  | 25.8          | 0.99         | 0.75                           | 19.3                  |
| Approach                        |      | 2189                 | 2.8     | 0.595            | 10.7                 | LOS A            | 17.2                                 | 123.2         | 0.38         | 0.38                           | 45.2                  |
| East: Smith St - E              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 57                   | 0.0     | 0.429            | 62.4                 | LOS E            | 5.5                                  | 38.9          | 0.91         | 0.79                           | 22.4                  |
| 5                               | T    | 237                  | 1.8     | 0.859            | 69.3                 | LOS E            | 17.0                                 | 120.7         | 0.99         | 0.94                           | 19.8                  |
| 6                               | R    | 28                   | 0.0     | 0.859            | 79.9                 | LOS F            | 17.0                                 | 120.7         | 1.00         | 0.98                           | 19.4                  |
| Approach                        |      | 322                  | 1.3     | 0.859            | 69.0                 | LOS E            | 17.0                                 | 120.7         | 0.97         | 0.92                           | 20.2                  |
| North: Cumberland Hwy - N       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 42                   | 2.5     | 0.591            | 16.9                 | LOS B            | 15.8                                 | 114.4         | 0.37         | 1.00                           | 42.2                  |
| 8                               | T    | 2065                 | 4.4     | 0.591            | 8.3                  | LOS A            | 15.8                                 | 114.4         | 0.35         | 0.32                           | 47.5                  |
| 9                               | R    | 47                   | 2.2     | 0.330            | 76.3                 | LOS F            | 3.2                                  | 22.7          | 0.98         | 0.75                           | 19.4                  |
| Approach                        |      | 2155                 | 4.3     | 0.591            | 9.9                  | LOS A            | 15.8                                 | 114.4         | 0.37         | 0.35                           | 45.9                  |
| West: Smith St - W              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 31                   | 0.0     | 0.333            | 63.4                 | LOS E            | 4.2                                  | 30.0          | 0.91         | 0.78                           | 22.3                  |
| 11                              | T    | 111                  | 4.8     | 0.666            | 64.5                 | LOS E            | 7.4                                  | 53.0          | 0.97         | 0.78                           | 20.6                  |
| 12                              | R    | 35                   | 0.0     | 0.666            | 77.6                 | LOS F            | 7.4                                  | 53.0          | 1.00         | 0.82                           | 19.6                  |
| Approach                        |      | 176                  | 3.0     | 0.666            | 66.9                 | LOS E            | 7.4                                  | 53.0          | 0.96         | 0.79                           | 20.7                  |
| All Vehicles                    |      | 4842                 | 3.4     | 0.859            | 16.3                 | LOS B            | 17.2                                 | 123.2         | 0.44         | 0.41                           | 40.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2           | 0.92         | 0.92                           |
| P3                                 | Across E approach | 53                   | 13.7                 | LOS B            | 0.1                                        | 0.1           | 0.44         | 0.44                           |
| P5                                 | Across N approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2           | 0.92         | 0.92                           |
| P7                                 | Across W approach | 53                   | 13.7                 | LOS B            | 0.1                                        | 0.1           | 0.44         | 0.44                           |
| All Pedestrians                    |                   | 212                  | 36.6                 | LOS D            |                                            |               | 0.68         | 0.68                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Smith St  
(Ex-SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Smith Street  
Existing Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
|---------------------------------|------|----------------------|---------|---------------------|-------------------------|---------------------|--------------------------------------|------------------------|-----------------|-----------------------------------|--------------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg.<br>Satn<br>v/c | Average<br>Delay<br>sec | Level of<br>Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop.<br>Queued | Effective<br>Stop Rate<br>per veh | Average<br>Speed<br>km/h |
| South: Cumberland Hwy - S       |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 1                               | L    | 113                  | 0.9     | 0.462               | 19.5                    | LOS B               | 17.6                                 | 125.5                  | 0.53            | 0.93                              | 40.4                     |
| 2                               | T    | 1639                 | 2.8     | 0.462               | 11.3                    | LOS A               | 17.7                                 | 126.8                  | 0.53            | 0.48                              | 43.9                     |
| 3                               | R    | 55                   | 3.8     | 0.394               | 72.5                    | LOS F               | 3.5                                  | 25.0                   | 0.99            | 0.75                              | 20.1                     |
| Approach                        |      | 1806                 | 2.7     | 0.462               | 13.7                    | LOS A               | 17.7                                 | 126.8                  | 0.54            | 0.51                              | 42.2                     |
| East: Smith St - E              |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 4                               | L    | 39                   | 2.7     | 0.156               | 48.6                    | LOS D               | 1.9                                  | 13.5                   | 0.80            | 0.73                              | 25.7                     |
| 5                               | T    | 85                   | 0.0     | 0.541               | 61.2                    | LOS E               | 6.5                                  | 45.8                   | 0.99            | 0.78                              | 21.4                     |
| 6                               | R    | 20                   | 0.0     | 0.541               | 69.1                    | LOS E               | 6.5                                  | 45.8                   | 0.99            | 0.79                              | 21.4                     |
| Approach                        |      | 144                  | 0.7     | 0.541               | 58.9                    | LOS E               | 6.5                                  | 45.8                   | 0.94            | 0.77                              | 22.4                     |
| North: Cumberland Hwy - N       |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 7                               | L    | 41                   | 0.0     | 0.430               | 19.1                    | LOS B               | 16.0                                 | 114.3                  | 0.51            | 0.97                              | 40.8                     |
| 8                               | T    | 1593                 | 2.9     | 0.430               | 11.0                    | LOS A               | 16.0                                 | 114.7                  | 0.51            | 0.46                              | 44.4                     |
| 9                               | R    | 55                   | 0.0     | 0.383               | 72.2                    | LOS F               | 3.4                                  | 24.1                   | 0.99            | 0.75                              | 20.1                     |
| Approach                        |      | 1688                 | 2.7     | 0.430               | 13.1                    | LOS A               | 16.0                                 | 114.7                  | 0.53            | 0.48                              | 42.6                     |
| West: Smith St - W              |      |                      |         |                     |                         |                     |                                      |                        |                 |                                   |                          |
| 10                              | L    | 24                   | 0.0     | 0.181               | 60.8                    | LOS E               | 2.3                                  | 16.0                   | 0.91            | 0.75                              | 22.8                     |
| 11                              | T    | 80                   | 0.0     | 0.635               | 62.1                    | LOS E               | 6.4                                  | 45.2                   | 0.98            | 0.78                              | 21.0                     |
| 12                              | R    | 36                   | 2.9     | 0.635               | 72.7                    | LOS F               | 6.4                                  | 45.2                   | 1.00            | 0.81                              | 20.5                     |
| Approach                        |      | 140                  | 0.8     | 0.635               | 64.6                    | LOS E               | 6.4                                  | 45.2                   | 0.97            | 0.78                              | 21.2                     |
| All Vehicles                    |      | 3779                 | 2.6     | 0.635               | 17.0                    | LOS B               | 17.7                                 | 126.8                  | 0.57            | 0.52                              | 39.6                     |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                         |                     |                                            |                        |                 |                                   |
|------------------------------------|-------------------|----------------------|-------------------------|---------------------|--------------------------------------------|------------------------|-----------------|-----------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average<br>Delay<br>sec | Level of<br>Service | Average Back of Queue<br>Pedestrian<br>ped | Queue<br>Distance<br>m | Prop.<br>Queued | Effective<br>Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 59.1                    | LOS E               | 0.2                                        | 0.2                    | 0.95            | 0.95                              |
| P3                                 | Across E approach | 53                   | 11.2                    | LOS B               | 0.1                                        | 0.1                    | 0.42            | 0.42                              |
| P5                                 | Across N approach | 53                   | 59.1                    | LOS E               | 0.2                                        | 0.2                    | 0.95            | 0.95                              |
| P7                                 | Across W approach | 53                   | 11.2                    | LOS B               | 0.1                                        | 0.1                    | 0.42            | 0.42                              |
| All Pedestrians                    |                   | 212                  | 35.2                    | LOS D               |                                            |                        | 0.68            | 0.68                              |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Pendle Way/Gilba Rd (Ex-PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
 Gilba Road / Pendle Way  
 Existing Thursday PM Peak  
 Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way - S           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 434                  | 1.0     | 0.235            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.67                           | 49.0                  |
| 2                               | T    | 192                  | 0.5     | 0.592            | 15.9                 | LOS B            | 2.5                                  | 17.3          | 0.61         | 0.97                           | 41.7                  |
| Approach                        |      | 625                  | 0.8     | 0.592            | 10.6                 | LOS A            | 2.5                                  | 17.3          | 0.19         | 0.76                           | 46.5                  |
| North: Pendle Way - N           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 8                               | T    | 146                  | 4.3     | 0.855            | 40.1                 | LOS C            | 5.9                                  | 42.8          | 0.64         | 1.41                           | 28.5                  |
| 9                               | R    | 51                   | 2.1     | 0.855            | 41.4                 | LOS C            | 5.9                                  | 42.8          | 0.64         | 1.29                           | 28.2                  |
| Approach                        |      | 197                  | 3.7     | 0.855            | 40.4                 | LOS C            | 5.9                                  | 42.8          | 0.64         | 1.38                           | 28.4                  |
| West: Gilba Rd - W              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 163                  | 0.6     | 0.214            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.66                           | 49.0                  |
| 12                              | R    | 231                  | 1.4     | 0.214            | 8.3                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.67                           | 48.9                  |
| Approach                        |      | 394                  | 1.1     | 0.214            | 8.2                  | NA               | 0.0                                  | 0.0           | 0.00         | 0.67                           | 48.9                  |
| All Vehicles                    |      | 1216                 | 1.4     | 0.855            | 14.6                 | NA               | 5.9                                  | 42.8          | 0.20         | 0.83                           | 42.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Tuesday, 3 March 2015 3:28:41 PM  
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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Pendle Way/Gilba Rd (Ex-SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Gilba Road / Pendle Way  
Existing Saturday Peak  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way - S           |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 281                  | 2.2     | 0.154            | 8.3                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.67                           | 49.0                  |
| 2                               | T    | 196                  | 0.0     | 0.590            | 16.7                 | LOS B            | 2.6                                  | 18.4                   | 0.64         | 1.00                           | 41.1                  |
| Approach                        |      | 477                  | 1.3     | 0.590            | 11.7                 | LOS A            | 2.6                                  | 18.4                   | 0.26         | 0.80                           | 45.4                  |
| North: Pendle Way - N           |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 8                               | T    | 145                  | 3.6     | 0.860            | 38.1                 | LOS C            | 6.4                                  | 46.3                   | 0.68         | 1.46                           | 29.2                  |
| 9                               | R    | 73                   | 1.4     | 0.860            | 39.4                 | LOS C            | 6.4                                  | 46.3                   | 0.68         | 1.35                           | 28.9                  |
| Approach                        |      | 218                  | 2.9     | 0.860            | 38.5                 | LOS C            | 6.4                                  | 46.3                   | 0.68         | 1.42                           | 29.1                  |
| West: Gilba Rd - W              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 171                  | 1.2     | 0.233            | 8.2                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.66                           | 49.0                  |
| 12                              | R    | 260                  | 0.4     | 0.233            | 8.2                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.67                           | 48.9                  |
| Approach                        |      | 431                  | 0.7     | 0.233            | 8.2                  | NA               | 0.0                                  | 0.0                    | 0.00         | 0.67                           | 48.9                  |
| All Vehicles                    |      | 1125                 | 1.4     | 0.860            | 15.6                 | NA               | 6.4                                  | 46.3                   | 0.24         | 0.87                           | 42.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Goodall St/Wentworth Ave  
(Ex-PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Goodall Street / Wentworth Avenue  
Existing Thursday PM Peak  
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Goodall St - S           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 305                  | 1.7     | 0.518            | 15.0                 | LOS B            | 5.8                                  | 41.3          | 0.47         | 0.74                           | 37.9                  |
| 3                               | R    | 246                  | 0.9     | 0.706            | 46.3                 | LOS D            | 10.7                                 | 75.5          | 0.99         | 0.86                           | 24.5                  |
| Approach                        |      | 552                  | 1.3     | 0.706            | 29.0                 | LOS C            | 10.7                                 | 75.5          | 0.70         | 0.80                           | 30.5                  |
| East: Wentworth Ave - E         |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 312                  | 0.3     | 0.734            | 26.7                 | LOS B            | 9.0                                  | 62.9          | 0.69         | 0.82                           | 33.5                  |
| 5                               | T    | 324                  | 2.9     | 0.605            | 33.6                 | LOS C            | 12.9                                 | 92.3          | 0.95         | 0.80                           | 29.8                  |
| Approach                        |      | 636                  | 1.7     | 0.734            | 30.2                 | LOS C            | 12.9                                 | 92.3          | 0.82         | 0.81                           | 31.4                  |
| West: Wentworth Ave - W         |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 11                              | T    | 335                  | 2.8     | 0.459            | 5.8                  | LOS A            | 5.4                                  | 38.9          | 0.40         | 0.34                           | 50.1                  |
| 12                              | R    | 457                  | 2.3     | 0.552            | 31.2                 | LOS C            | 15.8                                 | 112.4         | 0.84         | 0.84                           | 31.2                  |
| Approach                        |      | 792                  | 2.5     | 0.552            | 20.5                 | LOS B            | 15.8                                 | 112.4         | 0.66         | 0.63                           | 37.4                  |
| All Vehicles                    |      | 1979                 | 1.9     | 0.734            | 26.0                 | LOS B            | 15.8                                 | 112.4         | 0.72         | 0.73                           | 33.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P7                                 | Across W approach | 53                   | 36.5                 | LOS D            | 0.1                                        | 0.1           | 0.90         | 0.90                           |
| All Pedestrians                    |                   | 53                   | 36.5                 | LOS D            |                                            |               | 0.90         | 0.90                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Goodall St/Wentworth Ave  
(Ex-SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Goodall Street / Wentworth Avenue  
Existing Saturday Peak  
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Goodall St - S           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 305                  | 1.7     | 0.518            | 16.0                 | LOS B            | 5.8                                  | 41.3                           | 0.47         | 0.75                           | 41.7                  |
| 3                               | R    | 246                  | 0.9     | 0.858            | 56.9                 | LOS E            | 12.2                                 | 86.1                           | 1.00         | 0.96                           | 23.4                  |
| Approach                        |      | 552                  | 1.3     | 0.858            | 34.2                 | LOS C            | 12.2                                 | 86.1                           | 0.71         | 0.85                           | 30.9                  |
| East: Wentworth Ave - E         |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 312                  | 0.3     | 0.762            | 30.9                 | LOS C            | 9.7                                  | 68.3                           | 0.73         | 0.84                           | 32.4                  |
| 5                               | T    | 324                  | 2.9     | 0.559            | 33.0                 | LOS C            | 12.7                                 | 90.8                           | 0.94         | 0.79                           | 30.0                  |
| Approach                        |      | 636                  | 1.7     | 0.762            | 32.0                 | LOS C            | 12.7                                 | 90.8                           | 0.83         | 0.81                           | 31.1                  |
| West: Wentworth Ave - W         |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 11                              | T    | 335                  | 2.8     | 0.414            | 4.6                  | LOS A            | 4.8                                  | 34.3                           | 0.36         | 0.30                           | 51.7                  |
| 12                              | R    | 457                  | 2.3     | 0.468            | 29.0                 | LOS C            | 14.5                                 | 103.7                          | 0.78         | 0.83                           | 33.4                  |
| Approach                        |      | 792                  | 2.5     | 0.468            | 18.6                 | LOS B            | 14.5                                 | 103.7                          | 0.60         | 0.60                           | 39.3                  |
| All Vehicles                    |      | 1979                 | 1.9     | 0.858            | 27.3                 | LOS B            | 14.5                                 | 103.7                          | 0.71         | 0.74                           | 33.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P7                                 | Across W approach | 53                   | 39.2                 | LOS D            | 0.1                                        | 0.1                            | 0.93         | 0.93                           |
| All Pedestrians                    |                   | 53                   | 39.2                 | LOS D            |                                            |                                | 0.93         | 0.93                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Pendle Way  
(Ex-PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Pendle Way  
Existing Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Ettalong Rd - S          |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 105                  | 1.0     | 0.513            | 53.1                 | LOS D            | 5.7                                  | 39.9                           | 0.84         | 0.76                           | 24.4                  |
| 5                               | T    | 207                  | 1.0     | 0.933            | 75.2                 | LOS F            | 14.4                                 | 101.3                          | 1.00         | 0.90                           | 18.8                  |
| 6                               | R    | 104                  | 0.0     | 0.933            | 93.6                 | LOS F            | 14.4                                 | 101.3                          | 1.00         | 1.04                           | 17.0                  |
| Approach                        |      | 417                  | 0.8     | 0.933            | 74.2                 | LOS F            | 14.4                                 | 101.3                          | 0.96         | 0.90                           | 19.4                  |
| East: Gt Western Hwy - E        |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 221                  | 0.5     | 0.614            | 40.4                 | LOS C            | 26.7                                 | 189.4                          | 0.77         | 0.94                           | 29.1                  |
| 8                               | T    | 1553                 | 2.2     | 0.614            | 29.8                 | LOS C            | 26.8                                 | 191.1                          | 0.73         | 0.67                           | 31.6                  |
| 9                               | R    | 140                  | 1.5     | 0.897            | 85.2                 | LOS F            | 10.4                                 | 73.4                           | 0.99         | 0.95                           | 18.0                  |
| Approach                        |      | 1914                 | 2.0     | 0.897            | 35.1                 | LOS C            | 26.8                                 | 191.1                          | 0.76         | 0.72                           | 29.6                  |
| North: Pendle Way - N           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 77                   | 1.4     | 0.629            | 56.7                 | LOS E            | 14.1                                 | 99.7                           | 0.94         | 0.85                           | 24.1                  |
| 11                              | T    | 267                  | 1.6     | 0.786            | 52.1                 | LOS D            | 24.9                                 | 178.9                          | 0.96         | 0.83                           | 23.3                  |
| 12                              | R    | 278                  | 3.8     | 0.786            | 66.6                 | LOS E            | 24.9                                 | 178.9                          | 1.00         | 0.88                           | 21.5                  |
| Approach                        |      | 622                  | 2.5     | 0.786            | 59.2                 | LOS E            | 24.9                                 | 178.9                          | 0.98         | 0.86                           | 22.5                  |
| West: Gt Western Hwy - W        |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 113                  | 7.5     | 0.480            | 39.6                 | LOS C            | 18.2                                 | 131.9                          | 0.78         | 0.88                           | 29.7                  |
| 2                               | T    | 1035                 | 2.6     | 0.480            | 31.2                 | LOS C            | 18.9                                 | 135.4                          | 0.78         | 0.68                           | 30.9                  |
| 3                               | R    | 114                  | 0.9     | 0.539            | 72.7                 | LOS F            | 7.5                                  | 53.1                           | 0.99         | 0.79                           | 20.0                  |
| Approach                        |      | 1261                 | 2.9     | 0.539            | 35.7                 | LOS C            | 18.9                                 | 135.4                          | 0.80         | 0.71                           | 29.4                  |
| All Vehicles                    |      | 4214                 | 2.2     | 0.933            | 42.7                 | LOS D            | 26.8                                 | 191.1                          | 0.82         | 0.75                           | 26.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 31.6                 | LOS D            | 0.1                                        | 0.1                            | 0.67         | 0.67                           |
| P5                                 | Across E approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2                            | 0.92         | 0.92                           |
| P7                                 | Across N approach | 53                   | 29.6                 | LOS C            | 0.1                                        | 0.1                            | 0.65         | 0.65                           |
| All Pedestrians                    |                   | 159                  | 40.2                 | LOS E            |                                            |                                | 0.75         | 0.75                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Pendle Way  
(Ex-SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Pendle Way  
Existing Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Ettalong Rd - S          |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 65                   | 1.6     | 0.279            | 41.8                 | LOS C            | 2.9                                  | 20.6          | 0.74         | 0.74                           | 27.9                  |
| 5                               | T    | 165                  | 0.6     | 0.807            | 59.9                 | LOS E            | 13.1                                 | 92.9          | 0.98         | 0.82                           | 21.7                  |
| 6                               | R    | 138                  | 1.5     | 0.807            | 73.0                 | LOS F            | 13.1                                 | 92.9          | 1.00         | 0.92                           | 20.2                  |
| Approach                        |      | 368                  | 1.1     | 0.807            | 61.6                 | LOS E            | 13.1                                 | 92.9          | 0.94         | 0.84                           | 21.9                  |
| East: Gt Western Hwy - E        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 144                  | 0.7     | 0.397            | 36.8                 | LOS C            | 12.3                                 | 88.0          | 0.78         | 0.89                           | 30.5                  |
| 8                               | T    | 787                  | 3.9     | 0.397            | 30.9                 | LOS C            | 14.4                                 | 104.0         | 0.78         | 0.68                           | 31.0                  |
| 9                               | R    | 165                  | 3.2     | 0.985            | 67.8                 | LOS E            | 10.2                                 | 73.4          | 0.99         | 0.82                           | 21.0                  |
| Approach                        |      | 1097                 | 3.4     | 0.985            | 37.3                 | LOS C            | 14.4                                 | 104.0         | 0.81         | 0.73                           | 28.9                  |
| North: Pendle Way - N           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 116                  | 3.6     | 0.560            | 41.0                 | LOS C            | 7.8                                  | 55.8          | 0.96         | 0.81                           | 28.8                  |
| 11                              | T    | 164                  | 0.6     | 0.701            | 46.5                 | LOS D            | 14.9                                 | 105.9         | 0.98         | 0.82                           | 24.5                  |
| 12                              | R    | 147                  | 2.1     | 0.701            | 64.1                 | LOS E            | 14.9                                 | 105.9         | 1.00         | 0.85                           | 22.1                  |
| Approach                        |      | 427                  | 2.0     | 0.701            | 51.1                 | LOS D            | 14.9                                 | 105.9         | 0.98         | 0.83                           | 24.6                  |
| West: Gt Western Hwy - W        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 109                  | 1.9     | 0.530            | 41.9                 | LOS C            | 18.2                                 | 129.9         | 0.83         | 0.88                           | 28.8                  |
| 2                               | T    | 1031                 | 2.1     | 0.530            | 33.6                 | LOS C            | 18.8                                 | 133.9         | 0.83         | 0.73                           | 29.8                  |
| 3                               | R    | 89                   | 1.2     | 0.409            | 63.7                 | LOS E            | 5.2                                  | 37.0          | 0.95         | 0.78                           | 21.9                  |
| Approach                        |      | 1229                 | 2.1     | 0.530            | 36.6                 | LOS C            | 18.8                                 | 133.9         | 0.84         | 0.74                           | 28.9                  |
| All Vehicles                    |      | 3122                 | 2.4     | 0.985            | 41.7                 | LOS C            | 18.8                                 | 133.9         | 0.86         | 0.76                           | 27.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 34.0                 | LOS D            | 0.1                                        | 0.1           | 0.72         | 0.72                           |
| P5                                 | Across E approach | 53                   | 59.1                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| P7                                 | Across N approach | 53                   | 31.9                 | LOS D            | 0.1                                        | 0.1           | 0.70         | 0.70                           |
| All Pedestrians                    |                   | 159                  | 41.7                 | LOS E            |                                            |               | 0.79         | 0.79                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## Attachment 3B – SIDRA Output (2027 Future Base Thursday PM & Saturday Midday)

| Intersection                     | Peak | Leg        | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile (m) | Level of Service (LOS) |
|----------------------------------|------|------------|----------------------------|---------------------|---------------------------------|------------------------|
| Jones Street/<br>Rogers Street   | PM   | South      | 0.17                       | 8                   | 8                               | A                      |
|                                  |      | East       | 0.02                       | 9                   | 1                               | A                      |
|                                  |      | North      | 0.17                       | 7                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>0.17</b>                | <b>1</b>            | <b>8</b>                        | <b>A</b>               |
|                                  | Sat  | South      | 0.11                       | 8                   | 5                               | A                      |
|                                  |      | East       | 0.02                       | 8                   | 1                               | A                      |
|                                  |      | North      | 0.13                       | 7                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>0.13</b>                | <b>1</b>            | <b>5</b>                        | <b>A</b>               |
| Jones Street/<br>Oatlands Street | PM   | South      | 0.16                       | 8                   | 8                               | A                      |
|                                  |      | East       | 0.04                       | 9                   | 1                               | A                      |
|                                  |      | North      | 0.19                       | 7                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>0.19</b>                | <b>1</b>            | <b>8</b>                        | <b>A</b>               |
|                                  | Sat  | South      | 0.11                       | 8                   | 5                               | A                      |
|                                  |      | East       | 0.02                       | 8                   | 1                               | A                      |
|                                  |      | North      | 0.13                       | 7                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>0.13</b>                | <b>1</b>            | <b>5</b>                        | <b>A</b>               |
| Jones Street/<br>Smith Street    | PM   | South      | 0.32                       | 12                  | 14                              | A                      |
|                                  |      | East       | 0.39                       | 11                  | 19                              | A                      |
|                                  |      | North      | 0.31                       | 10                  | 14                              | A                      |
|                                  |      | West       | 0.19                       | 11                  | 7                               | A                      |
|                                  |      | <b>All</b> | <b>0.39</b>                | <b>8</b>            | <b>19</b>                       | <b>A</b>               |
|                                  | Sat  | South      | 0.20                       | 10                  | 8                               | A                      |
|                                  |      | East       | 0.17                       | 10                  | 7                               | A                      |
|                                  |      | North      | 0.26                       | 10                  | 11                              | A                      |
|                                  |      | West       | 0.16                       | 10                  | 6                               | A                      |
|                                  |      | <b>All</b> | <b>0.26</b>                | <b>7</b>            | <b>11</b>                       | <b>A</b>               |
| Jones Street/<br>Dunmore Street  | PM   | South      | 0.62                       | 21                  | 40                              | B                      |
|                                  |      | East       | 0.80                       | 17                  | 86                              | B                      |
|                                  |      | North      | 0.14                       | 13                  | 5                               | A                      |
|                                  |      | West       | 0.51                       | 10                  | 31                              | A                      |
|                                  |      | <b>All</b> | <b>0.80</b>                | <b>12</b>           | <b>86</b>                       | <b>B</b>               |
|                                  | Sat  | South      | 0.26                       | 13                  | 11                              | A                      |
|                                  |      | East       | 0.48                       | 11                  | 24                              | A                      |
|                                  |      | North      | 0.12                       | 13                  | 5                               | A                      |
|                                  |      | West       | 0.44                       | 10                  | 24                              | A                      |
|                                  |      | <b>All</b> | <b>0.48</b>                | <b>8</b>            | <b>24</b>                       | <b>A</b>               |

| Intersection                               | Peak | Leg        | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile (m) | Level of Service (LOS) |
|--------------------------------------------|------|------------|----------------------------|---------------------|---------------------------------|------------------------|
| Goodall Street/<br>Dunmore Street          | PM   | East       | 0.80                       | 20                  | 83                              | B                      |
|                                            |      | North      | 0.78                       | 24                  | 101                             | B                      |
|                                            |      | West       | 0.54                       | 15                  | 51                              | B                      |
|                                            |      | <b>All</b> | <b>0.80</b>                | <b>20</b>           | <b>101</b>                      | <b>B</b>               |
|                                            | Sat  | East       | 0.58                       | 15                  | 32                              | B                      |
|                                            |      | North      | 0.48                       | 20                  | 34                              | B                      |
|                                            |      | West       | 0.59                       | 16                  | 44                              | B                      |
|                                            |      | <b>All</b> | <b>0.59</b>                | <b>17</b>           | <b>44</b>                       | <b>B</b>               |
| Pendle Way/<br>Dunmore Street              | PM   | South      | 0.73                       | 19                  | 59                              | B                      |
|                                            |      | East       | 0.78                       | 23                  | 101                             | B                      |
|                                            |      | North      | 0.44                       | 15                  | 40                              | B                      |
|                                            |      | <b>All</b> | <b>0.78</b>                | <b>20</b>           | <b>101</b>                      | <b>B</b>               |
|                                            | Sat  | South      | 0.56                       | 11                  | 38                              | B                      |
|                                            |      | East       | 0.78                       | 24                  | 54                              | B                      |
|                                            |      | North      | 0.43                       | 13                  | 38                              | B                      |
|                                            |      | <b>All</b> | <b>0.78</b>                | <b>16</b>           | <b>54</b>                       | <b>B</b>               |
| Great Western<br>Highway / Jones<br>Street | PM   | South      | 0.50                       | 62                  | 37                              | E                      |
|                                            |      | East       | 0.57                       | 15                  | 188                             | B                      |
|                                            |      | North      | 0.77                       | 63                  | 62                              | E                      |
|                                            |      | West       | 0.48                       | 23                  | 142                             | B                      |
|                                            |      | <b>All</b> | <b>0.77</b>                | <b>22</b>           | <b>188</b>                      | <b>B</b>               |
|                                            | Sat  | South      | 0.69                       | 63                  | 40                              | E                      |
|                                            |      | East       | 0.41                       | 20                  | 116                             | B                      |
|                                            |      | North      | 0.75                       | 58                  | 38                              | E                      |
|                                            |      | West       | 0.46                       | 19                  | 118                             | B                      |
|                                            |      | <b>All</b> | <b>0.75</b>                | <b>24</b>           | <b>118</b>                      | <b>B</b>               |
| Cumberland<br>Highway /<br>Dunmore Street  | PM   | South      | 0.78                       | 39                  | 292                             | C                      |
|                                            |      | East       | 1.01                       | 69                  | 315                             | E                      |
|                                            |      | North      | 0.84                       | 38                  | 337                             | C                      |
|                                            |      | West       | 0.64                       | 58                  | 96                              | E                      |
|                                            |      | <b>All</b> | <b>1.01</b>                | <b>44</b>           | <b>337</b>                      | <b>D</b>               |
|                                            | Sat  | South      | 0.80                       | 40                  | 216                             | C                      |
|                                            |      | East       | 1.07                       | 101                 | 305                             | F                      |
|                                            |      | North      | 0.81                       | 38                  | 225                             | C                      |
|                                            |      | West       | 0.62                       | 53                  | 92                              | D                      |
|                                            |      | <b>All</b> | <b>1.07</b>                | <b>49</b>           | <b>305</b>                      | <b>D</b>               |

| Intersection                      | Peak | Leg        | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile (m) | Level of Service (LOS) |
|-----------------------------------|------|------------|----------------------------|---------------------|---------------------------------|------------------------|
| Cumberland Highway / Smith Street | PM   | South      | 0.67                       | 11                  | 156                             | A                      |
|                                   |      | East       | 1.05                       | 122                 | 205                             | F                      |
|                                   |      | North      | 0.66                       | 11                  | 144                             | A                      |
|                                   |      | West       | 0.92                       | 76                  | 63                              | F                      |
|                                   |      | <b>All</b> | <b>1.05</b>                | <b>21</b>           | <b>205</b>                      | <b>B</b>               |
|                                   | Sat  | South      | 0.52                       | 14                  | 150                             | A                      |
|                                   |      | East       | 0.66                       | 60                  | 55                              | E                      |
|                                   |      | North      | 0.48                       | 14                  | 135                             | A                      |
|                                   |      | West       | 0.80                       | 68                  | 55                              | E                      |
|                                   |      | <b>All</b> | <b>0.80</b>                | <b>18</b>           | <b>150</b>                      | <b>B</b>               |
| Pendle Way / Gilba Road           | PM   | South      | 0.41                       | 14                  | 16                              | A                      |
|                                   |      | North      | 0.59                       | 24                  | 30                              | B                      |
|                                   |      | West       | 0.25                       | 8                   | 0                               | A                      |
|                                   |      | <b>All</b> | <b>0.59</b>                | <b>11</b>           | <b>30</b>                       | <b>A</b>               |
|                                   | Sat  | South      | 0.48                       | 16                  | 19                              | B                      |
|                                   |      | North      | 0.69                       | 27                  | 37                              | B                      |
|                                   |      | West       | 0.27                       | 8                   | 0                               | A                      |
|                                   |      | <b>All</b> | <b>0.69</b>                | <b>13</b>           | <b>37</b>                       | <b>A</b>               |
| Goodall Street /Wentworth Avenue  | PM   | South      | 0.83                       | 32                  | 98                              | C                      |
|                                   |      | East       | 0.87                       | 35                  | 113                             | C                      |
|                                   |      | West       | 0.65                       | 21                  | 139                             | B                      |
|                                   |      | <b>All</b> | <b>0.87</b>                | <b>29</b>           | <b>139</b>                      | <b>C</b>               |
|                                   | Sat  | South      | 0.92                       | 37                  | 100                             | C                      |
|                                   |      | East       | 0.62                       | 30                  | 102                             | C                      |
|                                   |      | West       | 0.47                       | 16                  | 81                              | B                      |
|                                   |      | <b>All</b> | <b>0.92</b>                | <b>27</b>           | <b>102</b>                      | <b>B</b>               |
| Cumberland Highway / Pendle Way   | PM   | South      | 1.10                       | 116                 | 176                             | F                      |
|                                   |      | East       | 1.00                       | 36                  | 233                             | C                      |
|                                   |      | North      | 0.93                       | 70                  | 248                             | E                      |
|                                   |      | West       | 0.63                       | 37                  | 157                             | C                      |
|                                   |      | <b>All</b> | <b>1.10</b>                | <b>49</b>           | <b>248</b>                      | <b>D</b>               |
|                                   | Sat  | South      | 0.95                       | 73                  | 130                             | F                      |
|                                   |      | East       | 1.00                       | 37                  | 124                             | C                      |
|                                   |      | North      | 0.82                       | 55                  | 134                             | D                      |
|                                   |      | West       | 0.60                       | 38                  | 155                             | C                      |
|                                   |      | <b>All</b> | <b>1.00</b>                | <b>44</b>           | <b>155</b>                      | <b>D</b>               |

# MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Base  
Thurs PM)

13S1210200  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 304                  | 2.0     | 0.168            | 1.3                  | LOS A            | 1.2                                  | 8.4                            | 0.46         | 0.00                           | 44.6                  |
| 3                               | R    | 14                   | 2.0     | 0.168            | 8.1                  | LOS A            | 1.2                                  | 8.4                            | 0.46         | 0.88                           | 43.0                  |
| Approach                        |      | 318                  | 2.0     | 0.168            | 1.6                  | NA               | 1.2                                  | 8.4                            | 0.46         | 0.04                           | 44.6                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 14                   | 2.0     | 0.022            | 8.2                  | LOS A            | 0.1                                  | 0.6                            | 0.41         | 0.60                           | 41.7                  |
| 6                               | R    | 7                    | 2.0     | 0.022            | 8.6                  | LOS A            | 0.1                                  | 0.6                            | 0.41         | 0.73                           | 41.5                  |
| Approach                        |      | 21                   | 2.0     | 0.022            | 8.4                  | LOS A            | 0.1                                  | 0.6                            | 0.41         | 0.64                           | 41.6                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 7                    | 2.0     | 0.169            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.91                           | 43.3                  |
| 8                               | T    | 318                  | 2.0     | 0.169            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 325                  | 2.0     | 0.169            | 0.1                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.02                           | 49.8                  |
| All Vehicles                    |      | 664                  | 2.0     | 0.169            | 1.1                  | NA               | 1.2                                  | 8.4                            | 0.23         | 0.05                           | 46.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Base Sat)

13S1210200  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 194                  | 2.0     | 0.105            | 0.9                  | LOS A            | 0.7                                  | 4.7                            | 0.38         | 0.00                           | 45.5                  |
| 3                               | R    | 6                    | 2.0     | 0.105            | 7.7                  | LOS A            | 0.7                                  | 4.7                            | 0.38         | 0.87                           | 43.0                  |
| Approach                        |      | 200                  | 2.0     | 0.105            | 1.1                  | NA               | 0.7                                  | 4.7                            | 0.38         | 0.03                           | 45.4                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 14                   | 2.0     | 0.019            | 7.6                  | LOS A            | 0.1                                  | 0.5                            | 0.34         | 0.57                           | 42.0                  |
| 6                               | R    | 7                    | 2.0     | 0.019            | 8.0                  | LOS A            | 0.1                                  | 0.5                            | 0.34         | 0.68                           | 42.0                  |
| Approach                        |      | 21                   | 2.0     | 0.019            | 7.7                  | LOS A            | 0.1                                  | 0.5                            | 0.34         | 0.61                           | 42.0                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 17                   | 2.0     | 0.132            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.89                           | 43.3                  |
| 8                               | T    | 237                  | 2.0     | 0.132            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 254                  | 2.0     | 0.132            | 0.4                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.06                           | 49.5                  |
| All Vehicles                    |      | 475                  | 2.0     | 0.132            | 1.0                  | NA               | 0.7                                  | 4.7                            | 0.17         | 0.07                           | 47.3                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Base  
Thurs PM)

13S1210200  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 2                               | T    | 277                  | 2.0     | 0.159            | 1.5                  | LOS A            | 1.1                                  | 7.9                    | 0.47         | 0.00                           | 44.4                  |
| 3                               | R    | 19                   | 2.0     | 0.159            | 8.3                  | LOS A            | 1.1                                  | 7.9                    | 0.47         | 0.88                           | 43.0                  |
| Approach                        |      | 296                  | 2.0     | 0.159            | 1.9                  | NA               | 1.1                                  | 7.9                    | 0.47         | 0.06                           | 44.3                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 29                   | 2.0     | 0.042            | 8.2                  | LOS A            | 0.2                                  | 1.1                    | 0.42         | 0.62                           | 41.7                  |
| 6                               | R    | 12                   | 2.0     | 0.042            | 8.6                  | LOS A            | 0.2                                  | 1.1                    | 0.42         | 0.76                           | 41.5                  |
| Approach                        |      | 41                   | 2.0     | 0.042            | 8.3                  | LOS A            | 0.2                                  | 1.1                    | 0.42         | 0.66                           | 41.7                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 15                   | 2.0     | 0.186            | 6.5                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 342                  | 2.0     | 0.186            | 0.0                  | LOS A            | 0.0                                  | 0.0                    | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 357                  | 2.0     | 0.186            | 0.3                  | NA               | 0.0                                  | 0.0                    | 0.00         | 0.04                           | 49.7                  |
| All Vehicles                    |      | 694                  | 2.0     | 0.186            | 1.4                  | NA               | 1.1                                  | 7.9                    | 0.23         | 0.08                           | 46.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Base Sat)

13S1210200  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 185                  | 2.0     | 0.113            | 0.9                  | LOS A            | 0.7                                  | 4.9                            | 0.37         | 0.00                           | 45.4                  |
| 3                               | R    | 24                   | 2.0     | 0.113            | 7.7                  | LOS A            | 0.7                                  | 4.9                            | 0.37         | 0.84                           | 42.9                  |
| Approach                        |      | 209                  | 2.0     | 0.113            | 1.7                  | NA               | 0.7                                  | 4.9                            | 0.37         | 0.10                           | 45.1                  |
| East: Oatland Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 17                   | 2.0     | 0.020            | 7.5                  | LOS A            | 0.1                                  | 0.5                            | 0.34         | 0.58                           | 42.1                  |
| 6                               | R    | 6                    | 2.0     | 0.020            | 7.9                  | LOS A            | 0.1                                  | 0.5                            | 0.34         | 0.69                           | 42.0                  |
| Approach                        |      | 23                   | 2.0     | 0.020            | 7.6                  | LOS A            | 0.1                                  | 0.5                            | 0.34         | 0.61                           | 42.0                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 11                   | 2.0     | 0.130            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 240                  | 2.0     | 0.130            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 251                  | 2.0     | 0.130            | 0.3                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.04                           | 49.7                  |
| All Vehicles                    |      | 483                  | 2.0     | 0.130            | 1.2                  | NA               | 0.7                                  | 4.9                            | 0.18         | 0.09                           | 47.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Smith (2027 Base  
Thurs PM)

13S1210200  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 35                   | 2.0     | 0.321            | 8.9                  | LOS A            | 1.9                                  | 13.7                           | 0.62         | 0.75                           | 41.5                  |
| 2                               | T    | 186                  | 2.0     | 0.321            | 7.9                  | LOS A            | 1.9                                  | 13.7                           | 0.62         | 0.70                           | 41.8                  |
| 3                               | R    | 35                   | 2.0     | 0.321            | 11.9                 | LOS A            | 1.9                                  | 13.7                           | 0.62         | 0.84                           | 39.6                  |
| Approach                        |      | 256                  | 2.0     | 0.321            | 8.6                  | LOS A            | 1.9                                  | 13.7                           | 0.62         | 0.72                           | 41.4                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 69                   | 2.0     | 0.391            | 7.4                  | LOS A            | 2.6                                  | 18.7                           | 0.49         | 0.64                           | 42.1                  |
| 5                               | T    | 249                  | 2.0     | 0.391            | 6.4                  | LOS A            | 2.6                                  | 18.7                           | 0.49         | 0.57                           | 42.3                  |
| 6                               | R    | 76                   | 2.0     | 0.391            | 10.5                 | LOS A            | 2.6                                  | 18.7                           | 0.49         | 0.76                           | 40.5                  |
| Approach                        |      | 395                  | 2.0     | 0.391            | 7.4                  | LOS A            | 2.6                                  | 18.7                           | 0.49         | 0.62                           | 41.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 145                  | 2.0     | 0.308            | 7.2                  | LOS A            | 1.9                                  | 13.6                           | 0.44         | 0.61                           | 42.2                  |
| 8                               | T    | 124                  | 2.0     | 0.308            | 6.2                  | LOS A            | 1.9                                  | 13.6                           | 0.44         | 0.54                           | 42.5                  |
| 9                               | R    | 41                   | 2.0     | 0.308            | 10.2                 | LOS A            | 1.9                                  | 13.6                           | 0.44         | 0.74                           | 40.6                  |
| Approach                        |      | 311                  | 2.0     | 0.308            | 7.2                  | LOS A            | 1.9                                  | 13.6                           | 0.44         | 0.60                           | 42.1                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 27                   | 2.0     | 0.187            | 8.0                  | LOS A            | 1.0                                  | 7.3                            | 0.52         | 0.68                           | 42.1                  |
| 11                              | T    | 118                  | 2.0     | 0.187            | 7.1                  | LOS A            | 1.0                                  | 7.3                            | 0.52         | 0.62                           | 42.2                  |
| 12                              | R    | 14                   | 2.0     | 0.187            | 11.1                 | LOS A            | 1.0                                  | 7.3                            | 0.52         | 0.80                           | 40.2                  |
| Approach                        |      | 159                  | 2.0     | 0.187            | 7.6                  | LOS A            | 1.0                                  | 7.3                            | 0.52         | 0.64                           | 42.0                  |
| All Vehicles                    |      | 1120                 | 2.0     | 0.391            | 7.6                  | LOS A            | 2.6                                  | 18.7                           | 0.51         | 0.64                           | 41.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Smith (2027 Base Sat)

13S1210200  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 24                   | 2.0     | 0.198            | 7.1                  | LOS A            | 1.1                                  | 7.7                    | 0.40         | 0.61                           | 42.4                  |
| 2                               | T    | 128                  | 2.0     | 0.198            | 6.2                  | LOS A            | 1.1                                  | 7.7                    | 0.40         | 0.53                           | 42.7                  |
| 3                               | R    | 40                   | 2.0     | 0.198            | 10.2                 | LOS A            | 1.1                                  | 7.7                    | 0.40         | 0.76                           | 40.7                  |
| Approach                        |      | 193                  | 2.0     | 0.198            | 7.1                  | LOS A            | 1.1                                  | 7.7                    | 0.40         | 0.59                           | 42.2                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 21                   | 2.0     | 0.172            | 7.0                  | LOS A            | 0.9                                  | 6.6                    | 0.39         | 0.60                           | 42.4                  |
| 5                               | T    | 99                   | 2.0     | 0.172            | 6.1                  | LOS A            | 0.9                                  | 6.6                    | 0.39         | 0.52                           | 42.8                  |
| 6                               | R    | 47                   | 2.0     | 0.172            | 10.1                 | LOS A            | 0.9                                  | 6.6                    | 0.39         | 0.74                           | 40.7                  |
| Approach                        |      | 167                  | 2.0     | 0.172            | 7.3                  | LOS A            | 0.9                                  | 6.6                    | 0.39         | 0.60                           | 42.1                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 105                  | 2.0     | 0.256            | 7.2                  | LOS A            | 1.5                                  | 10.5                   | 0.42         | 0.62                           | 42.3                  |
| 8                               | T    | 122                  | 2.0     | 0.256            | 6.3                  | LOS A            | 1.5                                  | 10.5                   | 0.42         | 0.54                           | 42.6                  |
| 9                               | R    | 23                   | 2.0     | 0.256            | 10.3                 | LOS A            | 1.5                                  | 10.5                   | 0.42         | 0.75                           | 40.6                  |
| Approach                        |      | 251                  | 2.0     | 0.256            | 7.0                  | LOS A            | 1.5                                  | 10.5                   | 0.42         | 0.60                           | 42.3                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 13                   | 2.0     | 0.160            | 7.4                  | LOS A            | 0.8                                  | 6.0                    | 0.43         | 0.64                           | 42.4                  |
| 11                              | T    | 118                  | 2.0     | 0.160            | 6.4                  | LOS A            | 0.8                                  | 6.0                    | 0.43         | 0.56                           | 42.6                  |
| 12                              | R    | 18                   | 2.0     | 0.160            | 10.4                 | LOS A            | 0.8                                  | 6.0                    | 0.43         | 0.78                           | 40.6                  |
| Approach                        |      | 148                  | 2.0     | 0.160            | 7.0                  | LOS A            | 0.8                                  | 6.0                    | 0.43         | 0.59                           | 42.4                  |
| All Vehicles                    |      | 759                  | 2.0     | 0.256            | 7.1                  | LOS A            | 1.5                                  | 10.5                   | 0.41         | 0.59                           | 42.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Base  
Thurs PM)

13S1210200  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 207                  | 2.0     | 0.616            | 17.5                 | LOS B            | 5.6                                  | 40.1                   | 0.95         | 1.11                           | 35.2                  |
| 2                               | T    | 62                   | 2.0     | 0.616            | 16.6                 | LOS B            | 5.6                                  | 40.1                   | 0.95         | 1.11                           | 35.3                  |
| 3                               | R    | 41                   | 2.0     | 0.616            | 20.6                 | LOS B            | 5.6                                  | 40.1                   | 0.95         | 1.12                           | 34.0                  |
| Approach                        |      | 311                  | 2.0     | 0.616            | 17.8                 | LOS B            | 5.6                                  | 40.1                   | 0.95         | 1.11                           | 35.0                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 73                   | 2.0     | 0.796            | 14.1                 | LOS A            | 12.1                                 | 85.8                   | 0.93         | 0.98                           | 37.7                  |
| 5                               | T    | 627                  | 2.0     | 0.796            | 13.2                 | LOS A            | 12.1                                 | 85.8                   | 0.93         | 0.97                           | 37.9                  |
| 6                               | R    | 26                   | 2.0     | 0.796            | 17.2                 | LOS B            | 12.1                                 | 85.8                   | 0.93         | 1.00                           | 36.4                  |
| Approach                        |      | 726                  | 2.0     | 0.796            | 13.4                 | LOS A            | 12.1                                 | 85.8                   | 0.93         | 0.97                           | 37.8                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 14                   | 2.0     | 0.135            | 9.7                  | LOS A            | 0.7                                  | 5.2                    | 0.65         | 0.74                           | 40.4                  |
| 8                               | T    | 21                   | 2.0     | 0.135            | 8.8                  | LOS A            | 0.7                                  | 5.2                    | 0.65         | 0.70                           | 40.7                  |
| 9                               | R    | 56                   | 2.0     | 0.135            | 12.8                 | LOS A            | 0.7                                  | 5.2                    | 0.65         | 0.81                           | 38.6                  |
| Approach                        |      | 91                   | 2.0     | 0.135            | 11.4                 | LOS A            | 0.7                                  | 5.2                    | 0.65         | 0.77                           | 39.4                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 66                   | 2.0     | 0.507            | 7.1                  | LOS A            | 4.3                                  | 30.7                   | 0.51         | 0.60                           | 42.0                  |
| 11                              | T    | 277                  | 2.0     | 0.507            | 6.1                  | LOS A            | 4.3                                  | 30.7                   | 0.51         | 0.53                           | 42.1                  |
| 12                              | R    | 218                  | 2.0     | 0.507            | 10.1                 | LOS A            | 4.3                                  | 30.7                   | 0.51         | 0.71                           | 40.5                  |
| Approach                        |      | 561                  | 2.0     | 0.507            | 7.8                  | LOS A            | 4.3                                  | 30.7                   | 0.51         | 0.61                           | 41.4                  |
| All Vehicles                    |      | 1688                 | 2.0     | 0.796            | 12.2                 | LOS A            | 12.1                                 | 85.8                   | 0.78         | 0.87                           | 38.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Base Sat)

13S1210200  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 135                  | 2.0     | 0.258            | 9.4                  | LOS A            | 1.5                                  | 10.7                           | 0.66         | 0.76                           | 40.8                  |
| 2                               | T    | 23                   | 2.0     | 0.258            | 8.5                  | LOS A            | 1.5                                  | 10.7                           | 0.66         | 0.72                           | 41.1                  |
| 3                               | R    | 28                   | 2.0     | 0.258            | 12.5                 | LOS A            | 1.5                                  | 10.7                           | 0.66         | 0.83                           | 39.0                  |
| Approach                        |      | 186                  | 2.0     | 0.258            | 9.8                  | LOS A            | 1.5                                  | 10.7                           | 0.66         | 0.77                           | 40.5                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 34                   | 2.0     | 0.479            | 8.2                  | LOS A            | 3.3                                  | 23.7                           | 0.59         | 0.71                           | 42.0                  |
| 5                               | T    | 398                  | 2.0     | 0.479            | 7.3                  | LOS A            | 3.3                                  | 23.7                           | 0.59         | 0.65                           | 42.0                  |
| 6                               | R    | 18                   | 2.0     | 0.479            | 11.3                 | LOS A            | 3.3                                  | 23.7                           | 0.59         | 0.81                           | 40.1                  |
| Approach                        |      | 449                  | 2.0     | 0.479            | 7.5                  | LOS A            | 3.3                                  | 23.7                           | 0.59         | 0.66                           | 41.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 19                   | 2.0     | 0.122            | 9.7                  | LOS A            | 0.6                                  | 4.5                            | 0.62         | 0.73                           | 40.5                  |
| 8                               | T    | 25                   | 2.0     | 0.122            | 8.7                  | LOS A            | 0.6                                  | 4.5                            | 0.62         | 0.69                           | 40.9                  |
| 9                               | R    | 40                   | 2.0     | 0.122            | 12.7                 | LOS A            | 0.6                                  | 4.5                            | 0.62         | 0.81                           | 38.7                  |
| Approach                        |      | 84                   | 2.0     | 0.122            | 10.9                 | LOS A            | 0.6                                  | 4.5                            | 0.62         | 0.76                           | 39.7                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 40                   | 2.0     | 0.437            | 6.4                  | LOS A            | 3.4                                  | 24.2                           | 0.32         | 0.55                           | 42.7                  |
| 11                              | T    | 324                  | 2.0     | 0.437            | 5.5                  | LOS A            | 3.4                                  | 24.2                           | 0.32         | 0.47                           | 43.1                  |
| 12                              | R    | 181                  | 2.0     | 0.437            | 9.5                  | LOS A            | 3.4                                  | 24.2                           | 0.32         | 0.71                           | 40.9                  |
| Approach                        |      | 545                  | 2.0     | 0.437            | 6.9                  | LOS A            | 3.4                                  | 24.2                           | 0.32         | 0.55                           | 42.3                  |
| All Vehicles                    |      | 1265                 | 2.0     | 0.479            | 7.8                  | LOS A            | 3.4                                  | 24.2                           | 0.49         | 0.64                           | 41.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027 Base  
Thurs PM)

13S1210200

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 535                  | 2.0     | 0.647            | 12.9                 | LOS A            | 11.7                                 | 83.4                           | 0.79         | 0.69                           | 36.5                  |
| 6                               | R    | 311                  | 2.0     | 0.800            | 31.9                 | LOS C            | 9.0                                  | 64.3                           | 1.00         | 1.02                           | 28.3                  |
| Approach                        |      | 845                  | 2.0     | 0.800            | 19.9                 | LOS B            | 11.7                                 | 83.4                           | 0.87         | 0.81                           | 33.0                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 291                  | 2.0     | 0.507            | 14.9                 | LOS B            | 4.7                                  | 33.8                           | 0.59         | 0.75                           | 36.8                  |
| 9                               | R    | 476                  | 2.0     | 0.780            | 29.5                 | LOS C            | 14.1                                 | 100.6                          | 0.96         | 0.93                           | 29.2                  |
| Approach                        |      | 766                  | 2.0     | 0.780            | 24.0                 | LOS B            | 14.1                                 | 100.6                          | 0.82         | 0.86                           | 31.7                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 277                  | 2.0     | 0.257            | 9.9                  | LOS A            | 2.9                                  | 20.3                           | 0.38         | 0.70                           | 40.4                  |
| 11                              | T    | 277                  | 2.0     | 0.539            | 21.0                 | LOS B            | 7.2                                  | 51.1                           | 0.91         | 0.76                           | 31.8                  |
| Approach                        |      | 554                  | 2.0     | 0.539            | 15.4                 | LOS B            | 7.2                                  | 51.1                           | 0.64         | 0.73                           | 35.6                  |
| All Vehicles                    |      | 2165                 | 2.0     | 0.800            | 20.2                 | LOS B            | 14.1                                 | 100.6                          | 0.79         | 0.81                           | 33.1                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 24.3                 | LOS C            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| P7                                 | Across W approach | 53                   | 20.8                 | LOS C            | 0.1                                        | 0.1                            | 0.83         | 0.83                           |
| All Pedestrians                    |                   | 106                  | 22.6                 | LOS C            |                                            |                                | 0.87         | 0.87                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027 Base Sat)

13S1210200

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 56 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 336                  | 2.0     | 0.377            | 9.2                  | LOS A            | 5.6                                  | 40.0                           | 0.64         | 0.55                           | 39.4                  |
| 6                               | R    | 240                  | 2.0     | 0.583            | 22.7                 | LOS B            | 5.5                                  | 39.1                           | 0.93         | 0.82                           | 32.3                  |
| Approach                        |      | 576                  | 2.0     | 0.583            | 14.8                 | LOS B            | 5.6                                  | 40.0                           | 0.77         | 0.66                           | 36.1                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 233                  | 2.0     | 0.407            | 15.2                 | LOS B            | 3.7                                  | 26.2                           | 0.61         | 0.74                           | 36.6                  |
| 9                               | R    | 251                  | 2.0     | 0.479            | 24.9                 | LOS B            | 5.9                                  | 41.8                           | 0.88         | 0.81                           | 31.3                  |
| Approach                        |      | 483                  | 2.0     | 0.479            | 20.2                 | LOS B            | 5.9                                  | 41.8                           | 0.75         | 0.78                           | 33.6                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 198                  | 2.0     | 0.192            | 9.9                  | LOS A            | 1.9                                  | 13.8                           | 0.38         | 0.69                           | 40.4                  |
| 11                              | T    | 322                  | 2.0     | 0.586            | 19.1                 | LOS B            | 7.8                                  | 55.7                           | 0.91         | 0.77                           | 32.7                  |
| Approach                        |      | 520                  | 2.0     | 0.586            | 15.6                 | LOS B            | 7.8                                  | 55.7                           | 0.71         | 0.74                           | 35.3                  |
| All Vehicles                    |      | 1579                 | 2.0     | 0.586            | 16.7                 | LOS B            | 7.8                                  | 55.7                           | 0.74         | 0.72                           | 35.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 22.3                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| P7                                 | Across W approach | 53                   | 22.3                 | LOS C            | 0.1                                        | 0.1                            | 0.89         | 0.89                           |
| All Pedestrians                    |                   | 106                  | 22.3                 | LOS C            |                                            |                                | 0.89         | 0.89                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Base  
Thurs PM)

13S1210200

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 331                  | 2.0     | 0.368            | 11.2                 | LOS A            | 6.3                                  | 44.8                           | 0.69         | 0.59                           | 37.9                  |
| 3                               | R    | 304                  | 2.0     | 0.725            | 26.6                 | LOS B            | 8.3                                  | 59.0                           | 0.98         | 0.91                           | 30.5                  |
| Approach                        |      | 635                  | 2.0     | 0.725            | 18.6                 | LOS B            | 8.3                                  | 59.0                           | 0.83         | 0.74                           | 33.9                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 502                  | 2.0     | 0.514            | 16.2                 | LOS B            | 9.5                                  | 68.0                           | 0.69         | 0.80                           | 36.0                  |
| 6                               | R    | 476                  | 2.0     | 0.780            | 29.5                 | LOS C            | 14.1                                 | 100.6                          | 0.96         | 0.93                           | 29.2                  |
| Approach                        |      | 978                  | 2.0     | 0.780            | 22.7                 | LOS B            | 14.1                                 | 100.6                          | 0.82         | 0.86                           | 32.3                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 238                  | 2.0     | 0.221            | 9.8                  | LOS A            | 2.4                                  | 17.0                           | 0.37         | 0.70                           | 40.5                  |
| 8                               | T    | 224                  | 2.0     | 0.437            | 20.3                 | LOS B            | 5.6                                  | 40.0                           | 0.88         | 0.72                           | 32.2                  |
| Approach                        |      | 462                  | 2.0     | 0.437            | 14.9                 | LOS B            | 5.6                                  | 40.0                           | 0.61         | 0.71                           | 36.0                  |
| All Vehicles                    |      | 2075                 | 2.0     | 0.780            | 19.7                 | LOS B            | 14.1                                 | 100.6                          | 0.78         | 0.79                           | 33.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 12.0                 | LOS B            | 0.1                                        | 0.1                            | 0.63         | 0.63                           |
| P3                                 | Across E approach | 53                   | 24.3                 | LOS C            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| All Pedestrians                    |                   | 106                  | 18.2                 | LOS B            |                                            |                                | 0.77         | 0.77                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Base Sat)

13S1210200

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 50 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 362                  | 2.0     | 0.556            | 6.7                  | LOS A            | 5.3                                  | 37.9                           | 0.59         | 0.50                           | 41.3                  |
| 3                               | R    | 259                  | 2.0     | 0.556            | 17.4                 | LOS B            | 5.3                                  | 37.9                           | 0.86         | 0.82                           | 35.3                  |
| Approach                        |      | 621                  | 2.0     | 0.556            | 11.2                 | LOS A            | 5.3                                  | 37.9                           | 0.70         | 0.63                           | 38.6                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 304                  | 2.0     | 0.378            | 16.8                 | LOS B            | 5.1                                  | 36.3                           | 0.71         | 0.78                           | 35.6                  |
| 6                               | R    | 284                  | 2.0     | 0.776            | 31.0                 | LOS C            | 7.6                                  | 54.0                           | 1.00         | 0.95                           | 28.6                  |
| Approach                        |      | 588                  | 2.0     | 0.776            | 23.6                 | LOS B            | 7.6                                  | 54.0                           | 0.85         | 0.86                           | 31.9                  |
| North: Pendle Way               |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 271                  | 2.0     | 0.252            | 10.6                 | LOS A            | 2.8                                  | 20.0                           | 0.45         | 0.72                           | 39.9                  |
| 8                               | T    | 265                  | 2.0     | 0.431            | 14.9                 | LOS B            | 5.3                                  | 37.5                           | 0.83         | 0.70                           | 35.2                  |
| Approach                        |      | 536                  | 2.0     | 0.431            | 12.7                 | LOS A            | 5.3                                  | 37.5                           | 0.64         | 0.71                           | 37.4                  |
| All Vehicles                    |      | 1745                 | 2.0     | 0.776            | 15.9                 | LOS B            | 7.6                                  | 54.0                           | 0.73         | 0.73                           | 35.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 14.4                 | LOS B            | 0.1                                        | 0.1                            | 0.76         | 0.76                           |
| P3                                 | Across E approach | 53                   | 19.4                 | LOS B            | 0.1                                        | 0.1                            | 0.88         | 0.88                           |
| All Pedestrians                    |                   | 106                  | 16.9                 | LOS B            |                                            |                                | 0.82         | 0.82                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

Processed: Tuesday, 3 March 2015 5:03:14 PM

SIDRA INTERSECTION 5.1.13.2093

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13S1210200 Bonds Spinning Mills - 2027 Base Conditions.sip

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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Jones St  
(2027 Base Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Jones Street  
2027 Base Condition Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Berith Rd - S            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 51                   | 2.1     | 0.499            | 55.4                 | LOS D            | 2.8                                  | 19.8          | 0.84         | 0.73                           | 24.2                  |
| 5                               | T    | 21                   | 0.0     | 0.399            | 61.2                 | LOS E            | 5.2                                  | 36.8          | 0.96         | 0.75                           | 19.2                  |
| 6                               | R    | 60                   | 1.8     | 0.399            | 68.9                 | LOS E            | 5.2                                  | 36.8          | 0.96         | 0.78                           | 21.5                  |
| Approach                        |      | 132                  | 1.6     | 0.499            | 62.5                 | LOS E            | 5.2                                  | 36.8          | 0.91         | 0.76                           | 22.1                  |
| East: Gt Western Hwy - E        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 71                   | 0.0     | 0.574            | 23.0                 | LOS B            | 26.3                                 | 186.1         | 0.58         | 1.09                           | 45.4                  |
| 8                               | T    | 2153                 | 1.6     | 0.574            | 12.9                 | LOS A            | 26.5                                 | 188.1         | 0.58         | 0.53                           | 53.1                  |
| 9                               | R    | 136                  | 0.0     | 0.539            | 49.1                 | LOS D            | 6.7                                  | 46.7          | 0.98         | 0.79                           | 27.6                  |
| Approach                        |      | 2359                 | 1.5     | 0.574            | 15.3                 | LOS B            | 26.5                                 | 188.1         | 0.60         | 0.57                           | 50.6                  |
| North: Jones St - N             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 71                   | 0.0     | 0.360            | 38.8                 | LOS C            | 3.1                                  | 21.9          | 0.69         | 0.73                           | 29.0                  |
| 11                              | T    | 35                   | 0.0     | 0.767            | 72.0                 | LOS F            | 8.9                                  | 62.4          | 1.00         | 0.90                           | 17.4                  |
| 12                              | R    | 88                   | 1.2     | 0.767            | 79.8                 | LOS F            | 8.9                                  | 62.4          | 1.00         | 0.90                           | 19.6                  |
| Approach                        |      | 194                  | 0.5     | 0.767            | 63.4                 | LOS E            | 8.9                                  | 62.4          | 0.89         | 0.84                           | 21.8                  |
| West: Gt Western Hwy - W        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 53                   | 0.0     | 0.467            | 30.2                 | LOS C            | 19.8                                 | 140.5         | 0.65         | 1.05                           | 39.6                  |
| 2                               | T    | 1423                 | 2.0     | 0.467            | 20.1                 | LOS B            | 20.0                                 | 142.4         | 0.65         | 0.58                           | 45.7                  |
| 3                               | R    | 51                   | 2.1     | 0.483            | 83.0                 | LOS F            | 3.5                                  | 25.2          | 1.00         | 0.75                           | 19.0                  |
| Approach                        |      | 1526                 | 1.9     | 0.483            | 22.5                 | LOS B            | 20.0                                 | 142.4         | 0.66         | 0.60                           | 43.8                  |
| All Vehicles                    |      | 4211                 | 1.6     | 0.767            | 21.6                 | LOS B            | 26.5                                 | 188.1         | 0.65         | 0.60                           | 43.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 11.2                 | LOS B            | 0.1                                        | 0.1           | 0.40         | 0.40                           |
| P7                                 | Across N approach | 53                   | 19.0                 | LOS B            | 0.1                                        | 0.1           | 0.52         | 0.52                           |
| P1                                 | Across W approach | 53                   | 60.4                 | LOS F            | 0.2                                        | 0.2           | 0.93         | 0.93                           |
| All Pedestrians                    |                   | 159                  | 30.2                 | LOS D            |                                            |               | 0.62         | 0.62                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Jones St  
(2027 Base SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Jones Street  
2027 Base Condition Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Berith Rd - S            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L    | 75                | 1.4  | 0.694         | 56.3              | LOS D            | 4.2                            | 29.5       | 0.87         | 0.83                        | 21.2               |
| 5                               | T    | 18                | 0.0  | 0.569         | 63.0              | LOS E            | 5.5                            | 39.6       | 1.00         | 0.79                        | 21.1               |
| 6                               | R    | 69                | 3.0  | 0.569         | 69.1              | LOS E            | 5.5                            | 39.6       | 1.00         | 0.79                        | 18.9               |
| Approach                        |      | 162               | 1.9  | 0.694         | 62.5              | LOS E            | 5.5                            | 39.6       | 0.94         | 0.80                        | 20.2               |
| East: Gt Western Hwy - E        |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L    | 88                | 1.2  | 0.317         | 24.2              | LOS B            | 14.7                           | 105.5      | 0.65         | 1.04                        | 44.7               |
| 8                               | T    | 1119              | 3.1  | 0.317         | 17.2              | LOS B            | 16.2                           | 116.3      | 0.68         | 0.67                        | 47.8               |
| 9                               | R    | 97                | 3.3  | 0.408         | 49.3              | LOS D            | 4.7                            | 34.0       | 0.96         | 0.77                        | 27.5               |
| Approach                        |      | 1304              | 3.0  | 0.408         | 20.0              | LOS B            | 16.2                           | 116.3      | 0.70         | 0.70                        | 45.2               |
| North: Jones St - N             |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L    | 78                | 0.0  | 0.392         | 40.0              | LOS C            | 3.4                            | 23.8       | 0.73         | 0.74                        | 28.6               |
| 11                              | T    | 35                | 0.0  | 0.751         | 71.4              | LOS F            | 5.3                            | 37.7       | 1.00         | 0.87                        | 17.6               |
| 12                              | R    | 42                | 5.0  | 0.751         | 79.3              | LOS F            | 5.3                            | 37.7       | 1.00         | 0.87                        | 19.8               |
| Approach                        |      | 155               | 1.4  | 0.751         | 57.7              | LOS E            | 5.3                            | 37.7       | 0.87         | 0.81                        | 22.9               |
| West: Gt Western Hwy - W        |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L    | 33                | 0.0  | 0.428         | 26.4              | LOS B            | 16.5                           | 117.1      | 0.60         | 1.07                        | 42.4               |
| 2                               | T    | 1392              | 1.8  | 0.428         | 16.3              | LOS B            | 16.6                           | 118.2      | 0.60         | 0.54                        | 49.4               |
| 3                               | R    | 72                | 1.5  | 0.460         | 73.7              | LOS F            | 4.5                            | 32.0       | 0.99         | 0.77                        | 20.8               |
| Approach                        |      | 1496              | 1.8  | 0.460         | 19.3              | LOS B            | 16.6                           | 118.2      | 0.62         | 0.56                        | 46.7               |
| All Vehicles                    |      | 3117              | 2.3  | 0.751         | 23.7              | LOS B            | 16.6                           | 118.2      | 0.68         | 0.65                        | 41.4               |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |            |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate per ped |
| P3                                 | Across S approach | 53                | 10.8              | LOS B            | 0.1                                  | 0.1        | 0.41         | 0.41                        |
| P7                                 | Across N approach | 53                | 16.3              | LOS B            | 0.1                                  | 0.1        | 0.50         | 0.50                        |
| P1                                 | Across W approach | 53                | 58.2              | LOS E            | 0.2                                  | 0.2        | 0.95         | 0.95                        |
| All Pedestrians                    |                   | 159               | 28.4              | LOS C            |                                      |            | 0.62         | 0.62                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Dunmore St (2027 Base Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Dunmore Street  
2027 Base Condition Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Cumberland Hwy - S       |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L    | 58                | 0.0  | 0.780         | 45.4              | LOS D            | 40.5                           | 289.3      | 0.88         | 0.96                        | 29.5               |
| 2                               | T    | 2180              | 2.6  | 0.780         | 37.6              | LOS C            | 40.8                           | 292.2      | 0.88         | 0.80                        | 30.6               |
| 3                               | R    | 49                | 0.0  | 0.287         | 74.1              | LOS F            | 3.2                            | 22.7       | 0.97         | 0.75                        | 19.9               |
| Approach                        |      | 2287              | 2.5  | 0.780         | 38.6              | LOS C            | 40.8                           | 292.2      | 0.88         | 0.80                        | 30.2               |
| East: Dunmore St - E            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L    | 74                | 0.0  | 0.757         | 41.4              | LOS C            | 17.2                           | 121.4      | 0.76         | 0.87                        | 27.4               |
| 5                               | T    | 528               | 1.0  | 1.009         | 58.7              | LOS E            | 44.8                           | 315.1      | 0.87         | 0.92                        | 19.9               |
| 6                               | R    | 302               | 0.3  | 1.009         | 93.3              | LOS F            | 44.8                           | 315.1      | 1.00         | 1.20                        | 17.0               |
| Approach                        |      | 904               | 0.7  | 1.009         | 68.9              | LOS E            | 44.8                           | 315.1      | 0.91         | 1.01                        | 19.2               |
| North: Cumberland Hwy - N       |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L    | 347               | 1.2  | 0.579         | 25.4              | LOS B            | 8.9                            | 62.8       | 0.49         | 0.77                        | 37.3               |
| 8                               | T    | 2403              | 3.9  | 0.840         | 39.5              | LOS C            | 46.6                           | 337.0      | 0.92         | 0.85                        | 29.8               |
| 9                               | R    | 168               | 3.1  | 0.696         | 40.9              | LOS C            | 6.6                            | 47.2       | 1.00         | 0.85                        | 29.2               |
| Approach                        |      | 2919              | 3.5  | 0.840         | 37.9              | LOS C            | 46.6                           | 337.0      | 0.88         | 0.84                        | 30.5               |
| West: Dunmore St - W            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L    | 104               | 0.0  | 0.639         | 62.8              | LOS E            | 13.7                           | 96.4       | 0.96         | 0.83                        | 21.8               |
| 11                              | T    | 267               | 1.6  | 0.639         | 55.7              | LOS D            | 13.7                           | 96.4       | 0.97         | 0.81                        | 20.5               |
| 12                              | R    | 48                | 4.3  | 0.639         | 63.6              | LOS E            | 12.8                           | 91.3       | 0.97         | 0.83                        | 21.8               |
| Approach                        |      | 420               | 1.5  | 0.639         | 58.4              | LOS E            | 13.7                           | 96.4       | 0.97         | 0.82                        | 21.0               |
| All Vehicles                    |      | 6531              | 2.6  | 1.009         | 43.7              | LOS D            | 46.6                           | 337.0      | 0.89         | 0.85                        | 27.4               |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |            |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 39.4              | LOS D            | 0.2                                  | 0.2        | 0.75         | 0.75                        |
| P3                                 | Across E approach | 53                | 32.9              | LOS D            | 0.1                                  | 0.1        | 0.69         | 0.69                        |
| P5                                 | Across N approach | 53                | 58.5              | LOS E            | 0.2                                  | 0.2        | 0.91         | 0.91                        |
| P7                                 | Across W approach | 53                | 32.9              | LOS D            | 0.1                                  | 0.1        | 0.69         | 0.69                        |
| All Pedestrians                    |                   | 212               | 40.9              | LOS E            |                                      |            | 0.76         | 0.76                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Dunmore St (2027 Base SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Dunmore Street  
2027 Base Condition Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Cumberland Hwy - S       |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L    | 27                | 0.0  | 0.795         | 46.3              | LOS D            | 30.0                           | 214.3      | 0.90         | 0.96                        | 29.2               |
| 2                               | T    | 1655              | 2.7  | 0.795         | 38.5              | LOS C            | 30.1                           | 215.8      | 0.90         | 0.83                        | 30.2               |
| 3                               | R    | 81                | 1.3  | 0.636         | 76.1              | LOS F            | 5.3                            | 37.7       | 1.00         | 0.80                        | 19.5               |
| Approach                        |      | 1763              | 2.6  | 0.795         | 40.4              | LOS C            | 30.1                           | 215.8      | 0.90         | 0.83                        | 29.5               |
| East: Dunmore St - E            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L    | 63                | 3.3  | 0.641         | 34.2              | LOS C            | 8.3                            | 58.5       | 0.70         | 0.82                        | 30.0               |
| 5                               | T    | 289               | 0.4  | 1.068         | 79.3              | LOS F            | 43.3                           | 304.6      | 0.85         | 0.99                        | 16.6               |
| 6                               | R    | 313               | 0.7  | 1.068         | 135.4             | LOS F            | 43.3                           | 304.6      | 1.00         | 1.38                        | 13.0               |
| Approach                        |      | 665               | 0.8  | 1.068         | 101.4             | LOS F            | 43.3                           | 304.6      | 0.91         | 1.16                        | 15.2               |
| North: Cumberland Hwy - N       |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L    | 353               | 1.5  | 0.752         | 32.6              | LOS C            | 13.6                           | 96.5       | 0.70         | 0.82                        | 33.0               |
| 8                               | T    | 1725              | 2.4  | 0.811         | 39.4              | LOS C            | 31.5                           | 225.3      | 0.91         | 0.84                        | 29.9               |
| 9                               | R    | 131               | 0.0  | 0.651         | 39.9              | LOS C            | 5.0                            | 34.8       | 0.98         | 0.82                        | 29.6               |
| Approach                        |      | 2208              | 2.1  | 0.811         | 38.4              | LOS C            | 31.5                           | 225.3      | 0.88         | 0.84                        | 30.3               |
| West: Dunmore St - W            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L    | 111               | 0.0  | 0.620         | 57.2              | LOS E            | 13.2                           | 92.4       | 0.95         | 0.83                        | 23.0               |
| 11                              | T    | 243               | 0.4  | 0.620         | 49.7              | LOS D            | 13.2                           | 92.4       | 0.95         | 0.80                        | 21.7               |
| 12                              | R    | 84                | 1.3  | 0.620         | 57.2              | LOS E            | 12.1                           | 85.1       | 0.96         | 0.83                        | 23.1               |
| Approach                        |      | 438               | 0.5  | 0.620         | 53.0              | LOS D            | 13.2                           | 92.4       | 0.95         | 0.81                        | 22.3               |
| All Vehicles                    |      | 5075              | 1.9  | 1.068         | 48.6              | LOS D            | 43.3                           | 304.6      | 0.90         | 0.87                        | 25.8               |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |            |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 34.7              | LOS D            | 0.1                                  | 0.1        | 0.73         | 0.73                        |
| P3                                 | Across E approach | 53                | 32.6              | LOS D            | 0.1                                  | 0.1        | 0.71         | 0.71                        |
| P5                                 | Across N approach | 53                | 53.6              | LOS E            | 0.2                                  | 0.2        | 0.91         | 0.91                        |
| P7                                 | Across W approach | 53                | 32.6              | LOS D            | 0.1                                  | 0.1        | 0.71         | 0.71                        |
| All Pedestrians                    |                   | 212               | 38.3              | LOS D            |                                      |            | 0.76         | 0.76                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Smith St  
(2027 Base Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Smith Street  
2027 Base Condition Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Cumberland Hwy - S       |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 131                  | 0.8     | 0.667            | 18.5                 | LOS B            | 21.8                                 | 155.7                  | 0.45         | 0.96                           | 41.0                  |
| 2                               | T    | 2267                 | 2.6     | 0.667            | 9.2                  | LOS A            | 21.8                                 | 155.7                  | 0.41         | 0.38                           | 46.3                  |
| 3                               | R    | 64                   | 0.0     | 0.440            | 77.0                 | LOS F            | 4.4                                  | 30.5                   | 0.99         | 0.76                           | 19.2                  |
| Approach                        |      | 2462                 | 2.5     | 0.667            | 11.5                 | LOS A            | 21.8                                 | 155.7                  | 0.43         | 0.42                           | 44.4                  |
| East: Smith St - E              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 67                   | 0.0     | 0.527            | 64.0                 | LOS E            | 6.9                                  | 48.5                   | 0.93         | 0.79                           | 22.0                  |
| 5                               | T    | 280                  | 1.5     | 1.055            | 131.8                | LOS F            | 29.0                                 | 205.4                  | 0.99         | 1.24                           | 12.7                  |
| 6                               | R    | 34                   | 0.0     | 1.055            | 154.5                | LOS F            | 29.0                                 | 205.4                  | 1.00         | 1.34                           | 11.7                  |
| Approach                        |      | 381                  | 1.1     | 1.055            | 121.8                | LOS F            | 29.0                                 | 205.4                  | 0.98         | 1.17                           | 13.6                  |
| North: Cumberland Hwy - N       |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 49                   | 2.1     | 0.660            | 17.5                 | LOS B            | 19.9                                 | 144.0                  | 0.41         | 1.00                           | 41.8                  |
| 8                               | T    | 2313                 | 3.9     | 0.660            | 8.9                  | LOS A            | 19.9                                 | 144.0                  | 0.40         | 0.37                           | 46.7                  |
| 9                               | R    | 56                   | 1.9     | 0.387            | 76.7                 | LOS F            | 3.8                                  | 26.8                   | 0.99         | 0.75                           | 19.3                  |
| Approach                        |      | 2418                 | 3.8     | 0.660            | 10.6                 | LOS A            | 19.9                                 | 144.0                  | 0.41         | 0.39                           | 45.1                  |
| West: Smith St - W              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 36                   | 0.0     | 0.461            | 63.6                 | LOS E            | 5.9                                  | 42.1                   | 0.92         | 0.80                           | 22.3                  |
| 11                              | T    | 131                  | 4.0     | 0.923            | 72.6                 | LOS F            | 8.9                                  | 63.5                   | 0.96         | 0.88                           | 19.1                  |
| 12                              | R    | 41                   | 0.0     | 0.923            | 95.8                 | LOS F            | 8.9                                  | 63.5                   | 1.00         | 1.02                           | 16.9                  |
| Approach                        |      | 207                  | 2.5     | 0.923            | 75.6                 | LOS F            | 8.9                                  | 63.5                   | 0.96         | 0.89                           | 19.1                  |
| All Vehicles                    |      | 5468                 | 3.0     | 1.055            | 21.2                 | LOS B            | 29.0                                 | 205.4                  | 0.48         | 0.48                           | 36.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                        |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2                    | 0.92         | 0.92                           |
| P3                                 | Across E approach | 53                   | 13.7                 | LOS B            | 0.1                                        | 0.1                    | 0.44         | 0.44                           |
| P5                                 | Across N approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2                    | 0.92         | 0.92                           |
| P7                                 | Across W approach | 53                   | 13.7                 | LOS B            | 0.1                                        | 0.1                    | 0.44         | 0.44                           |
| All Pedestrians                    |                   | 212                  | 36.6                 | LOS D            |                                            |                        | 0.68         | 0.68                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Smith St  
(2027 Base SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Smith Street  
2027 Base Condition Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Cumberland Hwy - S       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 133                  | 0.8     | 0.518            | 20.1                 | LOS B            | 20.9                                 | 148.7         | 0.56         | 0.93                           | 39.9                  |
| 2                               | T    | 1836                 | 2.5     | 0.518            | 11.9                 | LOS A            | 21.0                                 | 150.3         | 0.56         | 0.51                           | 43.3                  |
| 3                               | R    | 64                   | 3.3     | 0.460            | 72.9                 | LOS F            | 4.1                                  | 29.4          | 1.00         | 0.76                           | 20.0                  |
| Approach                        |      | 2033                 | 2.4     | 0.518            | 14.4                 | LOS A            | 21.0                                 | 150.3         | 0.57         | 0.54                           | 41.5                  |
| East: Smith St - E              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 46                   | 2.3     | 0.189            | 49.7                 | LOS D            | 2.3                                  | 16.5          | 0.82         | 0.74                           | 25.4                  |
| 5                               | T    | 101                  | 0.0     | 0.663            | 63.0                 | LOS E            | 7.9                                  | 55.4          | 1.00         | 0.83                           | 21.0                  |
| 6                               | R    | 23                   | 0.0     | 0.663            | 71.0                 | LOS F            | 7.9                                  | 55.4          | 1.00         | 0.83                           | 21.0                  |
| Approach                        |      | 171                  | 0.6     | 0.663            | 60.4                 | LOS E            | 7.9                                  | 55.4          | 0.95         | 0.80                           | 22.1                  |
| North: Cumberland Hwy - N       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 48                   | 0.0     | 0.482            | 19.7                 | LOS B            | 18.8                                 | 134.3         | 0.54         | 0.97                           | 40.4                  |
| 8                               | T    | 1784                 | 2.6     | 0.482            | 11.5                 | LOS A            | 18.8                                 | 134.9         | 0.54         | 0.49                           | 43.8                  |
| 9                               | R    | 64                   | 0.0     | 0.449            | 72.7                 | LOS F            | 4.1                                  | 28.5          | 1.00         | 0.76                           | 20.0                  |
| Approach                        |      | 1897                 | 2.4     | 0.482            | 13.8                 | LOS A            | 18.8                                 | 134.9         | 0.55         | 0.51                           | 42.0                  |
| West: Smith St - W              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 28                   | 0.0     | 0.227            | 61.3                 | LOS E            | 2.9                                  | 20.1          | 0.92         | 0.76                           | 22.7                  |
| 11                              | T    | 95                   | 0.0     | 0.796            | 65.9                 | LOS E            | 7.8                                  | 55.1          | 0.98         | 0.85                           | 20.3                  |
| 12                              | R    | 42                   | 2.5     | 0.796            | 77.9                 | LOS F            | 7.8                                  | 55.1          | 1.00         | 0.90                           | 19.6                  |
| Approach                        |      | 165                  | 0.6     | 0.796            | 68.2                 | LOS E            | 7.8                                  | 55.1          | 0.97         | 0.85                           | 20.5                  |
| All Vehicles                    |      | 4265                 | 2.3     | 0.796            | 18.0                 | LOS B            | 21.0                                 | 150.3         | 0.59         | 0.55                           | 38.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 59.1                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| P3                                 | Across E approach | 53                   | 11.2                 | LOS B            | 0.1                                        | 0.1           | 0.42         | 0.42                           |
| P5                                 | Across N approach | 53                   | 59.1                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| P7                                 | Across W approach | 53                   | 11.2                 | LOS B            | 0.1                                        | 0.1           | 0.42         | 0.42                           |
| All Pedestrians                    |                   | 212                  | 35.2                 | LOS D            |                                            |               | 0.68         | 0.68                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Pendle Way/Gilba Rd (2027  
Base Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Gilba Road / Pendle Way  
2027 Base Condition Thursday PM Peak  
Giveaway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way - S           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 512                  | 0.8     | 0.277            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.67                           | 49.0                  |
| 2                               | T    | 226                  | 0.5     | 0.407            | 13.5                 | LOS A            | 2.3                                  | 16.3          | 0.63         | 0.92                           | 43.7                  |
| Approach                        |      | 738                  | 0.7     | 0.407            | 9.8                  | LOS A            | 2.3                                  | 16.3          | 0.19         | 0.75                           | 47.2                  |
| North: Pendle Way - N           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 8                               | T    | 173                  | 3.7     | 0.591            | 22.4                 | LOS B            | 4.2                                  | 30.2          | 0.70         | 1.08                           | 37.0                  |
| 9                               | R    | 60                   | 1.8     | 0.591            | 23.7                 | LOS B            | 4.2                                  | 30.2          | 0.70         | 1.08                           | 36.6                  |
| Approach                        |      | 233                  | 3.2     | 0.591            | 22.7                 | LOS B            | 4.2                                  | 30.2          | 0.70         | 1.08                           | 36.9                  |
| West: Gilba Rd - W              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 193                  | 0.5     | 0.252            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.66                           | 49.0                  |
| 12                              | R    | 272                  | 1.2     | 0.252            | 8.3                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.67                           | 48.9                  |
| Approach                        |      | 464                  | 0.9     | 0.252            | 8.2                  | NA               | 0.0                                  | 0.0           | 0.00         | 0.67                           | 48.9                  |
| All Vehicles                    |      | 1435                 | 1.2     | 0.591            | 11.4                 | NA               | 4.2                                  | 30.2          | 0.21         | 0.78                           | 45.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Wednesday, 4 March 2015 12:17:41 PM

SIDRA INTERSECTION 5.1.13.2093

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Pendle Way/Gilba Rd (2027  
Base SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Gilba Road / Pendle Way  
2027 Base Condition Saturday Peak  
Giveaway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                     |                         |                     |                                      |               |                 |                                   |                          |
|---------------------------------|------|----------------------|---------|---------------------|-------------------------|---------------------|--------------------------------------|---------------|-----------------|-----------------------------------|--------------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg.<br>Satn<br>v/c | Average<br>Delay<br>sec | Level of<br>Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop.<br>Queued | Effective<br>Stop Rate<br>per veh | Average<br>Speed<br>km/h |
| South: Pendle Way - S           |      |                      |         |                     |                         |                     |                                      |               |                 |                                   |                          |
| 1                               | L    | 332                  | 1.9     | 0.181               | 8.3                     | LOS A               | 0.0                                  | 0.0           | 0.00            | 0.67                              | 49.0                     |
| 2                               | T    | 231                  | 0.0     | 0.482               | 15.8                    | LOS B               | 2.7                                  | 18.9          | 0.69            | 0.98                              | 41.7                     |
| Approach                        |      | 562                  | 1.1     | 0.482               | 11.4                    | LOS A               | 2.7                                  | 18.9          | 0.28            | 0.80                              | 45.7                     |
| North: Pendle Way - N           |      |                      |         |                     |                         |                     |                                      |               |                 |                                   |                          |
| 8                               | T    | 172                  | 3.1     | 0.686               | 25.7                    | LOS B               | 5.2                                  | 37.3          | 0.78            | 1.22                              | 35.0                     |
| 9                               | R    | 85                   | 1.2     | 0.686               | 27.0                    | LOS B               | 5.2                                  | 37.3          | 0.78            | 1.18                              | 34.6                     |
| Approach                        |      | 257                  | 2.5     | 0.686               | 26.1                    | LOS B               | 5.2                                  | 37.3          | 0.78            | 1.20                              | 34.9                     |
| West: Gilba Rd - W              |      |                      |         |                     |                         |                     |                                      |               |                 |                                   |                          |
| 10                              | L    | 201                  | 1.0     | 0.274               | 8.2                     | LOS A               | 0.0                                  | 0.0           | 0.00            | 0.66                              | 49.0                     |
| 12                              | R    | 306                  | 0.3     | 0.274               | 8.2                     | LOS A               | 0.0                                  | 0.0           | 0.00            | 0.67                              | 48.9                     |
| Approach                        |      | 507                  | 0.6     | 0.274               | 8.2                     | NA                  | 0.0                                  | 0.0           | 0.00            | 0.67                              | 48.9                     |
| All Vehicles                    |      | 1326                 | 1.2     | 0.686               | 13.0                    | NA                  | 5.2                                  | 37.3          | 0.27            | 0.83                              | 44.2                     |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Wednesday, 4 March 2015 12:17:42 PM  
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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Goodall St/Wentworth Ave  
(2027 Base Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Goodall Street / Wentworth Avenue  
2027 Base Condition Thursday PM Peak  
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Goodall St - S           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 360                  | 1.5     | 0.610            | 15.7                 | LOS B            | 7.1                                  | 50.5          | 0.52         | 0.75                           | 37.4                  |
| 3                               | R    | 291                  | 0.7     | 0.832            | 51.9                 | LOS D            | 13.9                                 | 97.9          | 1.00         | 0.95                           | 23.1                  |
| Approach                        |      | 651                  | 1.1     | 0.832            | 31.9                 | LOS C            | 13.9                                 | 97.9          | 0.73         | 0.84                           | 29.3                  |
| East: Wentworth Ave - E         |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 367                  | 0.3     | 0.866            | 33.9                 | LOS C            | 11.6                                 | 81.6          | 0.84         | 0.87                           | 30.0                  |
| 5                               | T    | 382                  | 2.5     | 0.711            | 35.2                 | LOS C            | 15.8                                 | 113.2         | 0.98         | 0.85                           | 29.1                  |
| Approach                        |      | 749                  | 1.4     | 0.866            | 34.5                 | LOS C            | 15.8                                 | 113.2         | 0.91         | 0.86                           | 29.5                  |
| West: Wentworth Ave - W         |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 11                              | T    | 395                  | 2.4     | 0.540            | 6.4                  | LOS A            | 6.6                                  | 47.1          | 0.45         | 0.39                           | 49.1                  |
| 12                              | R    | 539                  | 2.0     | 0.649            | 32.4                 | LOS C            | 19.5                                 | 138.9         | 0.88         | 0.85                           | 30.7                  |
| Approach                        |      | 934                  | 2.1     | 0.649            | 21.4                 | LOS B            | 19.5                                 | 138.9         | 0.70         | 0.66                           | 36.7                  |
| All Vehicles                    |      | 2334                 | 1.6     | 0.866            | 28.6                 | LOS C            | 19.5                                 | 138.9         | 0.78         | 0.77                           | 31.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P7                                 | Across W approach | 53                   | 36.5                 | LOS D            | 0.1                                        | 0.1           | 0.90         | 0.90                           |
| All Pedestrians                    |                   | 53                   | 36.5                 | LOS D            |                                            |               | 0.90         | 0.90                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Goodall St/Wentworth Ave  
(2027 Base SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Goodall Street / Wentworth Avenue  
2027 Base Condition Saturday Peak  
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Goodall St - S           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 357                  | 1.5     | 0.605            | 16.6                 | LOS B            | 7.0                                  | 49.9                           | 0.51         | 0.77                           | 41.2                  |
| 3                               | R    | 263                  | 0.8     | 0.916            | 64.2                 | LOS E            | 14.2                                 | 100.2                          | 1.00         | 1.04                           | 21.7                  |
| Approach                        |      | 620                  | 1.2     | 0.916            | 36.8                 | LOS C            | 14.2                                 | 100.2                          | 0.72         | 0.88                           | 29.8                  |
| East: Wentworth Ave - E         |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 236                  | 0.4     | 0.576            | 23.9                 | LOS B            | 6.2                                  | 43.3                           | 0.64         | 0.77                           | 36.2                  |
| 5                               | T    | 358                  | 2.6     | 0.615            | 33.6                 | LOS C            | 14.2                                 | 101.7                          | 0.95         | 0.80                           | 29.8                  |
| Approach                        |      | 594                  | 1.8     | 0.615            | 29.7                 | LOS C            | 14.2                                 | 101.7                          | 0.83         | 0.79                           | 32.0                  |
| West: Wentworth Ave - W         |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 11                              | T    | 379                  | 2.5     | 0.468            | 4.8                  | LOS A            | 5.5                                  | 39.5                           | 0.38         | 0.32                           | 51.3                  |
| 12                              | R    | 371                  | 2.8     | 0.381            | 28.1                 | LOS B            | 11.3                                 | 80.8                           | 0.74         | 0.81                           | 33.9                  |
| Approach                        |      | 749                  | 2.7     | 0.468            | 16.3                 | LOS B            | 11.3                                 | 80.8                           | 0.56         | 0.56                           | 40.9                  |
| All Vehicles                    |      | 1963                 | 1.9     | 0.916            | 26.9                 | LOS B            | 14.2                                 | 101.7                          | 0.69         | 0.73                           | 34.0                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P7                                 | Across W approach | 53                   | 39.2                 | LOS D            | 0.1                                        | 0.1                            | 0.93         | 0.93                           |
| All Pedestrians                    |                   | 53                   | 39.2                 | LOS D            |                                            |                                | 0.93         | 0.93                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Pendle Way  
(2027 Base Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Pendle Way  
2027 Base Condition Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|--------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c   | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Ettalong Rd - S          |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 124                  | 0.8     | 0.606              | 53.5                 | LOS D            | 6.7                                  | 47.5          | 0.84         | 0.77                           | 24.2                  |
| 5                               | T    | 244                  | 0.9     | 1.099              | 111.6                | LOS F            | 25.1                                 | 176.2         | 1.00         | 1.05                           | 14.3                  |
| 6                               | R    | 123                  | 0.0     | 1.099              | 187.0                | LOS F            | 25.1                                 | 176.2         | 1.00         | 1.36                           | 9.9                   |
| Approach                        |      | 492                  | 0.6     | 1.099              | 115.8                | LOS F            | 25.1                                 | 176.2         | 0.96         | 1.06                           | 14.2                  |
| East: Gt Western Hwy - E        |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 261                  | 0.4     | 0.695              | 41.9                 | LOS C            | 32.3                                 | 228.9         | 0.82         | 0.95                           | 28.6                  |
| 8                               | T    | 1748                 | 2.0     | 0.695              | 31.3                 | LOS C            | 32.7                                 | 232.6         | 0.79         | 0.72                           | 30.8                  |
| 9                               | R    | 156                  | 1.3     | 1.000 <sup>3</sup> | 73.0                 | LOS F            | 10.4                                 | 73.4          | 1.00         | 0.80                           | 20.0                  |
| Approach                        |      | 2165                 | 1.8     | 1.000              | 35.6                 | LOS C            | 32.7                                 | 232.6         | 0.81         | 0.75                           | 29.4                  |
| North: Pendle Way - N           |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 91                   | 1.2     | 0.741              | 59.9                 | LOS E            | 17.5                                 | 123.7         | 0.96         | 0.88                           | 23.3                  |
| 11                              | T    | 316                  | 1.3     | 0.926              | 60.0                 | LOS E            | 34.7                                 | 248.5         | 0.98         | 0.91                           | 21.4                  |
| 12                              | R    | 328                  | 3.2     | 0.926              | 82.9                 | LOS F            | 34.7                                 | 248.5         | 1.00         | 1.01                           | 18.5                  |
| Approach                        |      | 735                  | 2.1     | 0.926              | 70.2                 | LOS E            | 34.7                                 | 248.5         | 0.99         | 0.95                           | 20.2                  |
| West: Gt Western Hwy - W        |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 133                  | 6.3     | 0.539              | 40.6                 | LOS C            | 21.2                                 | 152.8         | 0.80         | 0.89                           | 29.3                  |
| 2                               | T    | 1159                 | 2.4     | 0.539              | 32.2                 | LOS C            | 22.0                                 | 157.0         | 0.80         | 0.71                           | 30.4                  |
| 3                               | R    | 134                  | 0.8     | 0.633              | 73.8                 | LOS F            | 9.0                                  | 63.4          | 1.00         | 0.81                           | 19.9                  |
| Approach                        |      | 1425                 | 2.6     | 0.633              | 36.9                 | LOS C            | 22.0                                 | 157.0         | 0.82         | 0.73                           | 28.9                  |
| All Vehicles                    |      | 4817                 | 1.9     | 1.099              | 49.4                 | LOS D            | 34.7                                 | 248.5         | 0.85         | 0.81                           | 24.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

<sup>3</sup> x = 1.00 due to short lane. Refer to the Lane Summary report for information about excess flow and related conditions.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 31.6                 | LOS D            | 0.1                                        | 0.1           | 0.67         | 0.67                           |
| P5                                 | Across E approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2           | 0.92         | 0.92                           |
| P7                                 | Across N approach | 53                   | 29.6                 | LOS C            | 0.1                                        | 0.1           | 0.65         | 0.65                           |
| All Pedestrians                    |                   | 159                  | 40.2                 | LOS E            |                                            |               | 0.75         | 0.75                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Pendle Way  
(2027 Base SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Pendle Way  
2027 Base Condition Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|--------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c   | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Ettalong Rd - S          |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 77                   | 1.4     | 0.328              | 42.1                 | LOS C            | 3.4                                  | 24.4          | 0.75         | 0.75                           | 27.8                  |
| 5                               | T    | 195                  | 0.5     | 0.952              | 67.7                 | LOS E            | 18.4                                 | 129.8         | 0.98         | 0.89                           | 20.1                  |
| 6                               | R    | 163                  | 1.3     | 0.952              | 93.5                 | LOS F            | 18.4                                 | 129.8         | 1.00         | 1.11                           | 17.0                  |
| Approach                        |      | 435                  | 1.0     | 0.952              | 72.8                 | LOS F            | 18.4                                 | 129.8         | 0.95         | 0.95                           | 19.7                  |
| East: Gt Western Hwy - E        |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 171                  | 0.6     | 0.460              | 38.1                 | LOS C            | 15.0                                 | 106.5         | 0.81         | 0.90                           | 29.9                  |
| 8                               | T    | 908                  | 3.5     | 0.460              | 31.9                 | LOS C            | 17.2                                 | 123.7         | 0.81         | 0.71                           | 30.5                  |
| 9                               | R    | 168                  | 2.7     | 1.000 <sup>3</sup> | 66.0                 | LOS E            | 10.3                                 | 73.4          | 0.99         | 0.80                           | 21.3                  |
| Approach                        |      | 1247                 | 3.0     | 1.000              | 37.4                 | LOS C            | 17.2                                 | 123.7         | 0.83         | 0.75                           | 28.7                  |
| North: Pendle Way - N           |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 137                  | 3.1     | 0.660              | 43.1                 | LOS D            | 9.6                                  | 68.7          | 0.98         | 0.82                           | 28.0                  |
| 11                              | T    | 194                  | 0.5     | 0.825              | 50.6                 | LOS D            | 19.0                                 | 134.3         | 0.99         | 0.88                           | 23.4                  |
| 12                              | R    | 174                  | 1.8     | 0.825              | 69.7                 | LOS E            | 19.0                                 | 134.3         | 1.00         | 0.93                           | 20.9                  |
| Approach                        |      | 504                  | 1.7     | 0.825              | 55.2                 | LOS D            | 19.0                                 | 134.3         | 0.99         | 0.88                           | 23.5                  |
| West: Gt Western Hwy - W        |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 129                  | 1.6     | 0.595              | 43.0                 | LOS D            | 21.2                                 | 150.5         | 0.86         | 0.88                           | 28.4                  |
| 2                               | T    | 1154                 | 1.9     | 0.595              | 34.7                 | LOS C            | 21.8                                 | 155.4         | 0.86         | 0.76                           | 29.3                  |
| 3                               | R    | 105                  | 1.0     | 0.481              | 64.2                 | LOS E            | 6.2                                  | 44.0          | 0.96         | 0.78                           | 21.7                  |
| Approach                        |      | 1388                 | 1.8     | 0.595              | 37.7                 | LOS C            | 21.8                                 | 155.4         | 0.87         | 0.77                           | 28.5                  |
| All Vehicles                    |      | 3575                 | 2.1     | 1.000              | 44.3                 | LOS D            | 21.8                                 | 155.4         | 0.88         | 0.80                           | 26.3                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

<sup>3</sup> x = 1.00 due to short lane. Refer to the Lane Summary report for information about excess flow and related conditions.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 34.0                 | LOS D            | 0.1                                        | 0.1           | 0.72         | 0.72                           |
| P5                                 | Across E approach | 53                   | 59.1                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| P7                                 | Across N approach | 53                   | 31.9                 | LOS D            | 0.1                                        | 0.1           | 0.70         | 0.70                           |
| All Pedestrians                    |                   | 159                  | 41.7                 | LOS E            |                                            |               | 0.79         | 0.79                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

## Attachment 3C – SIDRA Output (2027 Post Development Thursday PM & Saturday Midday)

| Intersection                     | Peak | Leg        | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile (m) | Level of Service (LOS) |
|----------------------------------|------|------------|----------------------------|---------------------|---------------------------------|------------------------|
| Jones Street/<br>Rogers Street   | PM   | South      | 0.20                       | 9                   | 10                              | A                      |
|                                  |      | East       | 0.04                       | 9                   | 1                               | A                      |
|                                  |      | North      | 0.20                       | 7                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>0.20</b>                | <b>1</b>            | <b>10</b>                       | <b>A</b>               |
|                                  | Sat  | South      | 0.15                       | 8                   | 7                               | A                      |
|                                  |      | East       | 0.04                       | 8                   | 1                               | A                      |
|                                  |      | North      | 0.17                       | 7                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>0.17</b>                | <b>2</b>            | <b>7</b>                        | <b>A</b>               |
| Jones Street/<br>Oatlands Street | PM   | South      | 0.28                       | 10                  | 18                              | A                      |
|                                  |      | East       | 0.09                       | 11                  | 2                               | A                      |
|                                  |      | North      | 0.25                       | 7                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>0.27</b>                | <b>2</b>            | <b>17</b>                       | <b>A</b>               |
|                                  | Sat  | South      | 0.25                       | 10                  | 16                              | A                      |
|                                  |      | East       | 0.08                       | 12                  | 2                               | A                      |
|                                  |      | North      | 0.28                       | 7                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>0.28</b>                | <b>2</b>            | <b>16</b>                       | <b>A</b>               |
| Jones Street/<br>Smith Street    | PM   | South      | 0.53                       | 15                  | 30                              | B                      |
|                                  |      | East       | 0.52                       | 12                  | 27                              | A                      |
|                                  |      | North      | 0.42                       | 10                  | 21                              | A                      |
|                                  |      | West       | 0.29                       | 13                  | 12                              | A                      |
|                                  |      | <b>All</b> | <b>0.53</b>                | <b>9</b>            | <b>30</b>                       | <b>A</b>               |
|                                  | Sat  | South      | 0.36                       | 12                  | 16                              | A                      |
|                                  |      | East       | 0.31                       | 12                  | 13                              | A                      |
|                                  |      | North      | 0.49                       | 11                  | 27                              | A                      |
|                                  |      | West       | 0.27                       | 12                  | 11                              | A                      |
|                                  |      | <b>All</b> | <b>0.49</b>                | <b>8</b>            | <b>27</b>                       | <b>A</b>               |
| Jones Street/<br>Dunmore Street  | PM   | South      | 0.79                       | 31                  | 68                              | C                      |
|                                  |      | East       | 0.92                       | 27                  | 165                             | B                      |
|                                  |      | North      | 0.15                       | 14                  | 6                               | A                      |
|                                  |      | West       | 0.57                       | 10                  | 37                              | A                      |
|                                  |      | <b>All</b> | <b>0.92</b>                | <b>19</b>           | <b>165</b>                      | <b>B</b>               |
|                                  | Sat  | South      | 0.39                       | 14                  | 18                              | A                      |
|                                  |      | East       | 0.61                       | 13                  | 40                              | A                      |
|                                  |      | North      | 0.14                       | 14                  | 6                               | A                      |
|                                  |      | West       | 0.56                       | 10                  | 37                              | A                      |
|                                  |      | <b>All</b> | <b>0.61</b>                | <b>9</b>            | <b>40</b>                       | <b>A</b>               |

| Intersection                              | Peak | Leg        | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile (m) | Level of Service (LOS) |
|-------------------------------------------|------|------------|----------------------------|---------------------|---------------------------------|------------------------|
| Goodall Street/<br>Dunmore Street         | PM   | East       | 0.86                       | 21                  | 96                              | B                      |
|                                           |      | North      | 0.87                       | 28                  | 117                             | B                      |
|                                           |      | West       | 0.76                       | 19                  | 83                              | B                      |
|                                           |      | <b>All</b> | <b>0.87</b>                | <b>23</b>           | <b>117</b>                      | <b>B</b>               |
|                                           | Sat  | East       | 0.64                       | 15                  | 64                              | B                      |
|                                           |      | North      | 0.64                       | 26                  | 56                              | B                      |
|                                           |      | West       | 0.62                       | 17                  | 90                              | B                      |
|                                           |      | <b>All</b> | <b>0.64</b>                | <b>19</b>           | <b>90</b>                       | <b>B</b>               |
| Pendle Way/<br>Dunmore Street             | PM   | South      | 0.77                       | 22                  | 71                              | B                      |
|                                           |      | East       | 0.82                       | 24                  | 128                             | B                      |
|                                           |      | North      | 0.47                       | 16                  | 45                              | B                      |
|                                           |      | <b>All</b> | <b>0.82</b>                | <b>22</b>           | <b>128</b>                      | <b>B</b>               |
|                                           | Sat  | South      | 0.68                       | 15                  | 49                              | B                      |
|                                           |      | East       | 0.81                       | 25                  | 86                              | B                      |
|                                           |      | North      | 0.47                       | 14                  | 43                              | A                      |
|                                           |      | <b>All</b> | <b>0.81</b>                | <b>18</b>           | <b>86</b>                       | <b>B</b>               |
| Great Western<br>Highway/ Jones<br>Street | PM   | South      | 0.50                       | 63                  | 37                              | E                      |
|                                           |      | East       | 0.81                       | 17                  | 188                             | B                      |
|                                           |      | North      | 0.87                       | 66                  | 74                              | E                      |
|                                           |      | West       | 0.48                       | 23                  | 147                             | B                      |
|                                           |      | <b>All</b> | <b>0.87</b>                | <b>23</b>           | <b>188</b>                      | <b>B</b>               |
|                                           | Sat  | South      | 0.69                       | 63                  | 40                              | E                      |
|                                           |      | East       | 0.66                       | 22                  | 116                             | B                      |
|                                           |      | North      | 1.13                       | 116                 | 93                              | F                      |
|                                           |      | West       | 0.46                       | 20                  | 122                             | B                      |
|                                           |      | <b>All</b> | <b>1.13</b>                | <b>30</b>           | <b>122</b>                      | <b>C</b>               |
| Cumberland<br>Highway/<br>Dunmore Street  | PM   | South      | 0.79                       | 39                  | 301                             | C                      |
|                                           |      | East       | 1.03                       | 77                  | 330                             | F                      |
|                                           |      | North      | 0.84                       | 39                  | 337                             | C                      |
|                                           |      | West       | 0.70                       | 60                  | 107                             | E                      |
|                                           |      | <b>All</b> | <b>1.03</b>                | <b>46</b>           | <b>337</b>                      | <b>D</b>               |
|                                           | Sat  | South      | 0.72                       | 33                  | 192                             | C                      |
|                                           |      | East       | 1.10                       | 115                 | 323                             | F                      |
|                                           |      | North      | 0.76                       | 32                  | 192                             | C                      |
|                                           |      | West       | 0.72                       | 56                  | 111                             | D                      |
|                                           |      | <b>All</b> | <b>1.10</b>                | <b>45</b>           | <b>323</b>                      | <b>D</b>               |

| Intersection                     | Peak | Leg        | Degree of Saturation (DOS) | Average Delay (sec) | 95 <sup>th</sup> Percentile (m) | Level of Service (LOS) |
|----------------------------------|------|------------|----------------------------|---------------------|---------------------------------|------------------------|
| Cumberland Highway/ Smith Street | PM   | South      | 0.68                       | 12                  | 178                             | A                      |
|                                  |      | East       | 1.04                       | 116                 | 200                             | F                      |
|                                  |      | North      | 0.66                       | 11                  | 146                             | A                      |
|                                  |      | West       | 1.11                       | 125                 | 95                              | F                      |
|                                  |      | <b>All</b> | <b>1.11</b>                | <b>23</b>           | <b>200</b>                      | <b>B</b>               |
|                                  | Sat  | South      | 0.54                       | 15                  | 159                             | B                      |
|                                  |      | East       | 0.65                       | 60                  | 55                              | E                      |
|                                  |      | North      | 0.49                       | 14                  | 138                             | A                      |
|                                  |      | West       | 1.14                       | 161                 | 119                             | F                      |
|                                  |      | <b>All</b> | <b>1.14</b>                | <b>23</b>           | <b>159</b>                      | <b>B</b>               |
| Pendle Way/ Gilba Road           | PM   | South      | 0.93                       | 50                  | 58                              | D                      |
|                                  |      | North      | 1.61                       | 611                 | 438                             | F                      |
|                                  |      | West       | 0.30                       | 8                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>1.61</b>                | <b>103</b>          | <b>438</b>                      | <b>F</b>               |
|                                  | Sat  | South      | 1.16                       | 205                 | 190                             | F                      |
|                                  |      | North      | 2.06                       | 1015                | 632                             | F                      |
|                                  |      | West       | 0.34                       | 8                   | 0                               | A                      |
|                                  |      | <b>All</b> | <b>2.06</b>                | <b>201</b>          | <b>632</b>                      | <b>F</b>               |
| Goodall Street/ Wentworth Avenue | PM   | South      | 0.92                       | 38                  | 122                             | C                      |
|                                  |      | East       | 0.97                       | 33                  | 113                             | C                      |
|                                  |      | West       | 0.65                       | 21                  | 139                             | B                      |
|                                  |      | <b>All</b> | <b>0.97</b>                | <b>30</b>           | <b>139</b>                      | <b>C</b>               |
|                                  | Sat  | South      | 1.13                       | 97                  | 233                             | F                      |
|                                  |      | East       | 0.73                       | 31                  | 102                             | C                      |
|                                  |      | West       | 0.47                       | 16                  | 81                              | B                      |
|                                  |      | <b>All</b> | <b>1.13</b>                | <b>47</b>           | <b>233</b>                      | <b>D</b>               |
| Cumberland Highway/ Pendle Way   | PM   | South      | 1.10                       | 116                 | 176                             | F                      |
|                                  |      | East       | 1.00                       | 36                  | 233                             | C                      |
|                                  |      | North      | 0.93                       | 71                  | 253                             | F                      |
|                                  |      | West       | 0.63                       | 37                  | 159                             | C                      |
|                                  |      | <b>All</b> | <b>1.10</b>                | <b>50</b>           | <b>253</b>                      | <b>D</b>               |
|                                  | Sat  | South      | 0.95                       | 73                  | 130                             | F                      |
|                                  |      | East       | 1.00                       | 37                  | 124                             | C                      |
|                                  |      | North      | 0.85                       | 57                  | 140                             | E                      |
|                                  |      | West       | 0.60                       | 38                  | 157                             | C                      |
|                                  |      | <b>All</b> | <b>1.00</b>                | <b>45</b>           | <b>157</b>                      | <b>D</b>               |

# MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Post  
Dev Thurs PM)

13S1210200  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 344                  | 2.0     | 0.196            | 1.7                  | LOS A            | 1.5                                  | 10.4                           | 0.51         | 0.00                           | 44.1                  |
| 3                               | R    | 21                   | 2.0     | 0.196            | 8.5                  | LOS A            | 1.5                                  | 10.4                           | 0.51         | 0.89                           | 43.0                  |
| Approach                        |      | 365                  | 2.0     | 0.196            | 2.1                  | NA               | 1.5                                  | 10.4                           | 0.51         | 0.05                           | 44.0                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 25                   | 2.0     | 0.039            | 8.6                  | LOS A            | 0.1                                  | 1.0                            | 0.45         | 0.63                           | 41.4                  |
| 6                               | R    | 11                   | 2.0     | 0.039            | 8.9                  | LOS A            | 0.1                                  | 1.0                            | 0.45         | 0.78                           | 41.3                  |
| Approach                        |      | 36                   | 2.0     | 0.039            | 8.7                  | LOS A            | 0.1                                  | 1.0                            | 0.45         | 0.67                           | 41.4                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 9                    | 2.0     | 0.197            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.91                           | 43.3                  |
| 8                               | T    | 369                  | 2.0     | 0.197            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 379                  | 2.0     | 0.197            | 0.2                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.02                           | 49.8                  |
| All Vehicles                    |      | 780                  | 2.0     | 0.197            | 1.4                  | NA               | 1.5                                  | 10.4                           | 0.26         | 0.07                           | 46.5                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Rogers (2027 Post Dev Sat)

13S1210200  
Jones Street-Rogers Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 260                  | 2.0     | 0.152            | 1.3                  | LOS A            | 1.0                                  | 7.3                            | 0.45         | 0.00                           | 44.7                  |
| 3                               | R    | 22                   | 2.0     | 0.152            | 8.1                  | LOS A            | 1.0                                  | 7.3                            | 0.45         | 0.87                           | 43.0                  |
| Approach                        |      | 282                  | 2.0     | 0.152            | 1.8                  | NA               | 1.0                                  | 7.3                            | 0.45         | 0.07                           | 44.5                  |
| East: Rogers Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 29                   | 2.0     | 0.041            | 8.1                  | LOS A            | 0.2                                  | 1.1                            | 0.40         | 0.61                           | 41.8                  |
| 6                               | R    | 13                   | 2.0     | 0.041            | 8.4                  | LOS A            | 0.2                                  | 1.1                            | 0.40         | 0.74                           | 41.7                  |
| Approach                        |      | 42                   | 2.0     | 0.041            | 8.2                  | LOS A            | 0.2                                  | 1.1                            | 0.40         | 0.65                           | 41.8                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 21                   | 2.0     | 0.169            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.89                           | 43.3                  |
| 8                               | T    | 303                  | 2.0     | 0.169            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 324                  | 2.0     | 0.169            | 0.4                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.06                           | 49.5                  |
| All Vehicles                    |      | 648                  | 2.0     | 0.169            | 1.5                  | NA               | 1.0                                  | 7.3                            | 0.22         | 0.10                           | 46.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Post  
Dev Thurs PM)

13S1210200  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 511                  | 2.0     | 0.282            | 2.7                  | LOS A            | 2.6                                  | 18.3                           | 0.64         | 0.00                           | 42.8                  |
| 3                               | R    | 19                   | 2.0     | 0.282            | 9.5                  | LOS A            | 2.6                                  | 18.3                           | 0.64         | 0.94                           | 42.6                  |
| Approach                        |      | 529                  | 2.0     | 0.282            | 2.9                  | NA               | 2.6                                  | 18.3                           | 0.64         | 0.03                           | 42.8                  |
| East: Oatlands Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 29                   | 2.0     | 0.089            | 10.8                 | LOS A            | 0.3                                  | 2.2                            | 0.56         | 0.71                           | 39.6                  |
| 6                               | R    | 25                   | 2.0     | 0.089            | 11.2                 | LOS A            | 0.3                                  | 2.2                            | 0.56         | 0.86                           | 39.5                  |
| Approach                        |      | 55                   | 2.0     | 0.089            | 11.0                 | LOS A            | 0.3                                  | 2.2                            | 0.56         | 0.78                           | 39.5                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 25                   | 2.0     | 0.254            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 463                  | 2.0     | 0.254            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 488                  | 2.0     | 0.254            | 0.3                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.05                           | 49.6                  |
| All Vehicles                    |      | 1073                 | 2.0     | 0.282            | 2.2                  | NA               | 2.6                                  | 18.3                           | 0.34         | 0.08                           | 45.5                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Oatlands (2027 Post  
Dev Sat)

13S1210200  
Jones Street-Oatlands Street  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 2                               | T    | 441                  | 2.0     | 0.252            | 2.9                  | LOS A            | 2.3                                  | 16.2                           | 0.64         | 0.00                           | 42.8                  |
| 3                               | R    | 24                   | 2.0     | 0.252            | 9.7                  | LOS A            | 2.3                                  | 16.2                           | 0.64         | 0.94                           | 42.4                  |
| Approach                        |      | 465                  | 2.0     | 0.252            | 3.3                  | NA               | 2.3                                  | 16.2                           | 0.64         | 0.05                           | 42.8                  |
| East: Oatland Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 17                   | 2.0     | 0.078            | 11.4                 | LOS A            | 0.3                                  | 1.9                            | 0.60         | 0.73                           | 39.1                  |
| 6                               | R    | 26                   | 2.0     | 0.078            | 11.8                 | LOS A            | 0.3                                  | 1.9                            | 0.60         | 0.86                           | 39.0                  |
| Approach                        |      | 43                   | 2.0     | 0.078            | 11.7                 | LOS A            | 0.3                                  | 1.9                            | 0.60         | 0.81                           | 39.0                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 31                   | 2.0     | 0.275            | 6.5                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.90                           | 43.3                  |
| 8                               | T    | 497                  | 2.0     | 0.275            | 0.0                  | LOS A            | 0.0                                  | 0.0                            | 0.00         | 0.00                           | 50.0                  |
| Approach                        |      | 527                  | 2.0     | 0.275            | 0.4                  | NA               | 0.0                                  | 0.0                            | 0.00         | 0.05                           | 49.6                  |
| All Vehicles                    |      | 1036                 | 2.0     | 0.275            | 2.1                  | NA               | 2.3                                  | 16.2                           | 0.31         | 0.08                           | 45.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Smith (2027 Post Dev  
Thurs PM)

13S1210200  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 35                   | 2.0     | 0.525            | 11.6                 | LOS A            | 4.2                                  | 29.6                   | 0.79         | 0.92                           | 39.4                  |
| 2                               | T    | 303                  | 2.0     | 0.525            | 10.6                 | LOS A            | 4.2                                  | 29.6                   | 0.79         | 0.89                           | 39.7                  |
| 3                               | R    | 35                   | 2.0     | 0.525            | 14.7                 | LOS B            | 4.2                                  | 29.6                   | 0.79         | 0.97                           | 37.9                  |
| Approach                        |      | 373                  | 2.0     | 0.525            | 11.1                 | LOS A            | 4.2                                  | 29.6                   | 0.79         | 0.90                           | 39.5                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 69                   | 2.0     | 0.515            | 8.4                  | LOS A            | 3.8                                  | 27.3                   | 0.65         | 0.72                           | 41.5                  |
| 5                               | T    | 249                  | 2.0     | 0.515            | 7.5                  | LOS A            | 3.8                                  | 27.3                   | 0.65         | 0.67                           | 41.5                  |
| 6                               | R    | 151                  | 2.0     | 0.515            | 11.5                 | LOS A            | 3.8                                  | 27.3                   | 0.65         | 0.80                           | 39.8                  |
| Approach                        |      | 469                  | 2.0     | 0.515            | 8.9                  | LOS A            | 3.8                                  | 27.3                   | 0.65         | 0.72                           | 40.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 184                  | 2.0     | 0.420            | 7.3                  | LOS A            | 3.0                                  | 21.4                   | 0.50         | 0.62                           | 42.0                  |
| 8                               | T    | 178                  | 2.0     | 0.420            | 6.4                  | LOS A            | 3.0                                  | 21.4                   | 0.50         | 0.56                           | 42.2                  |
| 9                               | R    | 71                   | 2.0     | 0.420            | 10.4                 | LOS A            | 3.0                                  | 21.4                   | 0.50         | 0.74                           | 40.5                  |
| Approach                        |      | 433                  | 2.0     | 0.420            | 7.4                  | LOS A            | 3.0                                  | 21.4                   | 0.50         | 0.62                           | 41.8                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 72                   | 2.0     | 0.291            | 9.8                  | LOS A            | 1.7                                  | 12.4                   | 0.69         | 0.80                           | 40.7                  |
| 11                              | T    | 118                  | 2.0     | 0.291            | 8.8                  | LOS A            | 1.7                                  | 12.4                   | 0.69         | 0.76                           | 41.0                  |
| 12                              | R    | 14                   | 2.0     | 0.291            | 12.9                 | LOS A            | 1.7                                  | 12.4                   | 0.69         | 0.87                           | 38.9                  |
| Approach                        |      | 203                  | 2.0     | 0.291            | 9.4                  | LOS A            | 1.7                                  | 12.4                   | 0.69         | 0.78                           | 40.7                  |
| All Vehicles                    |      | 1478                 | 2.0     | 0.525            | 9.1                  | LOS A            | 4.2                                  | 29.6                   | 0.65         | 0.74                           | 40.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Jones-Smith (2027 Post Dev Sat)

13S1210200  
Jones Street-Smith Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 24                   | 2.0     | 0.364            | 8.6                  | LOS A            | 2.3                                  | 16.2                   | 0.60         | 0.73                           | 41.8                  |
| 2                               | T    | 241                  | 2.0     | 0.364            | 7.6                  | LOS A            | 2.3                                  | 16.2                   | 0.60         | 0.68                           | 41.9                  |
| 3                               | R    | 40                   | 2.0     | 0.364            | 11.6                 | LOS A            | 2.3                                  | 16.2                   | 0.60         | 0.83                           | 39.8                  |
| Approach                        |      | 305                  | 2.0     | 0.364            | 8.2                  | LOS A            | 2.3                                  | 16.2                   | 0.60         | 0.70                           | 41.6                  |
| East: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 21                   | 2.0     | 0.306            | 8.6                  | LOS A            | 1.8                                  | 13.1                   | 0.60         | 0.72                           | 41.4                  |
| 5                               | T    | 99                   | 2.0     | 0.306            | 7.6                  | LOS A            | 1.8                                  | 13.1                   | 0.60         | 0.67                           | 41.6                  |
| 6                               | R    | 129                  | 2.0     | 0.306            | 11.7                 | LOS A            | 1.8                                  | 13.1                   | 0.60         | 0.80                           | 39.5                  |
| Approach                        |      | 249                  | 2.0     | 0.306            | 9.8                  | LOS A            | 1.8                                  | 13.1                   | 0.60         | 0.74                           | 40.5                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 187                  | 2.0     | 0.491            | 7.5                  | LOS A            | 3.8                                  | 26.7                   | 0.54         | 0.64                           | 41.9                  |
| 8                               | T    | 235                  | 2.0     | 0.491            | 6.6                  | LOS A            | 3.8                                  | 26.7                   | 0.54         | 0.58                           | 42.0                  |
| 9                               | R    | 84                   | 2.0     | 0.491            | 10.6                 | LOS A            | 3.8                                  | 26.7                   | 0.54         | 0.74                           | 40.4                  |
| Approach                        |      | 506                  | 2.0     | 0.491            | 7.6                  | LOS A            | 3.8                                  | 26.7                   | 0.54         | 0.63                           | 41.7                  |
| West: Smith Street              |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 74                   | 2.0     | 0.274            | 9.1                  | LOS A            | 1.6                                  | 11.2                   | 0.62         | 0.75                           | 41.2                  |
| 11                              | T    | 118                  | 2.0     | 0.274            | 8.1                  | LOS A            | 1.6                                  | 11.2                   | 0.62         | 0.70                           | 41.6                  |
| 12                              | R    | 18                   | 2.0     | 0.274            | 12.2                 | LOS A            | 1.6                                  | 11.2                   | 0.62         | 0.84                           | 39.4                  |
| Approach                        |      | 209                  | 2.0     | 0.274            | 8.8                  | LOS A            | 1.6                                  | 11.2                   | 0.62         | 0.73                           | 41.3                  |
| All Vehicles                    |      | 1271                 | 2.0     | 0.491            | 8.4                  | LOS A            | 3.8                                  | 26.7                   | 0.58         | 0.69                           | 41.3                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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**INTERSECTION**

# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Post  
Dev Thurs PM)

13S1210200  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 1                               | L    | 237                  | 2.0     | 0.790            | 28.0                 | LOS B            | 9.6                                  | 68.3                   | 1.00         | 1.30                           | 29.8                  |
| 2                               | T    | 62                   | 2.0     | 0.790            | 27.1                 | LOS B            | 9.6                                  | 68.3                   | 1.00         | 1.30                           | 29.9                  |
| 3                               | R    | 56                   | 2.0     | 0.790            | 31.1                 | LOS C            | 9.6                                  | 68.3                   | 1.00         | 1.30                           | 29.1                  |
| Approach                        |      | 355                  | 2.0     | 0.790            | 28.4                 | LOS B            | 9.6                                  | 68.3                   | 1.00         | 1.30                           | 29.7                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 4                               | L    | 106                  | 2.0     | 0.919            | 23.7                 | LOS B            | 23.2                                 | 165.4                  | 1.00         | 1.30                           | 32.1                  |
| 5                               | T    | 691                  | 2.0     | 0.919            | 22.8                 | LOS B            | 23.2                                 | 165.4                  | 1.00         | 1.30                           | 32.2                  |
| 6                               | R    | 26                   | 2.0     | 0.919            | 26.8                 | LOS B            | 23.2                                 | 165.4                  | 1.00         | 1.30                           | 31.3                  |
| Approach                        |      | 823                  | 2.0     | 0.919            | 23.0                 | LOS B            | 23.2                                 | 165.4                  | 1.00         | 1.30                           | 32.1                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 7                               | L    | 14                   | 2.0     | 0.146            | 10.4                 | LOS A            | 0.8                                  | 5.8                    | 0.69         | 0.78                           | 39.9                  |
| 8                               | T    | 21                   | 2.0     | 0.146            | 9.4                  | LOS A            | 0.8                                  | 5.8                    | 0.69         | 0.74                           | 40.2                  |
| 9                               | R    | 56                   | 2.0     | 0.146            | 13.5                 | LOS A            | 0.8                                  | 5.8                    | 0.69         | 0.83                           | 38.2                  |
| Approach                        |      | 91                   | 2.0     | 0.146            | 12.1                 | LOS A            | 0.8                                  | 5.8                    | 0.69         | 0.80                           | 38.9                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                        |              |                                |                       |
| 10                              | L    | 66                   | 2.0     | 0.567            | 7.3                  | LOS A            | 5.2                                  | 37.1                   | 0.58         | 0.62                           | 41.7                  |
| 11                              | T    | 312                  | 2.0     | 0.567            | 6.4                  | LOS A            | 5.2                                  | 37.1                   | 0.58         | 0.56                           | 41.8                  |
| 12                              | R    | 238                  | 2.0     | 0.567            | 10.4                 | LOS A            | 5.2                                  | 37.1                   | 0.58         | 0.71                           | 40.4                  |
| Approach                        |      | 616                  | 2.0     | 0.567            | 8.0                  | LOS A            | 5.2                                  | 37.1                   | 0.58         | 0.63                           | 41.2                  |
| All Vehicles                    |      | 1884                 | 2.0     | 0.919            | 18.6                 | LOS B            | 23.2                                 | 165.4                  | 0.85         | 1.06                           | 34.4                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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**INTERSECTION**



# MOVEMENT SUMMARY

Site: Jones-Dunmore (2027 Post Dev Sat)

13S1210200  
Jones Street-Dunmore Street  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 176                  | 2.0     | 0.394            | 10.5                 | LOS A            | 2.5                                  | 18.1                           | 0.77         | 0.85                           | 39.9                  |
| 2                               | T    | 23                   | 2.0     | 0.394            | 9.5                  | LOS A            | 2.5                                  | 18.1                           | 0.77         | 0.82                           | 40.1                  |
| 3                               | R    | 60                   | 2.0     | 0.394            | 13.5                 | LOS A            | 2.5                                  | 18.1                           | 0.77         | 0.89                           | 38.2                  |
| Approach                        |      | 259                  | 2.0     | 0.394            | 11.1                 | LOS A            | 2.5                                  | 18.1                           | 0.77         | 0.85                           | 39.5                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 65                   | 2.0     | 0.614            | 9.9                  | LOS A            | 5.7                                  | 40.3                           | 0.73         | 0.81                           | 40.7                  |
| 5                               | T    | 469                  | 2.0     | 0.614            | 9.0                  | LOS A            | 5.7                                  | 40.3                           | 0.73         | 0.77                           | 41.0                  |
| 6                               | R    | 18                   | 2.0     | 0.614            | 13.0                 | LOS A            | 5.7                                  | 40.3                           | 0.73         | 0.88                           | 39.0                  |
| Approach                        |      | 553                  | 2.0     | 0.614            | 9.2                  | LOS A            | 5.7                                  | 40.3                           | 0.73         | 0.78                           | 40.9                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 19                   | 2.0     | 0.144            | 11.1                 | LOS A            | 0.8                                  | 5.7                            | 0.72         | 0.80                           | 39.4                  |
| 8                               | T    | 25                   | 2.0     | 0.144            | 10.2                 | LOS A            | 0.8                                  | 5.7                            | 0.72         | 0.76                           | 39.7                  |
| 9                               | R    | 40                   | 2.0     | 0.144            | 14.2                 | LOS A            | 0.8                                  | 5.7                            | 0.72         | 0.86                           | 37.8                  |
| Approach                        |      | 84                   | 2.0     | 0.144            | 12.3                 | LOS A            | 0.8                                  | 5.7                            | 0.72         | 0.82                           | 38.7                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 40                   | 2.0     | 0.556            | 6.9                  | LOS A            | 5.1                                  | 36.5                           | 0.47         | 0.58                           | 42.1                  |
| 11                              | T    | 396                  | 2.0     | 0.556            | 5.9                  | LOS A            | 5.1                                  | 36.5                           | 0.47         | 0.51                           | 42.3                  |
| 12                              | R    | 222                  | 2.0     | 0.556            | 9.9                  | LOS A            | 5.1                                  | 36.5                           | 0.47         | 0.70                           | 40.6                  |
| Approach                        |      | 658                  | 2.0     | 0.556            | 7.3                  | LOS A            | 5.1                                  | 36.5                           | 0.47         | 0.58                           | 41.7                  |
| All Vehicles                    |      | 1554                 | 2.0     | 0.614            | 8.9                  | LOS A            | 5.7                                  | 40.3                           | 0.63         | 0.71                           | 40.9                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027 Post Dev Thurs PM)

13S1210200

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 60 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 5                               | T    | 608                  | 2.0     | 0.709            | 12.5                 | LOS A            | 13.5                                 | 96.2                           | 0.78         | 0.71                           | 36.8                  |
| 6                               | R    | 340                  | 2.0     | 0.857            | 37.4                 | LOS C            | 10.2                                 | 72.8                           | 1.00         | 1.13                           | 26.3                  |
| Approach                        |      | 948                  | 2.0     | 0.857            | 21.4                 | LOS B            | 13.5                                 | 96.2                           | 0.86         | 0.86                           | 32.2                  |
| North: Goodall Street           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 7                               | L    | 335                  | 2.0     | 0.585            | 15.1                 | LOS B            | 5.6                                  | 40.1                           | 0.61         | 0.76                           | 36.7                  |
| 9                               | R    | 476                  | 2.0     | 0.866            | 37.0                 | LOS C            | 16.5                                 | 117.4                          | 1.00         | 1.03                           | 26.4                  |
| Approach                        |      | 811                  | 2.0     | 0.866            | 28.0                 | LOS B            | 16.5                                 | 117.4                          | 0.84         | 0.92                           | 29.9                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 10                              | L    | 277                  | 2.0     | 0.269            | 10.7                 | LOS A            | 3.2                                  | 22.6                           | 0.42         | 0.71                           | 39.8                  |
| 11                              | T    | 391                  | 2.0     | 0.761            | 25.0                 | LOS B            | 11.7                                 | 83.1                           | 0.98         | 0.93                           | 29.9                  |
| Approach                        |      | 667                  | 2.0     | 0.761            | 19.0                 | LOS B            | 11.7                                 | 83.1                           | 0.75         | 0.84                           | 33.3                  |
| All Vehicles                    |      | 2426                 | 2.0     | 0.866            | 23.0                 | LOS B            | 16.5                                 | 117.4                          | 0.82         | 0.87                           | 31.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P5                                 | Across N approach | 53                   | 24.3                 | LOS C            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| P7                                 | Across W approach | 53                   | 22.5                 | LOS C            | 0.1                                        | 0.1                            | 0.87         | 0.87                           |
| All Pedestrians                    |                   | 106                  | 23.4                 | LOS C            |                                            |                                | 0.88         | 0.88                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Goodall (2027 Post Dev Sat)

13S1210200

Dunmore Street-Goodall Street

Signals - Fixed Time Cycle Time = 70 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 5                               | T    | 489               | 2.0  | 0.545         | 8.1               | LOS A            | 8.9                            | 63.7                     | 0.58         | 0.51                        | 40.4               |
| 6                               | R    | 301               | 2.0  | 0.643         | 27.1              | LOS B            | 8.7                            | 62.2                     | 0.95         | 0.89                        | 30.3               |
| Approach                        |      | 791               | 2.0  | 0.643         | 15.3              | LOS B            | 8.9                            | 63.7                     | 0.72         | 0.65                        | 35.8               |
| North: Goodall Street           |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 294               | 2.0  | 0.638         | 20.1              | LOS B            | 6.6                            | 47.1                     | 0.69         | 0.78                        | 33.7               |
| 9                               | R    | 251               | 2.0  | 0.599         | 33.4              | LOS C            | 7.9                            | 56.4                     | 0.95         | 0.82                        | 27.7               |
| Approach                        |      | 544               | 2.0  | 0.638         | 26.2              | LOS B            | 7.9                            | 56.4                     | 0.81         | 0.80                        | 30.7               |
| West: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 10                              | L    | 198               | 2.0  | 0.203         | 11.1              | LOS A            | 2.9                            | 20.6                     | 0.47         | 0.73                        | 39.5               |
| 11                              | T    | 475               | 2.0  | 0.622         | 18.7              | LOS B            | 12.6                           | 89.7                     | 0.85         | 0.73                        | 33.0               |
| Approach                        |      | 673               | 2.0  | 0.622         | 16.5              | LOS B            | 12.6                           | 89.7                     | 0.74         | 0.73                        | 34.7               |
| All Vehicles                    |      | 2007              | 2.0  | 0.643         | 18.6              | LOS B            | 12.6                           | 89.7                     | 0.75         | 0.72                        | 33.9               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P5                                 | Across N approach | 53                | 20.8              | LOS C            | 0.1                                  | 0.1                      | 0.77         | 0.77                        |
| P7                                 | Across W approach | 53                | 29.3              | LOS C            | 0.1                                  | 0.1                      | 0.91         | 0.91                        |
| All Pedestrians                    |                   | 106               | 25.0              | LOS C            |                                      |                          | 0.84         | 0.84                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Post Dev Thurs PM)

13S1210200

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 65 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 2                               | T    | 331               | 2.0  | 0.372         | 12.3              | LOS A            | 6.9                            | 48.9                     | 0.69         | 0.59                        | 37.1               |
| 3                               | R    | 329               | 2.0  | 0.773         | 32.1              | LOS C            | 9.9                            | 70.5                     | 0.99         | 1.01                        | 28.2               |
| Approach                        |      | 660               | 2.0  | 0.773         | 22.2              | LOS B            | 9.9                            | 70.5                     | 0.84         | 0.80                        | 32.0               |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 4                               | L    | 517               | 2.0  | 0.496         | 15.5              | LOS B            | 9.9                            | 70.4                     | 0.64         | 0.79                        | 36.4               |
| 6                               | R    | 534               | 2.0  | 0.824         | 32.8              | LOS C            | 18.0                           | 128.3                    | 0.98         | 0.96                        | 27.9               |
| Approach                        |      | 1051              | 2.0  | 0.824         | 24.3              | LOS B            | 18.0                           | 128.3                    | 0.81         | 0.88                        | 31.5               |
| North: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 325               | 2.0  | 0.315         | 10.5              | LOS A            | 3.8                            | 27.3                     | 0.40         | 0.71                        | 40.0               |
| 8                               | T    | 224               | 2.0  | 0.473         | 23.2              | LOS B            | 6.3                            | 44.6                     | 0.90         | 0.74                        | 30.7               |
| Approach                        |      | 549               | 2.0  | 0.473         | 15.7              | LOS B            | 6.3                            | 44.6                     | 0.60         | 0.72                        | 35.6               |
| All Vehicles                    |      | 2260              | 2.0  | 0.824         | 21.6              | LOS B            | 18.0                           | 128.3                    | 0.77         | 0.82                        | 32.6               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 11.1              | LOS B            | 0.1                                  | 0.1                      | 0.58         | 0.58                        |
| P3                                 | Across E approach | 53                | 26.8              | LOS C            | 0.1                                  | 0.1                      | 0.91         | 0.91                        |
| All Pedestrians                    |                   | 106               | 18.9              | LOS B            |                                      |                          | 0.75         | 0.75                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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# MOVEMENT SUMMARY

Site: Dunmore-Pendle (2027 Post Dev Sat)

13S1210200

Dunmore Street-Pendle Way

Signals - Fixed Time Cycle Time = 55 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|--------------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 2                               | T    | 362               | 2.0  | 0.369         | 8.9               | LOS A            | 5.9                            | 42.3                     | 0.64         | 0.55                        | 39.6               |
| 3                               | R    | 289               | 2.0  | 0.675         | 23.2              | LOS B            | 6.9                            | 49.4                     | 0.96         | 0.87                        | 32.1               |
| Approach                        |      | 652               | 2.0  | 0.675         | 15.2              | LOS B            | 6.9                            | 49.4                     | 0.79         | 0.70                        | 35.9               |
| East: Dunmore Street            |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 4                               | L    | 335               | 2.0  | 0.372         | 16.0              | LOS B            | 5.7                            | 40.4                     | 0.66         | 0.77                        | 36.1               |
| 6                               | R    | 406               | 2.0  | 0.814         | 32.0              | LOS C            | 12.0                           | 85.6                     | 0.99         | 0.98                        | 28.2               |
| Approach                        |      | 741               | 2.0  | 0.814         | 24.8              | LOS B            | 12.0                           | 85.6                     | 0.84         | 0.88                        | 31.3               |
| North: Pendle Way               |      |                   |      |               |                   |                  |                                |                          |              |                             |                    |
| 7                               | L    | 393               | 2.0  | 0.365         | 10.5              | LOS A            | 4.4                            | 31.3                     | 0.45         | 0.73                        | 39.9               |
| 8                               | T    | 265               | 2.0  | 0.474         | 17.8              | LOS B            | 6.0                            | 43.1                     | 0.87         | 0.73                        | 33.5               |
| Approach                        |      | 658               | 2.0  | 0.474         | 13.5              | LOS A            | 6.0                            | 43.1                     | 0.62         | 0.73                        | 37.0               |
| All Vehicles                    |      | 2051              | 2.0  | 0.814         | 18.1              | LOS B            | 12.0                           | 85.6                     | 0.75         | 0.77                        | 34.4               |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                    |                          |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------|--------------------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Pedestrian | Back of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 13.1              | LOS B            | 0.1                | 0.1                      | 0.69         | 0.69                        |
| P3                                 | Across E approach | 53                | 21.8              | LOS C            | 0.1                | 0.1                      | 0.89         | 0.89                        |
| All Pedestrians                    |                   | 106               | 17.5              | LOS B            |                    |                          | 0.79         | 0.79                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

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**SIDRA**  
**INTERSECTION**

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Jones St  
(2027 Post Dev Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Jones Street  
Post Development 2027 Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Berith Rd - S            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 51                   | 2.1     | 0.499            | 55.4                 | LOS D            | 2.8                                  | 19.8          | 0.84         | 0.73                           | 24.2                  |
| 5                               | T    | 21                   | 0.0     | 0.405            | 61.3                 | LOS E            | 5.2                                  | 36.9          | 0.96         | 0.76                           | 19.2                  |
| 6                               | R    | 60                   | 1.8     | 0.405            | 69.0                 | LOS E            | 5.2                                  | 36.9          | 0.96         | 0.78                           | 21.5                  |
| Approach                        |      | 132                  | 1.6     | 0.499            | 62.6                 | LOS E            | 5.2                                  | 36.9          | 0.91         | 0.76                           | 22.1                  |
| East: Gt Western Hwy - E        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 71                   | 0.0     | 0.574            | 23.0                 | LOS B            | 26.3                                 | 186.1         | 0.58         | 1.09                           | 45.4                  |
| 8                               | T    | 2153                 | 1.6     | 0.574            | 12.9                 | LOS A            | 26.5                                 | 188.1         | 0.58         | 0.53                           | 53.1                  |
| 9                               | R    | 203                  | 0.0     | 0.806            | 55.0                 | LOS D            | 11.1                                 | 77.8          | 1.00         | 0.87                           | 25.6                  |
| Approach                        |      | 2426                 | 1.4     | 0.806            | 16.7                 | LOS B            | 26.5                                 | 188.1         | 0.62         | 0.58                           | 49.1                  |
| North: Jones St - N             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 100                  | 0.0     | 0.512            | 39.4                 | LOS C            | 4.5                                  | 31.6          | 0.71         | 0.75                           | 28.8                  |
| 11                              | T    | 35                   | 0.0     | 0.869            | 78.7                 | LOS F            | 10.5                                 | 74.2          | 1.00         | 1.00                           | 16.5                  |
| 12                              | R    | 103                  | 1.0     | 0.869            | 86.4                 | LOS F            | 10.5                                 | 74.2          | 1.00         | 1.00                           | 18.6                  |
| Approach                        |      | 238                  | 0.4     | 0.869            | 65.5                 | LOS E            | 10.5                                 | 74.2          | 0.88         | 0.89                           | 21.5                  |
| West: Gt Western Hwy - W        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 86                   | 0.0     | 0.478            | 31.0                 | LOS C            | 20.5                                 | 145.8         | 0.67         | 1.04                           | 39.1                  |
| 2                               | T    | 1423                 | 2.0     | 0.478            | 20.4                 | LOS B            | 20.7                                 | 147.3         | 0.66         | 0.59                           | 45.3                  |
| 3                               | R    | 51                   | 2.1     | 0.483            | 83.0                 | LOS F            | 3.5                                  | 25.2          | 1.00         | 0.75                           | 19.0                  |
| Approach                        |      | 1560                 | 1.9     | 0.483            | 23.1                 | LOS B            | 20.7                                 | 147.3         | 0.67         | 0.62                           | 43.4                  |
| All Vehicles                    |      | 4356                 | 1.5     | 0.869            | 23.1                 | LOS B            | 26.5                                 | 188.1         | 0.66         | 0.62                           | 42.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 11.2                 | LOS B            | 0.1                                        | 0.1           | 0.40         | 0.40                           |
| P7                                 | Across N approach | 53                   | 19.0                 | LOS B            | 0.1                                        | 0.1           | 0.52         | 0.52                           |
| P1                                 | Across W approach | 53                   | 60.4                 | LOS F            | 0.2                                        | 0.2           | 0.93         | 0.93                           |
| All Pedestrians                    |                   | 159                  | 30.2                 | LOS D            |                                            |               | 0.62         | 0.62                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Jones St  
(2027 Post Dev SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Jones Street  
Post Development 2027 Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Berith Rd - S            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 75                   | 1.4     | 0.694            | 56.3                 | LOS D            | 4.2                                  | 29.5          | 0.87         | 0.83                           | 21.2                  |
| 5                               | T    | 18                   | 0.0     | 0.577            | 63.2                 | LOS E            | 5.6                                  | 39.7          | 1.00         | 0.79                           | 21.1                  |
| 6                               | R    | 69                   | 3.0     | 0.577            | 69.3                 | LOS E            | 5.6                                  | 39.7          | 1.00         | 0.79                           | 18.9                  |
| Approach                        |      | 162                  | 1.9     | 0.694            | 62.6                 | LOS E            | 5.6                                  | 39.7          | 0.94         | 0.81                           | 20.2                  |
| East: Gt Western Hwy - E        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 88                   | 1.2     | 0.317            | 24.2                 | LOS B            | 14.7                                 | 105.5         | 0.65         | 1.04                           | 44.7                  |
| 8                               | T    | 1119                 | 3.1     | 0.317            | 17.2                 | LOS B            | 16.2                                 | 116.3         | 0.68         | 0.67                           | 47.8                  |
| 9                               | R    | 159                  | 2.0     | 0.664            | 57.4                 | LOS E            | 8.0                                  | 56.8          | 1.00         | 0.86                           | 24.9                  |
| Approach                        |      | 1366                 | 2.9     | 0.664            | 22.3                 | LOS B            | 16.2                                 | 116.3         | 0.71         | 0.72                           | 43.1                  |
| North: Jones St - N             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 140                  | 0.0     | 0.706            | 45.2                 | LOS D            | 6.8                                  | 47.8          | 0.76         | 0.82                           | 27.0                  |
| 11                              | T    | 35                   | 0.0     | 1.130            | 202.4                | LOS F            | 13.1                                 | 93.2          | 1.00         | 1.38                           | 8.3                   |
| 12                              | R    | 73                   | 2.9     | 1.130            | 210.2                | LOS F            | 13.1                                 | 93.2          | 1.00         | 1.38                           | 9.6                   |
| Approach                        |      | 247                  | 0.9     | 1.130            | 115.7                | LOS F            | 13.1                                 | 93.2          | 0.87         | 1.06                           | 14.8                  |
| West: Gt Western Hwy - W        |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 63                   | 0.0     | 0.438            | 26.6                 | LOS B            | 16.9                                 | 119.9         | 0.61         | 1.06                           | 42.3                  |
| 2                               | T    | 1392                 | 1.8     | 0.438            | 16.4                 | LOS B            | 17.2                                 | 122.0         | 0.61         | 0.54                           | 49.2                  |
| 3                               | R    | 72                   | 1.5     | 0.460            | 73.7                 | LOS F            | 4.5                                  | 32.0          | 0.99         | 0.77                           | 20.8                  |
| Approach                        |      | 1526                 | 1.7     | 0.460            | 19.5                 | LOS B            | 17.2                                 | 122.0         | 0.63         | 0.58                           | 46.4                  |
| All Vehicles                    |      | 3302                 | 2.1     | 1.130            | 30.0                 | LOS C            | 17.2                                 | 122.0         | 0.70         | 0.68                           | 37.1                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 10.8                 | LOS B            | 0.1                                        | 0.1           | 0.41         | 0.41                           |
| P7                                 | Across N approach | 53                   | 16.3                 | LOS B            | 0.1                                        | 0.1           | 0.50         | 0.50                           |
| P1                                 | Across W approach | 53                   | 58.2                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| All Pedestrians                    |                   | 159                  | 28.4                 | LOS C            |                                            |               | 0.62         | 0.62                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Dunmore St (2027 Post Dev Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Dunmore Street  
Post Development 2027 Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Cumberland Hwy - S       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 93                   | 0.0     | 0.794            | 46.7                 | LOS D            | 41.8                                 | 298.3         | 0.90         | 0.94                           | 28.9                  |
| 2                               | T    | 2180                 | 2.6     | 0.794            | 38.2                 | LOS C            | 42.1                                 | 301.3         | 0.89         | 0.81                           | 30.3                  |
| 3                               | R    | 49                   | 0.0     | 0.287            | 74.1                 | LOS F            | 3.2                                  | 22.7          | 0.97         | 0.75                           | 19.9                  |
| Approach                        |      | 2322                 | 2.4     | 0.794            | 39.3                 | LOS C            | 42.1                                 | 301.3         | 0.89         | 0.82                           | 29.9                  |
| East: Dunmore St - E            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 74                   | 0.0     | 0.771            | 42.3                 | LOS C            | 17.9                                 | 125.9         | 0.76         | 0.88                           | 27.1                  |
| 5                               | T    | 528                  | 1.0     | 1.028            | 64.5                 | LOS E            | 46.8                                 | 329.7         | 0.87         | 0.94                           | 18.9                  |
| 6                               | R    | 302                  | 0.3     | 1.028            | 106.1                | LOS F            | 46.8                                 | 329.7         | 1.00         | 1.24                           | 15.5                  |
| Approach                        |      | 904                  | 0.7     | 1.028            | 76.6                 | LOS F            | 46.8                                 | 329.7         | 0.91         | 1.04                           | 18.0                  |
| North: Cumberland Hwy - N       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 347                  | 1.2     | 0.579            | 25.4                 | LOS B            | 8.9                                  | 62.8          | 0.49         | 0.77                           | 37.3                  |
| 8                               | T    | 2403                 | 3.9     | 0.840            | 39.5                 | LOS C            | 46.6                                 | 337.0         | 0.92         | 0.85                           | 29.8                  |
| 9                               | R    | 203                  | 2.6     | 0.832            | 54.8                 | LOS D            | 10.1                                 | 72.4          | 1.00         | 0.93                           | 24.4                  |
| Approach                        |      | 2954                 | 3.5     | 0.840            | 38.9                 | LOS C            | 46.6                                 | 337.0         | 0.88         | 0.85                           | 30.1                  |
| West: Dunmore St - W            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 119                  | 0.0     | 0.696            | 63.9                 | LOS E            | 15.2                                 | 107.0         | 0.97         | 0.85                           | 21.6                  |
| 11                              | T    | 267                  | 1.6     | 0.696            | 57.1                 | LOS E            | 15.2                                 | 107.0         | 0.98         | 0.84                           | 20.1                  |
| 12                              | R    | 63                   | 3.3     | 0.696            | 65.3                 | LOS E            | 13.8                                 | 98.3          | 0.99         | 0.86                           | 21.5                  |
| Approach                        |      | 449                  | 1.4     | 0.696            | 60.0                 | LOS E            | 15.2                                 | 107.0         | 0.98         | 0.84                           | 20.7                  |
| All Vehicles                    |      | 6629                 | 2.6     | 1.028            | 45.6                 | LOS D            | 46.8                                 | 337.0         | 0.89         | 0.86                           | 26.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 39.4                 | LOS D            | 0.2                                        | 0.2           | 0.75         | 0.75                           |
| P3                                 | Across E approach | 53                   | 32.9                 | LOS D            | 0.1                                        | 0.1           | 0.69         | 0.69                           |
| P5                                 | Across N approach | 53                   | 58.5                 | LOS E            | 0.2                                        | 0.2           | 0.91         | 0.91                           |
| P7                                 | Across W approach | 53                   | 32.9                 | LOS D            | 0.1                                        | 0.1           | 0.69         | 0.69                           |
| All Pedestrians                    |                   | 212                  | 40.9                 | LOS E            |                                            |               | 0.76         | 0.76                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Dunmore St (2027 Post Dev SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Dunmore Street  
Post Development 2027 Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|------|-------------------|------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | Turn | Demand Flow veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Cumberland Hwy - S       |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L    | 58                | 0.0  | 0.722         | 38.9              | LOS C            | 26.7                           | 190.5      | 0.81         | 0.98                        | 32.2               |
| 2                               | T    | 1655              | 2.7  | 0.722         | 31.0              | LOS C            | 26.8                           | 192.2      | 0.80         | 0.74                        | 33.8               |
| 3                               | R    | 81                | 1.3  | 0.636         | 76.1              | LOS F            | 5.3                            | 37.7       | 1.00         | 0.80                        | 19.5               |
| Approach                        |      | 1794              | 2.5  | 0.722         | 33.3              | LOS C            | 26.8                           | 192.2      | 0.81         | 0.75                        | 32.7               |
| East: Dunmore St - E            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L    | 63                | 3.3  | 0.657         | 34.4              | LOS C            | 8.5                            | 60.5       | 0.70         | 0.82                        | 29.9               |
| 5                               | T    | 289               | 0.4  | 1.095         | 88.1              | LOS F            | 45.9                           | 323.1      | 0.85         | 1.01                        | 15.5               |
| 6                               | R    | 313               | 0.7  | 1.095         | 156.3             | LOS F            | 45.9                           | 323.1      | 1.00         | 1.44                        | 11.6               |
| Approach                        |      | 665               | 0.8  | 1.095         | 115.0             | LOS F            | 45.9                           | 323.1      | 0.91         | 1.20                        | 13.9               |
| North: Cumberland Hwy - N       |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L    | 353               | 1.5  | 0.752         | 32.6              | LOS C            | 13.6                           | 96.5       | 0.70         | 0.82                        | 33.0               |
| 8                               | T    | 1725              | 2.4  | 0.721         | 30.8              | LOS C            | 26.8                           | 191.7      | 0.80         | 0.74                        | 34.0               |
| 9                               | R    | 161               | 0.0  | 0.758         | 41.4              | LOS C            | 6.2                            | 43.6       | 1.00         | 0.88                        | 28.9               |
| Approach                        |      | 2239              | 2.1  | 0.758         | 31.9              | LOS C            | 26.8                           | 191.7      | 0.80         | 0.76                        | 33.4               |
| West: Dunmore St - W            |      |                   |      |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L    | 141               | 0.0  | 0.719         | 58.7              | LOS E            | 15.9                           | 111.2      | 0.97         | 0.86                        | 22.6               |
| 11                              | T    | 243               | 0.4  | 0.719         | 52.2              | LOS D            | 15.9                           | 111.2      | 0.98         | 0.85                        | 21.1               |
| 12                              | R    | 116               | 0.9  | 0.719         | 60.7              | LOS E            | 14.3                           | 100.4      | 0.99         | 0.88                        | 22.3               |
| Approach                        |      | 500               | 0.4  | 0.719         | 56.0              | LOS D            | 15.9                           | 111.2      | 0.98         | 0.86                        | 21.8               |
| All Vehicles                    |      | 5198              | 1.9  | 1.095         | 45.3              | LOS D            | 45.9                           | 323.1      | 0.83         | 0.82                        | 26.9               |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                   |                   |                  |                                      |            |              |                             |
|------------------------------------|-------------------|-------------------|-------------------|------------------|--------------------------------------|------------|--------------|-----------------------------|
| Mov ID                             | Description       | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back of Queue Pedestrian ped | Distance m | Prop. Queued | Effective Stop Rate per ped |
| P1                                 | Across S approach | 53                | 34.7              | LOS D            | 0.1                                  | 0.1        | 0.73         | 0.73                        |
| P3                                 | Across E approach | 53                | 28.4              | LOS C            | 0.1                                  | 0.1        | 0.66         | 0.66                        |
| P5                                 | Across N approach | 53                | 53.6              | LOS E            | 0.2                                  | 0.2        | 0.91         | 0.91                        |
| P7                                 | Across W approach | 53                | 28.4              | LOS C            | 0.1                                  | 0.1        | 0.66         | 0.66                        |
| All Pedestrians                    |                   | 212               | 36.3              | LOS D            |                                      |            | 0.74         | 0.74                        |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Smith St  
(2027 Post Dev Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Smith Street  
Post Development 2027 Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Cumberland Hwy - S       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 176                  | 0.6     | 0.690            | 19.8                 | LOS B            | 24.9                                 | 177.5         | 0.50         | 0.94                           | 40.0                  |
| 2                               | T    | 2301                 | 2.6     | 0.690            | 9.7                  | LOS A            | 24.9                                 | 177.5         | 0.44         | 0.41                           | 45.7                  |
| 3                               | R    | 64                   | 0.0     | 0.440            | 77.0                 | LOS F            | 4.4                                  | 30.5          | 0.99         | 0.76                           | 19.2                  |
| Approach                        |      | 2541                 | 2.4     | 0.690            | 12.1                 | LOS A            | 24.9                                 | 177.5         | 0.46         | 0.45                           | 43.7                  |
| East: Smith St - E              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 67                   | 0.0     | 0.521            | 63.9                 | LOS E            | 6.8                                  | 47.9          | 0.93         | 0.79                           | 22.1                  |
| 5                               | T    | 280                  | 1.5     | 1.042            | 124.5                | LOS F            | 28.2                                 | 199.8         | 0.99         | 1.22                           | 13.2                  |
| 6                               | R    | 34                   | 0.0     | 1.042            | 145.4                | LOS F            | 28.2                                 | 199.8         | 1.00         | 1.31                           | 12.3                  |
| Approach                        |      | 381                  | 1.1     | 1.042            | 115.7                | LOS F            | 28.2                                 | 199.8         | 0.98         | 1.15                           | 14.1                  |
| North: Cumberland Hwy - N       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 49                   | 2.1     | 0.664            | 17.6                 | LOS B            | 20.2                                 | 145.9         | 0.42         | 1.00                           | 41.8                  |
| 8                               | T    | 2327                 | 3.9     | 0.664            | 8.9                  | LOS A            | 20.2                                 | 145.9         | 0.40         | 0.37                           | 46.6                  |
| 9                               | R    | 56                   | 1.9     | 0.387            | 76.7                 | LOS F            | 3.8                                  | 26.8          | 0.99         | 0.75                           | 19.3                  |
| Approach                        |      | 2433                 | 3.8     | 0.664            | 10.7                 | LOS A            | 20.2                                 | 145.9         | 0.42         | 0.39                           | 45.1                  |
| West: Smith St - W              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 36                   | 0.0     | 0.555            | 65.1                 | LOS E            | 7.2                                  | 51.3          | 0.94         | 0.80                           | 22.1                  |
| 11                              | T    | 131                  | 4.0     | 1.110            | 108.3                | LOS F            | 13.4                                 | 95.0          | 0.96         | 0.94                           | 14.6                  |
| 12                              | R    | 60                   | 0.0     | 1.110            | 198.6                | LOS F            | 13.4                                 | 95.0          | 1.00         | 1.26                           | 9.4                   |
| Approach                        |      | 226                  | 2.3     | 1.110            | 125.4                | LOS F            | 13.4                                 | 95.0          | 0.97         | 1.01                           | 13.3                  |
| All Vehicles                    |      | 5581                 | 2.9     | 1.110            | 23.2                 | LOS B            | 28.2                                 | 199.8         | 0.50         | 0.50                           | 35.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2           | 0.92         | 0.92                           |
| P3                                 | Across E approach | 53                   | 13.7                 | LOS B            | 0.1                                        | 0.1           | 0.44         | 0.44                           |
| P5                                 | Across N approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2           | 0.92         | 0.92                           |
| P7                                 | Across W approach | 53                   | 13.7                 | LOS B            | 0.1                                        | 0.1           | 0.44         | 0.44                           |
| All Pedestrians                    |                   | 212                  | 36.6                 | LOS D            |                                            |               | 0.68         | 0.68                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Cumberland Hwy/Smith St  
(2027 Post Dev SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Cumberland Highway / Smith Street  
Post Development 2027 Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Cumberland Hwy - S       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 174                  | 0.6     | 0.537            | 20.4                 | LOS B            | 22.0                                 | 156.7         | 0.57         | 0.92                           | 39.7                  |
| 2                               | T    | 1866                 | 2.4     | 0.537            | 12.2                 | LOS A            | 22.2                                 | 158.9         | 0.57         | 0.52                           | 43.0                  |
| 3                               | R    | 64                   | 3.3     | 0.460            | 72.9                 | LOS F            | 4.1                                  | 29.4          | 1.00         | 0.76                           | 20.0                  |
| Approach                        |      | 2104                 | 2.3     | 0.537            | 14.7                 | LOS B            | 22.2                                 | 158.9         | 0.58         | 0.56                           | 41.3                  |
| East: Smith St - E              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 46                   | 2.3     | 0.186            | 48.8                 | LOS D            | 2.3                                  | 16.1          | 0.81         | 0.74                           | 25.6                  |
| 5                               | T    | 101                  | 0.0     | 0.651            | 62.7                 | LOS E            | 7.9                                  | 55.3          | 1.00         | 0.82                           | 21.1                  |
| 6                               | R    | 23                   | 0.0     | 0.651            | 70.7                 | LOS F            | 7.9                                  | 55.3          | 1.00         | 0.82                           | 21.1                  |
| Approach                        |      | 171                  | 0.6     | 0.651            | 60.0                 | LOS E            | 7.9                                  | 55.3          | 0.95         | 0.80                           | 22.2                  |
| North: Cumberland Hwy - N       |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 48                   | 0.0     | 0.490            | 19.8                 | LOS B            | 19.3                                 | 137.6         | 0.54         | 0.97                           | 40.4                  |
| 8                               | T    | 1815                 | 2.6     | 0.490            | 11.6                 | LOS A            | 19.3                                 | 138.1         | 0.54         | 0.49                           | 43.7                  |
| 9                               | R    | 64                   | 0.0     | 0.449            | 72.7                 | LOS F            | 4.1                                  | 28.5          | 1.00         | 0.76                           | 20.0                  |
| Approach                        |      | 1927                 | 2.4     | 0.490            | 13.8                 | LOS A            | 19.3                                 | 138.1         | 0.56         | 0.51                           | 41.9                  |
| West: Smith St - W              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 28                   | 0.0     | 0.325            | 63.2                 | LOS E            | 4.2                                  | 29.2          | 0.94         | 0.78                           | 22.4                  |
| 11                              | T    | 95                   | 0.0     | 1.139            | 139.4                | LOS F            | 16.9                                 | 119.1         | 0.97         | 1.08                           | 12.0                  |
| 12                              | R    | 83                   | 1.3     | 1.139            | 219.1                | LOS F            | 16.9                                 | 119.1         | 1.00         | 1.37                           | 8.6                   |
| Approach                        |      | 206                  | 0.5     | 1.139            | 161.0                | LOS F            | 16.9                                 | 119.1         | 0.98         | 1.15                           | 11.0                  |
| All Vehicles                    |      | 4408                 | 2.2     | 1.139            | 22.9                 | LOS B            | 22.2                                 | 158.9         | 0.60         | 0.58                           | 35.7                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P1                                 | Across S approach | 53                   | 59.1                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| P3                                 | Across E approach | 53                   | 11.2                 | LOS B            | 0.1                                        | 0.1           | 0.42         | 0.42                           |
| P5                                 | Across N approach | 53                   | 59.1                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| P7                                 | Across W approach | 53                   | 11.2                 | LOS B            | 0.1                                        | 0.1           | 0.42         | 0.42                           |
| All Pedestrians                    |                   | 212                  | 35.2                 | LOS D            |                                            |               | 0.68         | 0.68                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Pendle Way/Gilba Rd (2027  
Post Dev Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Gilba Road / Pendle Way  
Post Development 2027 Thursday PM Peak  
Giveaway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way - S           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 571                  | 0.7     | 0.309            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.67                           | 49.0                  |
| 2                               | T    | 226                  | 0.5     | 0.932            | 50.2                 | LOS D            | 8.3                                  | 58.1          | 0.74         | 1.69                           | 25.1                  |
| Approach                        |      | 797                  | 0.7     | 0.932            | 20.1                 | LOS B            | 8.3                                  | 58.1          | 0.21         | 0.96                           | 38.6                  |
| North: Pendle Way - N           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 8                               | T    | 173                  | 3.7     | 1.606            | 610.9                | LOS F            | 60.9                                 | 437.5         | 1.00         | 6.34                           | 3.4                   |
| 9                               | R    | 60                   | 1.8     | 1.606            | 612.2                | LOS F            | 60.9                                 | 437.5         | 1.00         | 4.69                           | 3.3                   |
| Approach                        |      | 233                  | 3.2     | 1.606            | 611.2                | LOS F            | 60.9                                 | 437.5         | 1.00         | 5.91                           | 3.4                   |
| West: Gilba Rd - W              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 193                  | 0.5     | 0.299            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.66                           | 49.0                  |
| 12                              | R    | 360                  | 0.9     | 0.299            | 8.3                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.67                           | 48.9                  |
| Approach                        |      | 553                  | 0.8     | 0.299            | 8.2                  | NA               | 0.0                                  | 0.0           | 0.00         | 0.67                           | 48.9                  |
| All Vehicles                    |      | 1582                 | 1.1     | 1.606            | 102.9                | NA               | 60.9                                 | 437.5         | 0.25         | 1.59                           | 15.6                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Pendle Way/Gilba Rd (2027  
Post Dev SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Gilba Road / Pendle Way  
Post Development 2027 Saturday Peak  
Giveaway / Yield (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Pendle Way - S           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 454                  | 1.4     | 0.247            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.67                           | 49.0                  |
| 2                               | T    | 231                  | 0.0     | 1.163            | 204.8                | LOS F            | 27.1                                 | 189.5         | 1.00         | 3.42                           | 9.0                   |
| Approach                        |      | 684                  | 0.9     | 1.163            | 74.5                 | LOS F            | 27.1                                 | 189.5         | 0.34         | 1.59                           | 19.6                  |
| North: Pendle Way - N           |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 8                               | T    | 172                  | 3.1     | 2.058            | 1013.6               | LOS F            | 88.4                                 | 632.2         | 1.00         | 6.95                           | 2.1                   |
| 9                               | R    | 85                   | 1.2     | 2.058            | 1014.9               | LOS F            | 88.4                                 | 632.2         | 1.00         | 5.62                           | 2.1                   |
| Approach                        |      | 257                  | 2.5     | 2.058            | 1014.0               | LOS F            | 88.4                                 | 632.2         | 1.00         | 6.51                           | 2.1                   |
| West: Gilba Rd - W              |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 201                  | 1.0     | 0.341            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.66                           | 49.0                  |
| 12                              | R    | 429                  | 0.2     | 0.341            | 8.2                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.67                           | 48.9                  |
| Approach                        |      | 631                  | 0.5     | 0.341            | 8.2                  | NA               | 0.0                                  | 0.0           | 0.00         | 0.67                           | 48.9                  |
| All Vehicles                    |      | 1572                 | 1.0     | 2.058            | 201.4                | NA               | 88.4                                 | 632.2         | 0.31         | 2.03                           | 9.1                   |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

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# MOVEMENT SUMMARY

Site: Goodall St/Wentworth Ave  
(2027 Post Dev Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Goodall Street / Wentworth Avenue  
Post Development 2027 Thursday PM Peak  
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Goodall St - S           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 360                  | 1.5     | 0.610            | 15.7                 | LOS B            | 7.1                                  | 50.5                           | 0.52         | 0.75                           | 37.4                  |
| 3                               | R    | 320                  | 0.7     | 0.917            | 62.0                 | LOS E            | 17.4                                 | 122.3                          | 1.00         | 1.06                           | 20.8                  |
| Approach                        |      | 680                  | 1.1     | 0.917            | 37.5                 | LOS C            | 17.4                                 | 122.3                          | 0.75         | 0.90                           | 27.2                  |
| East: Wentworth Ave - E         |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 412                  | 0.3     | 0.971            | 31.4                 | LOS C            | 11.6                                 | 81.6                           | 0.97         | 0.86                           | 31.1                  |
| 5                               | T    | 382                  | 2.5     | 0.711            | 35.2                 | LOS C            | 15.8                                 | 113.2                          | 0.98         | 0.85                           | 29.1                  |
| Approach                        |      | 794                  | 1.3     | 0.971            | 33.2                 | LOS C            | 15.8                                 | 113.2                          | 0.97         | 0.85                           | 30.1                  |
| West: Wentworth Ave - W         |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 11                              | T    | 395                  | 2.4     | 0.540            | 6.4                  | LOS A            | 6.6                                  | 47.1                           | 0.45         | 0.39                           | 49.1                  |
| 12                              | R    | 539                  | 2.0     | 0.649            | 32.4                 | LOS C            | 19.5                                 | 138.9                          | 0.88         | 0.85                           | 30.7                  |
| Approach                        |      | 934                  | 2.1     | 0.649            | 21.4                 | LOS B            | 19.5                                 | 138.9                          | 0.70         | 0.66                           | 36.7                  |
| All Vehicles                    |      | 2407                 | 1.6     | 0.971            | 29.9                 | LOS C            | 19.5                                 | 138.9                          | 0.80         | 0.79                           | 31.3                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P7                                 | Across W approach | 53                   | 36.5                 | LOS D            | 0.1                                        | 0.1                            | 0.90         | 0.90                           |
| All Pedestrians                    |                   | 53                   | 36.5                 | LOS D            |                                            |                                | 0.90         | 0.90                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Goodall St/Wentworth Ave  
(2027 Post Dev SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Goodall Street / Wentworth Avenue  
Post Development 2027 Saturday Peak  
Signals - Fixed Time Cycle Time = 90 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Goodall St - S           |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 357                  | 1.5     | 0.605            | 16.6                 | LOS B            | 7.0                                  | 49.9                           | 0.51         | 0.77                           | 41.2                  |
| 3                               | R    | 324                  | 0.6     | 1.127            | 184.7                | LOS F            | 33.0                                 | 232.5                          | 1.00         | 1.50                           | 9.8                   |
| Approach                        |      | 681                  | 1.1     | 1.127            | 96.6                 | LOS F            | 33.0                                 | 232.5                          | 0.75         | 1.12                           | 16.4                  |
| East: Wentworth Ave - E         |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 297                  | 0.4     | 0.726            | 28.0                 | LOS B            | 8.8                                  | 61.5                           | 0.69         | 0.81                           | 33.9                  |
| 5                               | T    | 358                  | 2.6     | 0.615            | 33.6                 | LOS C            | 14.2                                 | 101.7                          | 0.95         | 0.80                           | 29.8                  |
| Approach                        |      | 655                  | 1.6     | 0.726            | 31.0                 | LOS C            | 14.2                                 | 101.7                          | 0.83         | 0.81                           | 31.5                  |
| West: Wentworth Ave - W         |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 11                              | T    | 379                  | 2.5     | 0.468            | 4.8                  | LOS A            | 5.5                                  | 39.5                           | 0.38         | 0.32                           | 51.3                  |
| 12                              | R    | 371                  | 2.8     | 0.381            | 28.1                 | LOS B            | 11.3                                 | 80.8                           | 0.74         | 0.81                           | 33.9                  |
| Approach                        |      | 749                  | 2.7     | 0.468            | 16.3                 | LOS B            | 11.3                                 | 80.8                           | 0.56         | 0.56                           | 40.9                  |
| All Vehicles                    |      | 2085                 | 1.8     | 1.127            | 47.2                 | LOS D            | 33.0                                 | 232.5                          | 0.71         | 0.82                           | 25.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |                                |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|--------------------------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P7                                 | Across W approach | 53                   | 39.2                 | LOS D            | 0.1                                        | 0.1                            | 0.93         | 0.93                           |
| All Pedestrians                    |                   | 53                   | 39.2                 | LOS D            |                                            |                                | 0.93         | 0.93                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Pendle Way  
(2027 Post Dev Thurs PM)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Pendle Way  
Post Development 2027 Thursday PM Peak  
Signals - Fixed Time Cycle Time = 140 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|--------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c   | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Ettalong Rd - S          |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 124                  | 0.8     | 0.606              | 53.5                 | LOS D            | 6.7                                  | 47.5          | 0.84         | 0.77                           | 24.2                  |
| 5                               | T    | 244                  | 0.9     | 1.099              | 111.6                | LOS F            | 25.1                                 | 176.2         | 1.00         | 1.05                           | 14.3                  |
| 6                               | R    | 123                  | 0.0     | 1.099              | 187.0                | LOS F            | 25.1                                 | 176.2         | 1.00         | 1.36                           | 9.9                   |
| Approach                        |      | 492                  | 0.6     | 1.099              | 115.8                | LOS F            | 25.1                                 | 176.2         | 0.96         | 1.06                           | 14.2                  |
| East: Gt Western Hwy - E        |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 261                  | 0.4     | 0.695              | 41.9                 | LOS C            | 32.3                                 | 228.9         | 0.82         | 0.95                           | 28.6                  |
| 8                               | T    | 1748                 | 2.0     | 0.695              | 31.3                 | LOS C            | 32.7                                 | 232.6         | 0.79         | 0.72                           | 30.8                  |
| 9                               | R    | 156                  | 1.3     | 1.000 <sup>3</sup> | 73.0                 | LOS F            | 10.4                                 | 73.4          | 1.00         | 0.80                           | 20.0                  |
| Approach                        |      | 2165                 | 1.8     | 1.000              | 35.6                 | LOS C            | 32.7                                 | 232.6         | 0.81         | 0.75                           | 29.4                  |
| North: Pendle Way - N           |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 91                   | 1.2     | 0.745              | 60.1                 | LOS E            | 17.6                                 | 124.8         | 0.96         | 0.89                           | 23.3                  |
| 11                              | T    | 316                  | 1.3     | 0.931              | 60.5                 | LOS E            | 35.3                                 | 252.5         | 0.98         | 0.91                           | 21.3                  |
| 12                              | R    | 333                  | 3.2     | 0.931              | 84.3                 | LOS F            | 35.3                                 | 252.5         | 1.00         | 1.02                           | 18.3                  |
| Approach                        |      | 739                  | 2.1     | 0.931              | 71.2                 | LOS F            | 35.3                                 | 252.5         | 0.99         | 0.96                           | 20.0                  |
| West: Gt Western Hwy - W        |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 144                  | 5.8     | 0.544              | 40.1                 | LOS C            | 21.3                                 | 153.3         | 0.80         | 0.89                           | 29.4                  |
| 2                               | T    | 1159                 | 2.4     | 0.544              | 32.1                 | LOS C            | 22.3                                 | 158.9         | 0.80         | 0.71                           | 30.5                  |
| 3                               | R    | 134                  | 0.8     | 0.633              | 73.8                 | LOS F            | 9.0                                  | 63.4          | 1.00         | 0.81                           | 19.9                  |
| Approach                        |      | 1437                 | 2.6     | 0.633              | 36.8                 | LOS C            | 22.3                                 | 158.9         | 0.82         | 0.74                           | 28.9                  |
| All Vehicles                    |      | 4833                 | 1.9     | 1.099              | 49.5                 | LOS D            | 35.3                                 | 252.5         | 0.85         | 0.81                           | 24.8                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

<sup>3</sup> x = 1.00 due to short lane. Refer to the Lane Summary report for information about excess flow and related conditions.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 31.6                 | LOS D            | 0.1                                        | 0.1           | 0.67         | 0.67                           |
| P5                                 | Across E approach | 53                   | 59.4                 | LOS E            | 0.2                                        | 0.2           | 0.92         | 0.92                           |
| P7                                 | Across N approach | 53                   | 29.6                 | LOS C            | 0.1                                        | 0.1           | 0.65         | 0.65                           |
| All Pedestrians                    |                   | 159                  | 40.2                 | LOS E            |                                            |               | 0.75         | 0.75                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Gt Western Hwy/Pendle Way  
(2027 Post Dev SAT)

13S1210200 - Bonds Pendle Hill Additional Modelling  
Great Western Highway / Pendle Way  
Post Development 2027 Saturday Peak  
Signals - Fixed Time Cycle Time = 130 seconds (User-Given Phase Times)

| Movement Performance - Vehicles |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|--------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c   | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Ettalong Rd - S          |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 77                   | 1.4     | 0.328              | 42.1                 | LOS C            | 3.4                                  | 24.4          | 0.75         | 0.75                           | 27.8                  |
| 5                               | T    | 195                  | 0.5     | 0.952              | 67.7                 | LOS E            | 18.4                                 | 129.8         | 0.98         | 0.89                           | 20.1                  |
| 6                               | R    | 163                  | 1.3     | 0.952              | 93.5                 | LOS F            | 18.4                                 | 129.8         | 1.00         | 1.11                           | 17.0                  |
| Approach                        |      | 435                  | 1.0     | 0.952              | 72.8                 | LOS F            | 18.4                                 | 129.8         | 0.95         | 0.95                           | 19.7                  |
| East: Gt Western Hwy - E        |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 7                               | L    | 171                  | 0.6     | 0.460              | 38.1                 | LOS C            | 15.0                                 | 106.5         | 0.81         | 0.90                           | 29.9                  |
| 8                               | T    | 908                  | 3.5     | 0.460              | 31.9                 | LOS C            | 17.2                                 | 123.7         | 0.81         | 0.71                           | 30.5                  |
| 9                               | R    | 168                  | 2.7     | 1.000 <sup>3</sup> | 66.0                 | LOS E            | 10.3                                 | 73.4          | 0.99         | 0.80                           | 21.3                  |
| Approach                        |      | 1247                 | 3.0     | 1.000              | 37.4                 | LOS C            | 17.2                                 | 123.7         | 0.83         | 0.75                           | 28.7                  |
| North: Pendle Way - N           |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 10                              | L    | 137                  | 3.1     | 0.676              | 44.8                 | LOS D            | 10.1                                 | 72.0          | 0.98         | 0.84                           | 27.4                  |
| 11                              | T    | 194                  | 0.5     | 0.845              | 51.8                 | LOS D            | 19.8                                 | 139.9         | 0.99         | 0.89                           | 23.1                  |
| 12                              | R    | 184                  | 1.7     | 0.845              | 71.2                 | LOS F            | 19.8                                 | 139.9         | 1.00         | 0.95                           | 20.6                  |
| Approach                        |      | 515                  | 1.6     | 0.845              | 56.9                 | LOS E            | 19.8                                 | 139.9         | 0.99         | 0.90                           | 23.1                  |
| West: Gt Western Hwy - W        |      |                      |         |                    |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 139                  | 1.5     | 0.600              | 43.1                 | LOS D            | 21.4                                 | 151.8         | 0.86         | 0.88                           | 28.3                  |
| 2                               | T    | 1154                 | 1.9     | 0.600              | 34.8                 | LOS C            | 22.1                                 | 157.0         | 0.86         | 0.76                           | 29.3                  |
| 3                               | R    | 105                  | 1.0     | 0.481              | 64.2                 | LOS E            | 6.2                                  | 44.0          | 0.96         | 0.78                           | 21.7                  |
| Approach                        |      | 1398                 | 1.8     | 0.600              | 37.9                 | LOS C            | 22.1                                 | 157.0         | 0.87         | 0.77                           | 28.4                  |
| All Vehicles                    |      | 3595                 | 2.1     | 1.000              | 44.6                 | LOS D            | 22.1                                 | 157.0         | 0.88         | 0.80                           | 26.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).  
Vehicle movement LOS values are based on average delay per movement  
Intersection and Approach LOS values are based on average delay for all vehicle movements.  
SIDRA Standard Delay Model used.

<sup>3</sup> x = 1.00 due to short lane. Refer to the Lane Summary report for information about excess flow and related conditions.

| Movement Performance - Pedestrians |                   |                      |                      |                  |                                            |               |              |                                |
|------------------------------------|-------------------|----------------------|----------------------|------------------|--------------------------------------------|---------------|--------------|--------------------------------|
| Mov ID                             | Description       | Demand Flow<br>ped/h | Average Delay<br>sec | Level of Service | Average Back of Queue<br>Pedestrian<br>ped | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per ped |
| P3                                 | Across S approach | 53                   | 34.0                 | LOS D            | 0.1                                        | 0.1           | 0.72         | 0.72                           |
| P5                                 | Across E approach | 53                   | 59.1                 | LOS E            | 0.2                                        | 0.2           | 0.95         | 0.95                           |
| P7                                 | Across N approach | 53                   | 31.9                 | LOS D            | 0.1                                        | 0.1           | 0.70         | 0.70                           |
| All Pedestrians                    |                   | 159                  | 41.7                 | LOS E            |                                            |               | 0.79         | 0.79                           |

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)  
Pedestrian movement LOS values are based on average delay per pedestrian movement.  
Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

# MOVEMENT SUMMARY

Site: Dunmore-Access 2027+Dev  
Thurs PM

Dunmore Street - Access  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|--------------------------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Back of Queue<br>Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Access                   |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 1                               | L    | 102                  | 2.0     | 0.443            | 18.7                 | LOS B            | 3.4                                  | 24.1                           | 0.98         | 1.05                           | 35.4                  |
| 3                               | R    | 54                   | 2.0     | 0.443            | 22.1                 | LOS B            | 3.4                                  | 24.1                           | 0.98         | 1.05                           | 34.3                  |
| Approach                        |      | 156                  | 2.0     | 0.443            | 19.9                 | LOS B            | 3.4                                  | 24.1                           | 0.98         | 1.05                           | 35.0                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 4                               | L    | 93                   | 2.0     | 0.862            | 13.4                 | LOS A            | 18.5                                 | 131.7                          | 1.00         | 0.76                           | 39.4                  |
| 5                               | T    | 845                  | 2.0     | 0.862            | 12.6                 | LOS A            | 18.5                                 | 131.7                          | 1.00         | 0.76                           | 39.5                  |
| Approach                        |      | 938                  | 2.0     | 0.862            | 12.6                 | LOS A            | 18.5                                 | 131.7                          | 1.00         | 0.76                           | 39.5                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |                                |              |                                |                       |
| 11                              | T    | 561                  | 2.0     | 0.553            | 6.3                  | LOS A            | 6.4                                  | 45.8                           | 0.41         | 0.48                           | 43.3                  |
| 12                              | R    | 158                  | 2.0     | 0.553            | 10.5                 | LOS A            | 6.4                                  | 45.8                           | 0.41         | 0.69                           | 41.4                  |
| Approach                        |      | 719                  | 2.0     | 0.553            | 7.3                  | LOS A            | 6.4                                  | 45.8                           | 0.41         | 0.53                           | 42.8                  |
| All Vehicles                    |      | 1813                 | 2.0     | 0.862            | 11.1                 | LOS A            | 18.5                                 | 131.7                          | 0.76         | 0.69                           | 40.3                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

Processed: Wednesday, 5 August 2015 12:38:38 AM

SIDRA INTERSECTION 5.1.13.2093

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# MOVEMENT SUMMARY

Site: Dunmore-Access 2027+Dev  
Sat

Dunmore Street - Access  
Roundabout

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Access                   |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 215                  | 2.0     | 0.590            | 16.9                 | LOS B            | 5.6                                  | 39.7          | 0.94         | 1.08                           | 36.5                  |
| 3                               | R    | 113                  | 2.0     | 0.590            | 20.3                 | LOS B            | 5.6                                  | 39.7          | 0.94         | 1.09                           | 35.2                  |
| Approach                        |      | 327                  | 2.0     | 0.590            | 18.1                 | LOS B            | 5.6                                  | 39.7          | 0.94         | 1.08                           | 36.0                  |
| East: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 113                  | 2.0     | 0.720            | 11.5                 | LOS A            | 9.7                                  | 68.8          | 0.87         | 0.79                           | 40.7                  |
| 5                               | T    | 576                  | 2.0     | 0.720            | 10.7                 | LOS A            | 9.7                                  | 68.8          | 0.87         | 0.77                           | 40.9                  |
| Approach                        |      | 688                  | 2.0     | 0.720            | 10.8                 | LOS A            | 9.7                                  | 68.8          | 0.87         | 0.78                           | 40.9                  |
| West: Dunmore Street            |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 11                              | T    | 546                  | 2.0     | 0.667            | 7.4                  | LOS A            | 8.4                                  | 59.9          | 0.68         | 0.56                           | 42.0                  |
| 12                              | R    | 215                  | 2.0     | 0.667            | 11.5                 | LOS A            | 8.4                                  | 59.9          | 0.68         | 0.67                           | 41.0                  |
| Approach                        |      | 761                  | 2.0     | 0.667            | 8.5                  | LOS A            | 8.4                                  | 59.9          | 0.68         | 0.59                           | 41.7                  |
| All Vehicles                    |      | 1777                 | 2.0     | 0.720            | 11.2                 | LOS A            | 9.7                                  | 68.8          | 0.80         | 0.75                           | 40.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Intersection and Approach LOS values are based on average delay for all vehicle movements.

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model used.

Processed: Wednesday, 5 August 2015 12:39:16 AM

SIDRA INTERSECTION 5.1.13.2093

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# MOVEMENT SUMMARY

Site: Jones-Access 2027+Dev  
Thurs PM

John Street - Access  
Stop (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 223                  | 2.0     | 0.301            | 7.3                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.77                           | 43.8                  |
| 5                               | T    | 344                  | 2.0     | 0.301            | 0.0                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.00                           | 51.3                  |
| Approach                        |      | 567                  | 2.0     | 0.301            | 2.9                  | NA               | 0.0                                  | 0.0           | 0.00         | 0.30                           | 48.1                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 11                              | T    | 374                  | 2.0     | 0.240            | 3.2                  | LOS A            | 2.1                                  | 15.0          | 0.64         | 0.00                           | 42.7                  |
| 12                              | R    | 45                   | 2.0     | 0.240            | 10.6                 | LOS A            | 2.1                                  | 15.0          | 0.64         | 0.92                           | 42.5                  |
| Approach                        |      | 419                  | 2.0     | 0.240            | 4.0                  | NA               | 2.1                                  | 15.0          | 0.64         | 0.10                           | 42.7                  |
| West: Access                    |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 22                   | 2.0     | 0.025            | 12.3                 | LOS A            | 0.1                                  | 0.7           | 0.47         | 0.87                           | 40.5                  |
| 3                               | R    | 114                  | 2.0     | 0.281            | 18.8                 | LOS B            | 1.1                                  | 7.7           | 0.73         | 1.04                           | 36.3                  |
| Approach                        |      | 136                  | 2.0     | 0.281            | 17.8                 | LOS B            | 1.1                                  | 7.7           | 0.69         | 1.01                           | 36.9                  |
| All Vehicles                    |      | 1122                 | 2.0     | 0.301            | 5.1                  | NA               | 2.1                                  | 15.0          | 0.32         | 0.31                           | 44.3                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Wednesday, 5 August 2015 12:40:17 AM

SIDRA INTERSECTION 5.1.13.2093

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# MOVEMENT SUMMARY

Site: Jones-Access 2027+Dev Sat

John Street - Access  
Stop (Two-Way)

| Movement Performance - Vehicles |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
|---------------------------------|------|----------------------|---------|------------------|----------------------|------------------|--------------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | Turn | Demand Flow<br>veh/h | HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles<br>veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Jones Street             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 4                               | L    | 241                  | 2.0     | 0.254            | 7.3                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.74                           | 43.8                  |
| 5                               | T    | 236                  | 2.0     | 0.254            | 0.0                  | LOS A            | 0.0                                  | 0.0           | 0.00         | 0.00                           | 51.3                  |
| Approach                        |      | 477                  | 2.0     | 0.254            | 3.7                  | NA               | 0.0                                  | 0.0           | 0.00         | 0.38                           | 47.2                  |
| North: Jones Street             |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 11                              | T    | 286                  | 2.0     | 0.190            | 2.3                  | LOS A            | 1.4                                  | 10.3          | 0.56         | 0.00                           | 43.6                  |
| 12                              | R    | 46                   | 2.0     | 0.190            | 9.7                  | LOS A            | 1.4                                  | 10.3          | 0.56         | 0.86                           | 43.0                  |
| Approach                        |      | 333                  | 2.0     | 0.190            | 3.3                  | NA               | 1.4                                  | 10.3          | 0.56         | 0.12                           | 43.5                  |
| West: Access                    |      |                      |         |                  |                      |                  |                                      |               |              |                                |                       |
| 1                               | L    | 46                   | 2.0     | 0.047            | 11.7                 | LOS A            | 0.2                                  | 1.3           | 0.42         | 0.88                           | 40.9                  |
| 3                               | R    | 241                  | 2.0     | 0.453            | 17.7                 | LOS B            | 2.3                                  | 16.7          | 0.70         | 1.11                           | 36.9                  |
| Approach                        |      | 287                  | 2.0     | 0.453            | 16.7                 | LOS B            | 2.3                                  | 16.7          | 0.65         | 1.07                           | 37.5                  |
| All Vehicles                    |      | 1097                 | 2.0     | 0.453            | 7.0                  | NA               | 2.3                                  | 16.7          | 0.34         | 0.48                           | 43.2                  |

Level of Service (LOS) Method: Delay (RTA NSW).

Vehicle movement LOS values are based on average delay per movement

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model used.

Processed: Wednesday, 5 August 2015 12:40:41 AM

SIDRA INTERSECTION 5.1.13.2093

Project: \\gta.com.au\projectfiles\ProjectFilesSyd\13S1200-1299\13S1210200 - Bonds Pendle Hill Additional

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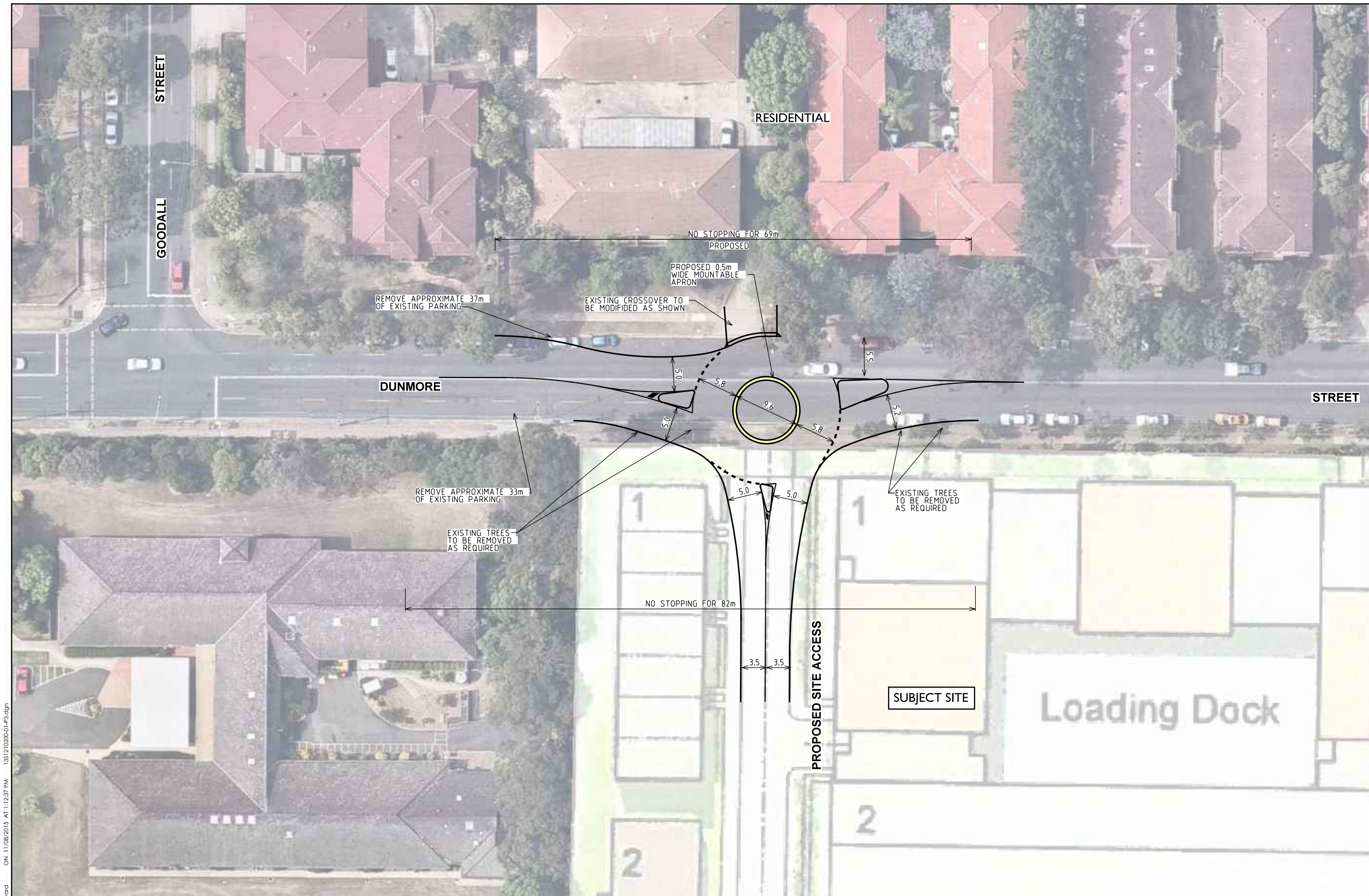
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**SIDRA**  
**INTERSECTION**

## Attachment 4

Access Road Concept Layout

- Dunmore Street Roundabout
- Jones Street T- Intersection



ON 11/08/2015 AT 1:12:37 PM 13S1210200-01-P3.dgn  
PLOTTED BY: cameron.ward

Melbourne 03 9851 9600  
Sydney 02 8448 1800  
Brisbane 07 3113 5000  
Canberra 02 6263 9400  
Adelaide 08 8334 3600  
Gold Coast 07 5510 4814  
Townsville 07 4722 2765



PRELIMINARY PLAN  
FOR DISCUSSION PURPOSES ONLY  
SUBJECT TO CHANGE WITHOUT  
NOTIFICATION



BONDS PENDLE HILL  
DUNMORE STREET / SITE ACCESS - ROUNABOUT  
CONCEPT LAYOUT

|                   |                                 |           |              |
|-------------------|---------------------------------|-----------|--------------|
| DATE:<br>02.03.15 | SCALE:<br>1:500@A3              | 0 5 10 15 | ISSUE:<br>P3 |
| APPROVED:<br>K.H. | DRAWING NO.<br>13S1210200-01-01 |           |              |
|                   |                                 |           |              |



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Melbourne 03 9851 9600  
 Sydney 02 8448 1800  
 Brisbane 07 3113 5000  
 Canberra 02 6263 9400  
 Adelaide 08 8334 3600  
 Gold Coast 07 5510 4814  
 Townsville 07 4722 2765



**PRELIMINARY PLAN**  
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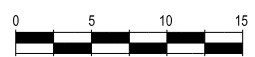
**BONDS PENDLE HILL**  
**JONES STREET / SITE ACCESS**  
**CONCEPT LAYOUT**

DATE:  
 02.03.15

APPROVED:  
 K.H.

SCALE:  
 1:500@A3

DRAWING NO.  
 13S1210200-01-02



ISSUE:  
 P3