

# MOVEMENT SUMMARY



## Site: 101 [Old Northern Road-Cecil Avenue - Future AM - Option 1]

Future AM Peak Option 1

Existing plus Development

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

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows 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: Old Northern Road        |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L2     | 136                | 0.0        | 0.438         | 21.0              | LOS C            | 11.0                           | 76.9       | 0.70         | 0.67                        | 45.8               |
| 2                               | T1     | 671                | 0.0        | 0.438         | 15.9              | LOS B            | 11.1                           | 77.6       | 0.71         | 0.64                        | 47.2               |
| 3                               | R2     | 751                | 0.0        | 0.859         | 47.8              | LOS D            | 17.5                           | 122.2      | 1.00         | 0.98                        | 33.4               |
| Approach                        |        | 1557               | 0.0        | 0.859         | 31.7              | LOS C            | 17.5                           | 122.2      | 0.85         | 0.81                        | 39.3               |
| East: Cecil Avenue              |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L2     | 1051               | 0.0        | 0.636         | 22.7              | LOS C            | 17.7                           | 123.7      | 0.78         | 0.82                        | 42.8               |
| 5                               | T1     | 257                | 0.0        | 0.867         | 45.5              | LOS D            | 12.0                           | 83.7       | 1.00         | 1.02                        | 34.5               |
| 6                               | R2     | 144                | 0.0        | 0.440         | 40.3              | LOS D            | 5.5                            | 38.6       | 0.94         | 0.79                        | 35.5               |
| Approach                        |        | 1452               | 0.0        | 0.867         | 28.5              | LOS C            | 17.7                           | 123.7      | 0.83         | 0.85                        | 40.3               |
| North: Old Northern Road        |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L2     | 88                 | 0.0        | 0.615         | 35.3              | LOS D            | 7.1                            | 49.9       | 0.97         | 0.84                        | 38.7               |
| 8                               | T1     | 321                | 0.0        | 0.615         | 34.2              | LOS C            | 7.9                            | 55.4       | 0.98         | 0.82                        | 38.2               |
| Approach                        |        | 409                | 0.0        | 0.615         | 34.4              | LOS C            | 7.9                            | 55.4       | 0.98         | 0.82                        | 38.3               |
| West: Cecil Avenue              |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L2     | 89                 | 0.0        | 0.855         | 52.2              | LOS D            | 10.8                           | 75.8       | 1.00         | 1.00                        | 32.9               |
| 11                              | T1     | 181                | 0.0        | 0.855         | 46.7              | LOS D            | 10.8                           | 75.8       | 1.00         | 1.00                        | 33.2               |
| 12                              | R2     | 186                | 0.0        | 0.855         | 52.4              | LOS D            | 10.6                           | 74.3       | 1.00         | 1.00                        | 32.3               |
| Approach                        |        | 457                | 0.0        | 0.855         | 50.1              | LOS D            | 10.8                           | 75.8       | 1.00         | 1.00                        | 32.8               |
| All Vehicles                    |        | 3875               | 0.0        | 0.867         | 33.0              | LOS C            | 17.7                           | 123.7      | 0.87         | 0.85                        | 38.6               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

| 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                                 | South Full Crossing | 53                | 36.8              | LOS D            | 0.1                                  | 0.1        | 0.93         | 0.93                        |  |
| P2                                 | East Full Crossing  | 53                | 36.8              | LOS D            | 0.1                                  | 0.1        | 0.93         | 0.93                        |  |
| P3                                 | North Full Crossing | 53                | 36.8              | LOS D            | 0.1                                  | 0.1        | 0.93         | 0.93                        |  |
| P4                                 | West Full Crossing  | 53                | 19.2              | LOS B            | 0.1                                  | 0.1        | 0.67         | 0.67                        |  |
| All Pedestrians                    |                     | 211               | 32.4              | LOS D            |                                      |            | 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.

# MOVEMENT SUMMARY



## Site: 101 [Old Northern Road-Cecil Avenue - Future PM - Option 1]

Future PM Peak Option 1

Existing plus Development

Signals - Fixed Time Isolated Cycle Time = 100 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows 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: Old Northern Road        |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L2     | 132                | 0.0        | 0.433         | 24.4              | LOS C            | 12.6                           | 87.9       | 0.71         | 0.68                        | 43.9               |
| 2                               | T1     | 646                | 0.0        | 0.433         | 19.2              | LOS B            | 12.7                           | 88.7       | 0.72         | 0.65                        | 45.3               |
| 3                               | R2     | 819                | 0.0        | 0.919         | 62.9              | LOS E            | 24.5                           | 171.2      | 1.00         | 1.03                        | 29.4               |
| Approach                        |        | 1597               | 0.0        | 0.919         | 42.0              | LOS D            | 24.5                           | 171.2      | 0.86         | 0.85                        | 35.4               |
| East: Cecil Avenue              |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L2     | 1216               | 0.0        | 0.691         | 23.3              | LOS C            | 24.5                           | 171.3      | 0.76         | 0.82                        | 42.6               |
| 5                               | T1     | 294                | 0.0        | 0.909         | 55.5              | LOS E            | 16.6                           | 115.9      | 0.96         | 1.06                        | 31.5               |
| 6                               | R2     | 236                | 0.0        | 0.746         | 45.4              | LOS D            | 10.9                           | 76.0       | 0.93         | 0.86                        | 33.8               |
| Approach                        |        | 1745               | 0.0        | 0.909         | 31.7              | LOS C            | 24.5                           | 171.3      | 0.82         | 0.87                        | 38.9               |
| North: Old Northern Road        |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L2     | 108                | 0.0        | 0.740         | 44.6              | LOS D            | 10.8                           | 75.4       | 1.00         | 0.91                        | 35.2               |
| 8                               | T1     | 369                | 0.0        | 0.740         | 43.5              | LOS D            | 11.4                           | 80.0       | 1.00         | 0.90                        | 34.8               |
| Approach                        |        | 478                | 0.0        | 0.740         | 43.8              | LOS D            | 11.4                           | 80.0       | 1.00         | 0.90                        | 34.9               |
| West: Cecil Avenue              |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L2     | 80                 | 0.0        | 0.935         | 71.0              | LOS E            | 14.2                           | 99.3       | 1.00         | 1.11                        | 28.2               |
| 11                              | T1     | 242                | 0.0        | 0.935         | 65.5              | LOS E            | 14.2                           | 99.3       | 1.00         | 1.11                        | 28.4               |
| 12                              | R2     | 141                | 0.0        | 0.935         | 71.2              | LOS E            | 14.0                           | 98.2       | 1.00         | 1.11                        | 28.0               |
| Approach                        |        | 463                | 0.0        | 0.935         | 68.2              | LOS E            | 14.2                           | 99.3       | 1.00         | 1.11                        | 28.3               |
| All Vehicles                    |        | 4283               | 0.0        | 0.935         | 40.8              | LOS D            | 24.5                           | 171.3      | 0.87         | 0.89                        | 35.6               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

| 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                                 | South Full Crossing | 53                | 44.3              | LOS E            | 0.1                                  | 0.1        | 0.94         | 0.94                        |  |
| P2                                 | East Full Crossing  | 53                | 44.3              | LOS E            | 0.1                                  | 0.1        | 0.94         | 0.94                        |  |
| P3                                 | North Full Crossing | 53                | 44.3              | LOS E            | 0.1                                  | 0.1        | 0.94         | 0.94                        |  |
| P4                                 | West Full Crossing  | 53                | 21.8              | LOS C            | 0.1                                  | 0.1        | 0.66         | 0.66                        |  |
| All Pedestrians                    |                     | 211               | 38.7              | LOS D            |                                      |            | 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.

# MOVEMENT SUMMARY



**Site: 101 [Terminus Street-Crane Road - Future AM - Option 1]**

Future AM Peak

Existing plus Development

Signals - Fixed Time Isolated Cycle Time = 120 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows 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 |
| SouthEast: Crane Road           |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L2     | 115                | 0.0        | 0.934         | 75.8              | LOS E            | 23.3                           | 163.2      | 1.00         | 1.12                        | 27.2               |
| 2                               | T1     | 264                | 0.0        | 0.934         | 70.3              | LOS E            | 23.3                           | 163.2      | 1.00         | 1.11                        | 27.4               |
| 3                               | R2     | 281                | 0.0        | 0.934         | 76.2              | LOS E            | 23.1                           | 161.8      | 1.00         | 1.05                        | 26.6               |
| Approach                        |        | 660                | 0.0        | 0.934         | 73.8              | LOS E            | 23.3                           | 163.2      | 1.00         | 1.09                        | 27.0               |
| NorthEast: Terminus Street      |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L2     | 80                 | 0.0        | 0.917         | 61.5              | LOS E            | 47.0                           | 328.7      | 1.00         | 1.08                        | 30.7               |
| 5                               | T1     | 1201               | 0.0        | 0.917         | 54.6              | LOS D            | 47.0                           | 328.7      | 0.97         | 1.06                        | 31.6               |
| 6                               | R2     | 248                | 0.0        | 0.967         | 84.1              | LOS F            | 15.5                           | 108.8      | 1.00         | 1.16                        | 24.9               |
| Approach                        |        | 1529               | 0.0        | 0.967         | 59.7              | LOS E            | 47.0                           | 328.7      | 0.97         | 1.07                        | 30.2               |
| NorthWest: Crane Road           |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L2     | 23                 | 0.0        | 0.353         | 57.6              | LOS E            | 4.9                            | 34.5       | 0.95         | 0.75                        | 31.5               |
| 8                               | T1     | 67                 | 0.0        | 0.353         | 52.1              | LOS D            | 4.9                            | 34.5       | 0.95         | 0.75                        | 32.0               |
| 9                               | R2     | 151                | 0.0        | 0.608         | 59.9              | LOS E            | 8.6                            | 59.9       | 0.99         | 0.81                        | 29.9               |
| Approach                        |        | 241                | 0.0        | 0.608         | 57.5              | LOS E            | 8.6                            | 59.9       | 0.98         | 0.79                        | 30.6               |
| SouthWest: Terminus Street      |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L2     | 112                | 0.0        | 0.587         | 35.7              | LOS D            | 20.5                           | 143.2      | 0.84         | 0.76                        | 38.8               |
| 11                              | T1     | 732                | 0.0        | 0.587         | 29.9              | LOS C            | 20.5                           | 143.2      | 0.83         | 0.73                        | 40.0               |
| 12                              | R2     | 83                 | 0.0        | 0.502         | 35.8              | LOS D            | 2.8                            | 19.7       | 0.98         | 0.77                        | 37.1               |
| Approach                        |        | 926                | 0.0        | 0.587         | 31.1              | LOS C            | 20.5                           | 143.2      | 0.84         | 0.74                        | 39.6               |
| All Vehicles                    |        | 3357               | 0.0        | 0.967         | 54.4              | LOS D            | 47.0                           | 328.7      | 0.94         | 0.96                        | 31.6               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

| 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                                 | SouthEast Full Crossing | 53                | 30.2              | LOS D            | 0.1                                  | 0.1        | 0.71         | 0.71                        |  |
| P2                                 | NorthEast Full Crossing | 53                | 54.3              | LOS E            | 0.2                                  | 0.2        | 0.95         | 0.95                        |  |
| P3                                 | NorthWest Full Crossing | 53                | 30.2              | LOS D            | 0.1                                  | 0.1        | 0.71         | 0.71                        |  |
| P4                                 | SouthWest Full Crossing | 53                | 48.7              | LOS E            | 0.2                                  | 0.2        | 0.90         | 0.90                        |  |
| All Pedestrians                    |                         | 211               | 40.8              | LOS E            |                                      |            | 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.

# MOVEMENT SUMMARY

 **Site: 101 [Terminus Street-Crane Road - Future PM - Option 1]**

Future PM Peak

Existing plus Development

Signals - Fixed Time Isolated Cycle Time = 135 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows 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 |
| SouthEast: Crane Road           |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L2     | 89                 | 0.0        | 0.827         | 72.2              | LOS E            | 16.3                           | 113.9      | 1.00         | 0.94                        | 27.9               |
| 2                               | T1     | 165                | 0.0        | 0.827         | 66.6              | LOS E            | 16.3                           | 113.9      | 1.00         | 0.94                        | 28.2               |
| 3                               | R2     | 208                | 0.0        | 0.827         | 72.4              | LOS E            | 15.9                           | 111.3      | 1.00         | 0.92                        | 27.3               |
| Approach                        |        | 463                | 0.0        | 0.827         | 70.3              | LOS E            | 16.3                           | 113.9      | 1.00         | 0.93                        | 27.7               |
| NorthEast: Terminus Street      |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L2     | 174                | 0.0        | 0.821         | 37.9              | LOS D            | 43.3                           | 302.8      | 0.92         | 0.88                        | 38.0               |
| 5                               | T1     | 1253               | 0.0        | 0.821         | 30.9              | LOS C            | 43.3                           | 302.8      | 0.86         | 0.82                        | 39.5               |
| 6                               | R2     | 254                | 0.0        | 1.047         | 128.0             | LOS F            | 21.8                           | 152.9      | 1.00         | 1.21                        | 16.7               |
| Approach                        |        | 1680               | 0.0        | 1.047         | 46.3              | LOS D            | 43.3                           | 302.8      | 0.89         | 0.88                        | 32.6               |
| NorthWest: Crane Road           |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L2     | 49                 | 0.0        | 0.516         | 66.3              | LOS E            | 7.8                            | 54.8       | 0.98         | 0.79                        | 29.2               |
| 8                               | T1     | 75                 | 0.0        | 0.516         | 60.7              | LOS E            | 7.8                            | 54.8       | 0.98         | 0.79                        | 29.6               |
| 9                               | R2     | 138                | 0.0        | 0.590         | 67.1              | LOS E            | 8.8                            | 61.6       | 0.99         | 0.80                        | 28.3               |
| Approach                        |        | 262                | 0.0        | 0.590         | 65.1              | LOS E            | 8.8                            | 61.6       | 0.99         | 0.80                        | 28.8               |
| SouthWest: Terminus Street      |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L2     | 168                | 0.0        | 0.631         | 31.4              | LOS C            | 28.7                           | 201.2      | 0.79         | 0.74                        | 40.6               |
| 11                              | T1     | 932                | 0.0        | 0.631         | 25.0              | LOS C            | 28.7                           | 201.2      | 0.75         | 0.69                        | 42.2               |
| 12                              | R2     | 162                | 0.0        | 0.899         | 60.0              | LOS E            | 8.7                            | 60.6       | 1.00         | 1.00                        | 29.8               |
| Approach                        |        | 1262               | 0.0        | 0.899         | 30.3              | LOS C            | 28.7                           | 201.2      | 0.79         | 0.74                        | 39.9               |
| All Vehicles                    |        | 3667               | 0.0        | 1.047         | 45.2              | LOS D            | 43.3                           | 302.8      | 0.88         | 0.83                        | 33.7               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

| 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                                 | SouthEast Full Crossing | 53                | 23.8              | LOS C            | 0.1                                  | 0.1        | 0.59         | 0.59                        |  |
| P2                                 | NorthEast Full Crossing | 53                | 61.8              | LOS F            | 0.2                                  | 0.2        | 0.96         | 0.96                        |  |
| P3                                 | NorthWest Full Crossing | 53                | 23.8              | LOS C            | 0.1                                  | 0.1        | 0.59         | 0.59                        |  |
| P4                                 | SouthWest Full Crossing | 53                | 61.8              | LOS F            | 0.2                                  | 0.2        | 0.96         | 0.96                        |  |
| All Pedestrians                    |                         | 211               | 42.8              | LOS E            |                                      |            | 0.78         | 0.78                        |  |

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: 101 [Old Northern Road-Francis Street - Future AM - Option 1]

Future AM Peak Option 1  
Existing plus Development  
Stop (Two-Way)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 2                               | T1     | 1420               | 0.0        | 0.728         | 0.2               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.00                        | 59.6               |
| 3                               | R2     | 119                | 0.0        | 0.860         | 78.6              | LOS F            | 4.6                   | 31.9                | 0.99         | 1.30                        | 25.0               |
| Approach                        |        | 1539               | 0.0        | 0.860         | 6.3               | NA               | 4.6                   | 31.9                | 0.08         | 0.10                        | 53.8               |
| East: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 4                               | L2     | 220                | 0.0        | 0.474         | 16.9              | LOS C            | 2.3                   | 16.4                | 0.75         | 1.12                        | 43.5               |
| 6                               | R2     | 3                  | 0.0        | 1.000         | 1607.2            | LOS F            | 2.3                   | 15.8                | 1.00         | 1.04                        | 2.2                |
| Approach                        |        | 223                | 0.0        | 1.000         | 39.4              | LOS E            | 2.3                   | 16.4                | 0.75         | 1.12                        | 34.3               |
| North: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 102                | 0.0        | 0.420         | 5.6               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.07                        | 57.6               |
| 8                               | T1     | 1532               | 0.0        | 0.420         | 0.1               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.03                        | 59.6               |
| Approach                        |        | 1634               | 0.0        | 0.420         | 0.4               | NA               | 0.0                   | 0.0                 | 0.00         | 0.04                        | 59.4               |
| All Vehicles                    |        | 3396               | 0.0        | 1.000         | 5.6               | NA               | 4.6                   | 31.9                | 0.08         | 0.14                        | 54.2               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: TRAFFIC DESIGN GROUP LTD (TDG) | Processed: Wednesday, 12 July 2017 10:56:04 AM

Project: C:\Users\tomguerni\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY



## Site: 101 [Old Northern Road-Francis Street - Future PM - Option 1]

Future PM Peak Option 1  
Existing plus Development  
Stop (Two-Way)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 2                               | T1     | 1452               | 0.0        | 0.744         | 0.2               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.00                        | 59.5               |
| 3                               | R2     | 154                | 0.0        | 1.195         | 254.4             | LOS F            | 21.5                  | 150.3               | 1.00         | 2.41                        | 11.2               |
| Approach                        |        | 1605               | 0.0        | 1.195         | 24.6              | NA               | 21.5                  | 150.3               | 0.10         | 0.23                        | 42.1               |
| East: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 4                               | L2     | 96                 | 0.0        | 0.217         | 14.6              | LOS B            | 0.8                   | 5.4                 | 0.69         | 1.01                        | 44.6               |
| 6                               | R2     | 1                  | 0.0        | 1.000         | 4066.4            | LOS F            | 2.1                   | 14.6                | 1.00         | 1.02                        | 0.9                |
| Approach                        |        | 97                 | 0.0        | 1.000         | 58.6              | LOS F            | 2.1                   | 14.6                | 0.69         | 1.01                        | 29.0               |
| North: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 93                 | 0.0        | 0.428         | 5.5               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.07                        | 56.8               |
| 8                               | T1     | 1574               | 0.0        | 0.428         | 0.1               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.03                        | 59.3               |
| Approach                        |        | 1666               | 0.0        | 0.428         | 0.4               | NA               | 0.0                   | 0.0                 | 0.00         | 0.03                        | 59.2               |
| All Vehicles                    |        | 3368               | 0.0        | 1.195         | 13.6              | NA               | 21.5                  | 150.3               | 0.07         | 0.16                        | 48.4               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | [sidrasolutions.com](http://sidrasolutions.com)**

Organisation: TRAFFIC DESIGN GROUP LTD (TDG) | Processed: Wednesday, 12 July 2017 10:57:55 AM

Project: C:\Users\tomguerni\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY

 **Site: 101 [Orange Grove-Cecil Avenue - Future AM - Option 1]**

Future AM Peak  
Existing plus Development  
Roundabout

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Orange Grove             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 1                               | L2     | 74                 | 0.0        | 0.199         | 5.1               | LOS A            | 1.1                   | 7.6                 | 0.36         | 0.54                        | 45.6               |
| 2                               | T1     | 108                | 0.0        | 0.199         | 4.8               | LOS A            | 1.1                   | 7.6                 | 0.36         | 0.54                        | 46.2               |
| 3                               | R2     | 37                 | 0.0        | 0.199         | 7.5               | LOS A            | 1.1                   | 7.6                 | 0.36         | 0.54                        | 45.9               |
| 3u                              | U      | 1                  | 0.0        | 0.199         | 8.9               | LOS A            | 1.1                   | 7.6                 | 0.36         | 0.54                        | 46.3               |
| Approach                        |        | 220                | 0.0        | 0.199         | 5.4               | LOS A            | 1.1                   | 7.6                 | 0.36         | 0.54                        | 45.9               |
| East: Cecil Avenue              |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 4                               | L2     | 69                 | 0.0        | 0.144         | 5.0               | LOS A            | 0.7                   | 5.2                 | 0.32         | 0.52                        | 45.7               |
| 5                               | T1     | 73                 | 0.0        | 0.144         | 4.6               | LOS A            | 0.7                   | 5.2                 | 0.32         | 0.52                        | 46.3               |
| 6                               | R2     | 18                 | 0.0        | 0.144         | 7.4               | LOS A            | 0.7                   | 5.2                 | 0.32         | 0.52                        | 46.1               |
| 6u                              | U      | 1                  | 0.0        | 0.144         | 8.7               | LOS A            | 0.7                   | 5.2                 | 0.32         | 0.52                        | 46.5               |
| Approach                        |        | 161                | 0.0        | 0.144         | 5.1               | LOS A            | 0.7                   | 5.2                 | 0.32         | 0.52                        | 46.0               |
| North: Orange Grove             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 13                 | 0.0        | 0.111         | 4.5               | LOS A            | 0.6                   | 4.0                 | 0.19         | 0.53                        | 45.6               |
| 8                               | T1     | 66                 | 0.0        | 0.111         | 4.1               | LOS A            | 0.6                   | 4.0                 | 0.19         | 0.53                        | 46.2               |
| 9                               | R2     | 58                 | 0.0        | 0.111         | 6.9               | LOS A            | 0.6                   | 4.0                 | 0.19         | 0.53                        | 46.0               |
| 9u                              | U      | 3                  | 0.0        | 0.111         | 8.2               | LOS A            | 0.6                   | 4.0                 | 0.19         | 0.53                        | 46.4               |
| Approach                        |        | 140                | 0.0        | 0.111         | 5.4               | LOS A            | 0.6                   | 4.0                 | 0.19         | 0.53                        | 46.1               |
| West: Cecil Avenue              |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 10                              | L2     | 66                 | 0.0        | 0.078         | 5.1               | LOS A            | 0.4                   | 2.7                 | 0.35         | 0.54                        | 45.6               |
| 11                              | T1     | 9                  | 0.0        | 0.078         | 4.7               | LOS A            | 0.4                   | 2.7                 | 0.35         | 0.54                        | 46.3               |
| 12                              | R2     | 5                  | 0.0        | 0.078         | 7.5               | LOS A            | 0.4                   | 2.7                 | 0.35         | 0.54                        | 46.0               |
| 12u                             | U      | 2                  | 0.0        | 0.078         | 8.9               | LOS A            | 0.4                   | 2.7                 | 0.35         | 0.54                        | 46.4               |
| Approach                        |        | 83                 | 0.0        | 0.078         | 5.3               | LOS A            | 0.4                   | 2.7                 | 0.35         | 0.54                        | 45.8               |
| All Vehicles                    |        | 604                | 0.0        | 0.199         | 5.3               | LOS A            | 1.1                   | 7.6                 | 0.31         | 0.53                        | 46.0               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | [sidrasolutions.com](http://sidrasolutions.com)**

Organisation: TDG NSW PTY LTD | Processed: Tuesday, 29 May 2018 10:45:25 AM

Project: C:\Users\tdgshared\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY

 **Site: 101 [Orange Grove-Cecil Avenue - Future PM - Option 1]**

Future PM Peak  
Existing plus Development  
Roundabout

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Orange Grove             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 1                               | L2     | 34                 | 0.0        | 0.169         | 4.5               | LOS A            | 0.9                   | 6.3                 | 0.21         | 0.53                        | 45.6               |
| 2                               | T1     | 92                 | 0.0        | 0.169         | 4.2               | LOS A            | 0.9                   | 6.3                 | 0.21         | 0.53                        | 46.2               |
| 3                               | R2     | 89                 | 0.0        | 0.169         | 6.9               | LOS A            | 0.9                   | 6.3                 | 0.21         | 0.53                        | 46.0               |
| 3u                              | U      | 1                  | 0.0        | 0.169         | 8.3               | LOS A            | 0.9                   | 6.3                 | 0.21         | 0.53                        | 46.3               |
| Approach                        |        | 216                | 0.0        | 0.169         | 5.4               | LOS A            | 0.9                   | 6.3                 | 0.21         | 0.53                        | 46.0               |
| East: Cecil Avenue              |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 4                               | L2     | 33                 | 0.0        | 0.064         | 4.6               | LOS A            | 0.3                   | 2.2                 | 0.25         | 0.50                        | 45.8               |
| 5                               | T1     | 31                 | 0.0        | 0.064         | 4.3               | LOS A            | 0.3                   | 2.2                 | 0.25         | 0.50                        | 46.5               |
| 6                               | R2     | 9                  | 0.0        | 0.064         | 7.1               | LOS A            | 0.3                   | 2.2                 | 0.25         | 0.50                        | 46.2               |
| 6u                              | U      | 1                  | 0.0        | 0.064         | 8.4               | LOS A            | 0.3                   | 2.2                 | 0.25         | 0.50                        | 46.6               |
| Approach                        |        | 74                 | 0.0        | 0.064         | 4.9               | LOS A            | 0.3                   | 2.2                 | 0.25         | 0.50                        | 46.2               |
| North: Orange Grove             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 5                  | 0.0        | 0.067         | 4.9               | LOS A            | 0.3                   | 2.3                 | 0.29         | 0.52                        | 45.6               |
| 8                               | T1     | 49                 | 0.0        | 0.067         | 4.5               | LOS A            | 0.3                   | 2.3                 | 0.29         | 0.52                        | 46.2               |
| 9                               | R2     | 17                 | 0.0        | 0.067         | 7.3               | LOS A            | 0.3                   | 2.3                 | 0.29         | 0.52                        | 46.0               |
| 9u                              | U      | 3                  | 0.0        | 0.067         | 8.6               | LOS A            | 0.3                   | 2.3                 | 0.29         | 0.52                        | 46.3               |
| Approach                        |        | 75                 | 0.0        | 0.067         | 5.3               | LOS A            | 0.3                   | 2.3                 | 0.29         | 0.52                        | 46.1               |
| West: Cecil Avenue              |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 10                              | L2     | 113                | 0.0        | 0.144         | 5.3               | LOS A            | 0.7                   | 5.2                 | 0.39         | 0.57                        | 45.5               |
| 11                              | T1     | 20                 | 0.0        | 0.144         | 5.0               | LOS A            | 0.7                   | 5.2                 | 0.39         | 0.57                        | 46.1               |
| 12                              | R2     | 16                 | 0.0        | 0.144         | 7.7               | LOS A            | 0.7                   | 5.2                 | 0.39         | 0.57                        | 45.9               |
| 12u                             | U      | 3                  | 0.0        | 0.144         | 9.1               | LOS A            | 0.7                   | 5.2                 | 0.39         | 0.57                        | 46.3               |
| Approach                        |        | 152                | 0.0        | 0.144         | 5.6               | LOS A            | 0.7                   | 5.2                 | 0.39         | 0.57                        | 45.7               |
| All Vehicles                    |        | 516                | 0.0        | 0.169         | 5.4               | LOS A            | 0.9                   | 6.3                 | 0.28         | 0.54                        | 45.9               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | [sidrasolutions.com](http://sidrasolutions.com)**

Organisation: TDG NSW PTY LTD | Processed: Tuesday, 29 May 2018 10:45:26 AM

Project: C:\Users\tdgshared\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY

## ▽ Site: 101 [Francis Street-Roger Avenue - Future AM - Option 1]

Future AM Peak  
Existing plus Development  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| East: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 5                               | T1     | 213                | 0.0        | 0.113         | 0.0               | LOS A            | 0.0                   | 0.3                 | 0.02         | 0.02                        | 49.8               |
| 6                               | R2     | 6                  | 0.0        | 0.113         | 5.3               | LOS A            | 0.0                   | 0.3                 | 0.02         | 0.02                        | 48.9               |
| Approach                        |        | 219                | 0.0        | 0.113         | 0.2               | NA               | 0.0                   | 0.3                 | 0.02         | 0.02                        | 49.8               |
| North: Roger Avenue             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 13                 | 0.0        | 0.029         | 5.2               | LOS A            | 0.1                   | 0.7                 | 0.32         | 0.57                        | 45.9               |
| 9                               | R2     | 17                 | 0.0        | 0.029         | 6.2               | LOS A            | 0.1                   | 0.7                 | 0.32         | 0.57                        | 45.5               |
| Approach                        |        | 29                 | 0.0        | 0.029         | 5.8               | LOS A            | 0.1                   | 0.7                 | 0.32         | 0.57                        | 45.6               |
| West: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 10                              | L2     | 17                 | 0.0        | 0.113         | 4.6               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.04                        | 49.3               |
| 11                              | T1     | 202                | 0.0        | 0.113         | 0.0               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.04                        | 49.7               |
| Approach                        |        | 219                | 0.0        | 0.113         | 0.4               | NA               | 0.0                   | 0.0                 | 0.00         | 0.04                        | 49.7               |
| All Vehicles                    |        | 467                | 0.0        | 0.113         | 0.6               | NA               | 0.1                   | 0.7                 | 0.03         | 0.06                        | 49.5               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: TDG NSW PTY LTD | Processed: Tuesday, 29 May 2018 10:45:26 AM

Project: C:\Users\tdgshared\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY

▽ Site: 101 [Francis Street-Roger Avenue - Future PM - Option 1]

Future PM Peak  
Existing plus Development  
Giveaway / Yield (Two-Way)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| East: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 5                               | T1     | 81                 | 0.0        | 0.043         | 0.0               | LOS A            | 0.0                   | 0.1                 | 0.02         | 0.01                        | 49.9               |
| 6                               | R2     | 2                  | 0.0        | 0.043         | 5.3               | LOS A            | 0.0                   | 0.1                 | 0.02         | 0.01                        | 48.9               |
| Approach                        |        | 83                 | 0.0        | 0.043         | 0.2               | NA               | 0.0                   | 0.1                 | 0.02         | 0.01                        | 49.8               |
| North: Roger Avenue             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 1                  | 0.0        | 0.003         | 5.1               | LOS A            | 0.0                   | 0.1                 | 0.30         | 0.53                        | 46.0               |
| 9                               | R2     | 2                  | 0.0        | 0.003         | 5.6               | LOS A            | 0.0                   | 0.1                 | 0.30         | 0.53                        | 45.5               |
| Approach                        |        | 3                  | 0.0        | 0.003         | 5.4               | LOS A            | 0.0                   | 0.1                 | 0.30         | 0.53                        | 45.7               |
| West: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 10                              | L2     | 23                 | 0.0        | 0.119         | 4.6               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.05                        | 49.2               |
| 11                              | T1     | 207                | 0.0        | 0.119         | 0.0               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.05                        | 49.7               |
| Approach                        |        | 231                | 0.0        | 0.119         | 0.5               | NA               | 0.0                   | 0.0                 | 0.00         | 0.05                        | 49.6               |
| All Vehicles                    |        | 317                | 0.0        | 0.119         | 0.4               | NA               | 0.0                   | 0.1                 | 0.01         | 0.05                        | 49.6               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: TDG NSW PTY LTD | Processed: Tuesday, 29 May 2018 10:45:27 AM

Project: C:\Users\tdgshared\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY



## Site: 101 [Old Northern Road-Cecil Avenue - Future AM - Option 2]

Future AM Peak Option 2

Existing plus Development

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

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 1                               | L2     | 136                | 0.0        | 0.427         | 20.3              | LOS C            | 10.7                  | 75.0                | 0.69         | 0.66                        | 46.2               |
| 2                               | T1     | 671                | 0.0        | 0.427         | 15.1              | LOS B            | 10.8                  | 75.8                | 0.69         | 0.63                        | 47.7               |
| 3                               | R2     | 798                | 0.0        | 0.870         | 48.4              | LOS D            | 18.8                  | 131.9               | 1.00         | 0.99                        | 33.2               |
| Approach                        |        | 1604               | 0.0        | 0.870         | 32.1              | LOS C            | 18.8                  | 131.9               | 0.85         | 0.81                        | 39.1               |
| East: Cecil Avenue              |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 4                               | L2     | 1051               | 0.0        | 0.572         | 21.9              | LOS C            | 15.4                  | 107.5               | 0.76         | 0.81                        | 43.3               |
| 5                               | T1     | 257                | 0.0        | 0.867         | 45.5              | LOS D            | 12.0                  | 83.7                | 1.00         | 1.02                        | 34.5               |
| 6                               | R2     | 144                | 0.0        | 0.440         | 40.3              | LOS D            | 5.5                   | 38.6                | 0.94         | 0.79                        | 35.5               |
| Approach                        |        | 1452               | 0.0        | 0.867         | 27.9              | LOS C            | 15.4                  | 107.5               | 0.82         | 0.85                        | 40.5               |
| North: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 88                 | 0.0        | 0.615         | 35.1              | LOS D            | 7.1                   | 49.9                | 0.97         | 0.83                        | 38.8               |
| 8                               | T1     | 321                | 0.0        | 0.615         | 34.1              | LOS C            | 7.9                   | 55.4                | 0.98         | 0.82                        | 38.2               |
| Approach                        |        | 409                | 0.0        | 0.615         | 34.3              | LOS C            | 7.9                   | 55.4                | 0.98         | 0.82                        | 38.3               |
| West: Cecil Avenue              |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 10                              | L2     | 89                 | 0.0        | 0.834         | 51.4              | LOS D            | 9.5                   | 66.5                | 1.00         | 0.97                        | 33.0               |
| 11                              | T1     | 181                | 0.0        | 0.834         | 45.9              | LOS D            | 9.5                   | 66.5                | 1.00         | 0.97                        | 33.4               |
| 12                              | R2     | 139                | 0.0        | 0.834         | 51.6              | LOS D            | 9.4                   | 65.7                | 1.00         | 0.97                        | 32.8               |
| Approach                        |        | 409                | 0.0        | 0.834         | 49.0              | LOS D            | 9.5                   | 66.5                | 1.00         | 0.97                        | 33.1               |
| All Vehicles                    |        | 3875               | 0.0        | 0.870         | 32.5              | LOS C            | 18.8                  | 131.9               | 0.87         | 0.84                        | 38.8               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

| Movement Performance - Pedestrians |                     |                   |                   |                  |                             |                     |              |                             |  |
|------------------------------------|---------------------|-------------------|-------------------|------------------|-----------------------------|---------------------|--------------|-----------------------------|--|
| Mov ID                             | Description         | Demand Flow ped/h | Average Delay sec | Level of Service | Average Back Pedestrian ped | of Queue Distance m | Prop. Queued | Effective Stop Rate per ped |  |
| P1                                 | South Full Crossing | 53                | 36.8              | LOS D            | 0.1                         | 0.1                 | 0.93         | 0.93                        |  |
| P2                                 | East Full Crossing  | 53                | 36.8              | LOS D            | 0.1                         | 0.1                 | 0.93         | 0.93                        |  |
| P3                                 | North Full Crossing | 53                | 36.8              | LOS D            | 0.1                         | 0.1                 | 0.93         | 0.93                        |  |
| P4                                 | West Full Crossing  | 53                | 18.5              | LOS B            | 0.1                         | 0.1                 | 0.66         | 0.66                        |  |
| All Pedestrians                    |                     | 211               | 32.2              | LOS D            |                             |                     | 0.86         | 0.86                        |  |

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: 101 [Old Northern Road-Cecil Avenue - Future PM - Option 2]

Future PM Peak Option 2

Existing plus Development

Signals - Fixed Time Isolated Cycle Time = 100 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows 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: Old Northern Road        |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L2     | 132                | 0.0        | 0.424         | 23.7              | LOS C            | 12.3                           | 86.1       | 0.70         | 0.67                        | 44.3               |
| 2                               | T1     | 646                | 0.0        | 0.424         | 18.5              | LOS B            | 12.4                           | 87.0       | 0.70         | 0.64                        | 45.7               |
| 3                               | R2     | 846                | 0.0        | 0.911         | 60.8              | LOS E            | 24.9                           | 174.1      | 1.00         | 1.02                        | 29.9               |
| Approach                        |        | 1624               | 0.0        | 0.911         | 41.0              | LOS D            | 24.9                           | 174.1      | 0.86         | 0.84                        | 35.7               |
| East: Cecil Avenue              |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L2     | 1216               | 0.0        | 0.696         | 23.3              | LOS C            | 24.7                           | 173.1      | 0.76         | 0.82                        | 42.6               |
| 5                               | T1     | 294                | 0.0        | 0.955         | 68.7              | LOS E            | 18.5                           | 129.7      | 0.97         | 1.16                        | 28.3               |
| 6                               | R2     | 236                | 0.0        | 0.787         | 48.3              | LOS D            | 11.3                           | 79.2       | 0.95         | 0.89                        | 33.0               |
| Approach                        |        | 1745               | 0.0        | 0.955         | 34.3              | LOS C            | 24.7                           | 173.1      | 0.82         | 0.89                        | 37.8               |
| North: Old Northern Road        |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L2     | 108                | 0.0        | 0.740         | 44.6              | LOS D            | 10.8                           | 75.4       | 1.00         | 0.91                        | 35.2               |
| 8                               | T1     | 369                | 0.0        | 0.740         | 43.5              | LOS D            | 11.4                           | 80.0       | 1.00         | 0.90                        | 34.8               |
| Approach                        |        | 478                | 0.0        | 0.740         | 43.8              | LOS D            | 11.4                           | 80.0       | 1.00         | 0.90                        | 34.9               |
| West: Cecil Avenue              |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L2     | 80                 | 0.0        | 0.879         | 62.1              | LOS E            | 12.2                           | 85.4       | 1.00         | 1.02                        | 30.2               |
| 11                              | T1     | 242                | 0.0        | 0.879         | 56.6              | LOS E            | 12.2                           | 85.4       | 1.00         | 1.02                        | 30.6               |
| 12                              | R2     | 114                | 0.0        | 0.879         | 62.2              | LOS E            | 12.1                           | 84.8       | 1.00         | 1.02                        | 30.2               |
| Approach                        |        | 436                | 0.0        | 0.879         | 59.0              | LOS E            | 12.2                           | 85.4       | 1.00         | 1.02                        | 30.4               |
| All Vehicles                    |        | 4283               | 0.0        | 0.955         | 40.4              | LOS D            | 24.9                           | 174.1      | 0.87         | 0.88                        | 35.8               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

| 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                                 | South Full Crossing | 53                | 44.3              | LOS E            | 0.1                                  | 0.1        | 0.94         | 0.94                        |  |
| P2                                 | East Full Crossing  | 53                | 44.3              | LOS E            | 0.1                                  | 0.1        | 0.94         | 0.94                        |  |
| P3                                 | North Full Crossing | 53                | 44.3              | LOS E            | 0.1                                  | 0.1        | 0.94         | 0.94                        |  |
| P4                                 | West Full Crossing  | 53                | 21.2              | LOS C            | 0.1                                  | 0.1        | 0.65         | 0.65                        |  |
| All Pedestrians                    |                     | 211               | 38.5              | LOS D            |                                      |            | 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.

## MOVEMENT SUMMARY

### Site: 101 [Terminus Street-Crane Road - Future AM - Option 2]

Future AM Peak Option 2

Existing plus Development

Signals - Fixed Time Isolated Cycle Time = 120 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows 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 |
| SouthEast: Crane Road           |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L2     | 115                | 0.0        | 0.934         | 75.8              | LOS E            | 23.3                           | 163.2      | 1.00         | 1.12                        | 27.2               |
| 2                               | T1     | 264                | 0.0        | 0.934         | 70.3              | LOS E            | 23.3                           | 163.2      | 1.00         | 1.11                        | 27.4               |
| 3                               | R2     | 281                | 0.0        | 0.934         | 76.2              | LOS E            | 23.1                           | 161.8      | 1.00         | 1.05                        | 26.6               |
| Approach                        |        | 660                | 0.0        | 0.934         | 73.8              | LOS E            | 23.3                           | 163.2      | 1.00         | 1.09                        | 27.0               |
| NorthEast: Terminus Street      |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L2     | 80                 | 0.0        | 0.917         | 61.5              | LOS E            | 47.0                           | 328.7      | 1.00         | 1.08                        | 30.7               |
| 5                               | T1     | 1201               | 0.0        | 0.917         | 54.6              | LOS D            | 47.0                           | 328.7      | 0.97         | 1.06                        | 31.6               |
| 6                               | R2     | 248                | 0.0        | 0.976         | 88.7              | LOS F            | 16.1                           | 112.7      | 1.00         | 1.18                        | 24.2               |
| Approach                        |        | 1529               | 0.0        | 0.976         | 60.5              | LOS E            | 47.0                           | 328.7      | 0.97         | 1.08                        | 30.0               |
| NorthWest: Crane Road           |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L2     | 23                 | 0.0        | 0.353         | 57.6              | LOS E            | 4.9                            | 34.5       | 0.95         | 0.75                        | 31.5               |
| 8                               | T1     | 67                 | 0.0        | 0.353         | 52.1              | LOS D            | 4.9                            | 34.5       | 0.95         | 0.75                        | 32.0               |
| 9                               | R2     | 151                | 0.0        | 0.608         | 59.9              | LOS E            | 8.6                            | 59.9       | 0.99         | 0.81                        | 29.9               |
| Approach                        |        | 241                | 0.0        | 0.608         | 57.5              | LOS E            | 8.6                            | 59.9       | 0.98         | 0.79                        | 30.6               |
| SouthWest: Terminus Street      |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L2     | 112                | 0.0        | 0.597         | 35.9              | LOS D            | 20.9                           | 146.4      | 0.85         | 0.77                        | 38.8               |
| 11                              | T1     | 732                | 0.0        | 0.597         | 29.9              | LOS C            | 20.9                           | 146.4      | 0.83         | 0.73                        | 40.0               |
| 12                              | R2     | 109                | 0.0        | 0.661         | 37.3              | LOS D            | 3.9                            | 27.0       | 1.00         | 0.81                        | 36.6               |
| Approach                        |        | 953                | 0.0        | 0.661         | 31.5              | LOS C            | 20.9                           | 146.4      | 0.85         | 0.75                        | 39.4               |
| All Vehicles                    |        | 3383               | 0.0        | 0.976         | 54.7              | LOS D            | 47.0                           | 328.7      | 0.94         | 0.97                        | 31.5               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

| 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                                 | SouthEast Full Crossing | 53                | 30.2              | LOS D            | 0.1                                  | 0.1        | 0.71         | 0.71                        |  |
| P2                                 | NorthEast Full Crossing | 53                | 54.3              | LOS E            | 0.2                                  | 0.2        | 0.95         | 0.95                        |  |
| P3                                 | NorthWest Full Crossing | 53                | 30.2              | LOS D            | 0.1                                  | 0.1        | 0.71         | 0.71                        |  |
| P4                                 | SouthWest Full Crossing | 53                | 48.7              | LOS E            | 0.2                                  | 0.2        | 0.90         | 0.90                        |  |
| All Pedestrians                    |                         | 211               | 40.8              | LOS E            |                                      |            | 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.

## MOVEMENT SUMMARY

### Site: 101 [Terminus Street-Crane Road - Future PM - Option 2]

Future PM Peak Option 2

Existing plus Development

Signals - Fixed Time Isolated Cycle Time = 145 seconds (Optimum Cycle Time - Minimum Delay)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|--------------------------------|------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows 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 |
| SouthEast: Crane Road           |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 1                               | L2     | 89                 | 0.0        | 0.854         | 78.2              | LOS E            | 17.7                           | 124.0      | 1.00         | 0.97                        | 26.6               |
| 2                               | T1     | 165                | 0.0        | 0.854         | 72.7              | LOS E            | 17.7                           | 124.0      | 1.00         | 0.96                        | 26.9               |
| 3                               | R2     | 208                | 0.0        | 0.854         | 78.4              | LOS E            | 17.2                           | 120.1      | 1.00         | 0.93                        | 26.1               |
| Approach                        |        | 463                | 0.0        | 0.854         | 76.3              | LOS E            | 17.7                           | 124.0      | 1.00         | 0.95                        | 26.5               |
| NorthEast: Terminus Street      |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 4                               | L2     | 174                | 0.0        | 0.870         | 48.4              | LOS D            | 52.3                           | 366.3      | 0.97         | 0.95                        | 34.3               |
| 5                               | T1     | 1253               | 0.0        | 0.870         | 41.7              | LOS D            | 52.3                           | 366.3      | 0.91         | 0.89                        | 35.4               |
| 6                               | R2     | 254                | 0.0        | 0.869         | 51.2              | LOS D            | 12.9                           | 90.6       | 1.00         | 0.97                        | 32.1               |
| Approach                        |        | 1680               | 0.0        | 0.870         | 43.8              | LOS D            | 52.3                           | 366.3      | 0.93         | 0.91                        | 34.8               |
| NorthWest: Crane Road           |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 7                               | L2     | 49                 | 0.0        | 0.523         | 70.9              | LOS E            | 8.4                            | 58.8       | 0.98         | 0.79                        | 28.1               |
| 8                               | T1     | 75                 | 0.0        | 0.523         | 65.3              | LOS E            | 8.4                            | 58.8       | 0.98         | 0.79                        | 28.5               |
| 9                               | R2     | 138                | 0.0        | 0.598         | 71.7              | LOS E            | 9.4                            | 66.1       | 1.00         | 0.80                        | 27.3               |
| Approach                        |        | 262                | 0.0        | 0.598         | 69.7              | LOS E            | 9.4                            | 66.1       | 0.99         | 0.80                        | 27.8               |
| SouthWest: Terminus Street      |        |                    |            |               |                   |                  |                                |            |              |                             |                    |
| 10                              | L2     | 168                | 0.0        | 0.679         | 36.7              | LOS D            | 33.3                           | 233.4      | 0.84         | 0.78                        | 38.4               |
| 11                              | T1     | 932                | 0.0        | 0.679         | 29.9              | LOS C            | 33.3                           | 233.4      | 0.80         | 0.72                        | 39.9               |
| 12                              | R2     | 189                | 0.0        | 0.798         | 55.2              | LOS E            | 9.2                            | 64.6       | 1.00         | 0.94                        | 31.0               |
| Approach                        |        | 1289               | 0.0        | 0.798         | 34.5              | LOS C            | 33.3                           | 233.4      | 0.83         | 0.76                        | 38.1               |
| All Vehicles                    |        | 3695               | 0.0        | 0.870         | 46.5              | LOS D            | 52.3                           | 366.3      | 0.91         | 0.86                        | 33.9               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

| 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                                 | SouthEast Full Crossing | 53                | 27.4              | LOS C            | 0.1                                  | 0.1        | 0.62         | 0.62                        |  |
| P2                                 | NorthEast Full Crossing | 53                | 66.8              | LOS F            | 0.2                                  | 0.2        | 0.96         | 0.96                        |  |
| P3                                 | NorthWest Full Crossing | 53                | 27.4              | LOS C            | 0.1                                  | 0.1        | 0.62         | 0.62                        |  |
| P4                                 | SouthWest Full Crossing | 53                | 65.8              | LOS F            | 0.2                                  | 0.2        | 0.95         | 0.95                        |  |
| All Pedestrians                    |                         | 211               | 46.8              | 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: 101 [Old Northern Road-Francis Street - Future AM - Option 2]

Future AM Peak Option 2  
Existing plus Development  
Stop (Two-Way)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 2                               | T1     | 1467               | 0.0        | 0.737         | 1.2               | LOS A            | 4.5                   | 31.4                | 0.02         | 0.02                        | 58.7               |
| 3                               | R2     | 119                | 0.0        | 0.737         | 52.9              | LOS F            | 4.5                   | 31.4                | 0.99         | 0.95                        | 30.6               |
| Approach                        |        | 1586               | 0.0        | 0.737         | 5.1               | NA               | 4.5                   | 31.4                | 0.09         | 0.09                        | 54.9               |
| East: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 4                               | L2     | 220                | 0.0        | 0.497         | 17.7              | LOS C            | 2.5                   | 17.3                | 0.77         | 1.13                        | 43.1               |
| 6                               | R2     | 3                  | 0.0        | 1.000         | 1597.8            | LOS F            | 2.2                   | 15.7                | 1.00         | 1.04                        | 2.2                |
| Approach                        |        | 223                | 0.0        | 1.000         | 40.1              | LOS E            | 2.5                   | 17.3                | 0.78         | 1.13                        | 34.1               |
| North: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 55                 | 0.0        | 0.407         | 5.6               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.04                        | 57.9               |
| 8                               | T1     | 1532               | 0.0        | 0.407         | 0.1               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.02                        | 59.7               |
| Approach                        |        | 1586               | 0.0        | 0.407         | 0.2               | NA               | 0.0                   | 0.0                 | 0.00         | 0.02                        | 59.6               |
| All Vehicles                    |        | 3396               | 0.0        | 1.000         | 5.1               | NA               | 4.5                   | 31.4                | 0.09         | 0.13                        | 54.7               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: TRAFFIC DESIGN GROUP LTD (TDG) | Processed: Wednesday, 12 July 2017 11:07:52 AM

Project: C:\Users\tomguerni\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY



## Site: 101 [Old Northern Road-Francis Street - Future PM - Option 2]

Future PM Peak Option 2  
Existing plus Development  
Stop (Two-Way)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 2                               | T1     | 1479               | 0.0        | 0.758         | 0.3               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.00                        | 59.5               |
| 3                               | R2     | 154                | 0.0        | 1.123         | 198.7             | LOS F            | 16.9                  | 118.3               | 1.00         | 2.17                        | 13.6               |
| Approach                        |        | 1633               | 0.0        | 1.123         | 18.9              | NA               | 16.9                  | 118.3               | 0.09         | 0.20                        | 45.1               |
| East: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 4                               | L2     | 96                 | 0.0        | 0.223         | 14.9              | LOS B            | 0.8                   | 5.6                 | 0.70         | 1.02                        | 44.4               |
| 6                               | R2     | 1                  | 0.0        | 1.000         | 4048.2            | LOS F            | 2.1                   | 14.5                | 1.00         | 1.02                        | 0.9                |
| Approach                        |        | 97                 | 0.0        | 1.000         | 58.7              | LOS F            | 2.1                   | 14.5                | 0.70         | 1.02                        | 29.0               |
| North: Old Northern Road        |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 65                 | 0.0        | 0.421         | 5.5               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.05                        | 57.2               |
| 8                               | T1     | 1574               | 0.0        | 0.421         | 0.1               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.02                        | 59.5               |
| Approach                        |        | 1639               | 0.0        | 0.421         | 0.3               | NA               | 0.0                   | 0.0                 | 0.00         | 0.02                        | 59.4               |
| All Vehicles                    |        | 3368               | 0.0        | 1.123         | 11.0              | NA               | 16.9                  | 118.3               | 0.07         | 0.14                        | 50.2               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | [sidrasolutions.com](http://sidrasolutions.com)**

Organisation: TRAFFIC DESIGN GROUP LTD (TDG) | Processed: Wednesday, 12 July 2017 11:11:05 AM

Project: C:\Users\tomguerni\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY

 **Site: 101 [Orange Grove-Cecil Avenue - Future AM - Option 2]**

Future AM Peak Option 2  
Existing plus Development  
Roundabout

| Movement Performance - Vehicles |        |                       |               |                  |                      |                  |                                   |               |              |                                |                       |
|---------------------------------|--------|-----------------------|---------------|------------------|----------------------|------------------|-----------------------------------|---------------|--------------|--------------------------------|-----------------------|
| Mov ID                          | OD Mov | Demand Total<br>veh/h | Flows HV<br>% | Deg. Satn<br>v/c | Average Delay<br>sec | Level of Service | 95% Back of Queue<br>Vehicles veh | Distance<br>m | Prop. Queued | Effective Stop Rate<br>per veh | Average Speed<br>km/h |
| South: Orange Grove             |        |                       |               |                  |                      |                  |                                   |               |              |                                |                       |
| 1                               | L2     | 36                    | 0.0           | 0.172            | 5.3                  | LOS A            | 0.9                               | 6.4           | 0.39         | 0.56                           | 45.4                  |
| 2                               | T1     | 108                   | 0.0           | 0.172            | 5.0                  | LOS A            | 0.9                               | 6.4           | 0.39         | 0.56                           | 46.1                  |
| 3                               | R2     | 37                    | 0.0           | 0.172            | 7.8                  | LOS A            | 0.9                               | 6.4           | 0.39         | 0.56                           | 45.8                  |
| 3u                              | U      | 1                     | 0.0           | 0.172            | 9.1                  | LOS A            | 0.9                               | 6.4           | 0.39         | 0.56                           | 46.2                  |
| Approach                        |        | 182                   | 0.0           | 0.172            | 5.6                  | LOS A            | 0.9                               | 6.4           | 0.39         | 0.56                           | 45.9                  |
| East: Cecil Avenue              |        |                       |               |                  |                      |                  |                                   |               |              |                                |                       |
| 4                               | L2     | 69                    | 0.0           | 0.150            | 5.2                  | LOS A            | 0.8                               | 5.5           | 0.37         | 0.54                           | 45.6                  |
| 5                               | T1     | 73                    | 0.0           | 0.150            | 4.8                  | LOS A            | 0.8                               | 5.5           | 0.37         | 0.54                           | 46.2                  |
| 6                               | R2     | 18                    | 0.0           | 0.150            | 7.6                  | LOS A            | 0.8                               | 5.5           | 0.37         | 0.54                           | 46.0                  |
| 6u                              | U      | 1                     | 0.0           | 0.150            | 9.0                  | LOS A            | 0.8                               | 5.5           | 0.37         | 0.54                           | 46.4                  |
| Approach                        |        | 161                   | 0.0           | 0.150            | 5.3                  | LOS A            | 0.8                               | 5.5           | 0.37         | 0.54                           | 45.9                  |
| North: Orange Grove             |        |                       |               |                  |                      |                  |                                   |               |              |                                |                       |
| 7                               | L2     | 22                    | 0.0           | 0.146            | 4.5                  | LOS A            | 0.8                               | 5.5           | 0.20         | 0.55                           | 45.5                  |
| 8                               | T1     | 66                    | 0.0           | 0.146            | 4.1                  | LOS A            | 0.8                               | 5.5           | 0.20         | 0.55                           | 46.1                  |
| 9                               | R2     | 96                    | 0.0           | 0.146            | 6.9                  | LOS A            | 0.8                               | 5.5           | 0.20         | 0.55                           | 45.8                  |
| 9u                              | U      | 3                     | 0.0           | 0.146            | 8.2                  | LOS A            | 0.8                               | 5.5           | 0.20         | 0.55                           | 46.2                  |
| Approach                        |        | 187                   | 0.0           | 0.146            | 5.6                  | LOS A            | 0.8                               | 5.5           | 0.20         | 0.55                           | 45.9                  |
| West: Cecil Avenue              |        |                       |               |                  |                      |                  |                                   |               |              |                                |                       |
| 10                              | L2     | 66                    | 0.0           | 0.078            | 5.1                  | LOS A            | 0.4                               | 2.8           | 0.35         | 0.54                           | 45.6                  |
| 11                              | T1     | 9                     | 0.0           | 0.078            | 4.7                  | LOS A            | 0.4                               | 2.8           | 0.35         | 0.54                           | 46.3                  |
| 12                              | R2     | 5                     | 0.0           | 0.078            | 7.5                  | LOS A            | 0.4                               | 2.8           | 0.35         | 0.54                           | 46.0                  |
| 12u                             | U      | 2                     | 0.0           | 0.078            | 8.9                  | LOS A            | 0.4                               | 2.8           | 0.35         | 0.54                           | 46.4                  |
| Approach                        |        | 83                    | 0.0           | 0.078            | 5.3                  | LOS A            | 0.4                               | 2.8           | 0.35         | 0.54                           | 45.7                  |
| All Vehicles                    |        | 614                   | 0.0           | 0.172            | 5.5                  | LOS A            | 0.9                               | 6.4           | 0.32         | 0.55                           | 45.9                  |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: TRAFFIC DESIGN GROUP LTD (TDG) | Processed: Wednesday, 12 July 2017 11:16:33 AM

Project: C:\Users\tomguerni\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY

 **Site: 101 [Orange Grove-Cecil Avenue - Future PM - Option 2]**

Future PM Peak Option 2  
Existing plus Development  
Roundabout

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| South: Orange Grove             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 1                               | L2     | 19                 | 0.0        | 0.163         | 4.6               | LOS A            | 0.9                   | 6.0                 | 0.24         | 0.54                        | 45.5               |
| 2                               | T1     | 92                 | 0.0        | 0.163         | 4.3               | LOS A            | 0.9                   | 6.0                 | 0.24         | 0.54                        | 46.1               |
| 3                               | R2     | 89                 | 0.0        | 0.163         | 7.0               | LOS A            | 0.9                   | 6.0                 | 0.24         | 0.54                        | 45.9               |
| 3u                              | U      | 1                  | 0.0        | 0.163         | 8.4               | LOS A            | 0.9                   | 6.0                 | 0.24         | 0.54                        | 46.2               |
| Approach                        |        | 201                | 0.0        | 0.163         | 5.5               | LOS A            | 0.9                   | 6.0                 | 0.24         | 0.54                        | 45.9               |
| East: Cecil Avenue              |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 4                               | L2     | 33                 | 0.0        | 0.064         | 4.7               | LOS A            | 0.3                   | 2.2                 | 0.27         | 0.50                        | 45.8               |
| 5                               | T1     | 31                 | 0.0        | 0.064         | 4.4               | LOS A            | 0.3                   | 2.2                 | 0.27         | 0.50                        | 46.4               |
| 6                               | R2     | 9                  | 0.0        | 0.064         | 7.1               | LOS A            | 0.3                   | 2.2                 | 0.27         | 0.50                        | 46.2               |
| 6u                              | U      | 1                  | 0.0        | 0.064         | 8.5               | LOS A            | 0.3                   | 2.2                 | 0.27         | 0.50                        | 46.6               |
| Approach                        |        | 74                 | 0.0        | 0.064         | 4.9               | LOS A            | 0.3                   | 2.2                 | 0.27         | 0.50                        | 46.1               |
| North: Orange Grove             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 18                 | 0.0        | 0.091         | 4.9               | LOS A            | 0.5                   | 3.2                 | 0.30         | 0.54                        | 45.5               |
| 8                               | T1     | 49                 | 0.0        | 0.091         | 4.5               | LOS A            | 0.5                   | 3.2                 | 0.30         | 0.54                        | 46.1               |
| 9                               | R2     | 32                 | 0.0        | 0.091         | 7.3               | LOS A            | 0.5                   | 3.2                 | 0.30         | 0.54                        | 45.8               |
| 9u                              | U      | 3                  | 0.0        | 0.091         | 8.7               | LOS A            | 0.5                   | 3.2                 | 0.30         | 0.54                        | 46.2               |
| Approach                        |        | 102                | 0.0        | 0.091         | 5.6               | LOS A            | 0.5                   | 3.2                 | 0.30         | 0.54                        | 45.9               |
| West: Cecil Avenue              |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 10                              | L2     | 113                | 0.0        | 0.144         | 5.3               | LOS A            | 0.8                   | 5.3                 | 0.39         | 0.57                        | 45.5               |
| 11                              | T1     | 20                 | 0.0        | 0.144         | 5.0               | LOS A            | 0.8                   | 5.3                 | 0.39         | 0.57                        | 46.1               |
| 12                              | R2     | 16                 | 0.0        | 0.144         | 7.7               | LOS A            | 0.8                   | 5.3                 | 0.39         | 0.57                        | 45.9               |
| 12u                             | U      | 3                  | 0.0        | 0.144         | 9.1               | LOS A            | 0.8                   | 5.3                 | 0.39         | 0.57                        | 46.3               |
| Approach                        |        | 152                | 0.0        | 0.144         | 5.6               | LOS A            | 0.8                   | 5.3                 | 0.39         | 0.57                        | 45.6               |
| All Vehicles                    |        | 528                | 0.0        | 0.163         | 5.5               | LOS A            | 0.9                   | 6.0                 | 0.30         | 0.54                        | 45.9               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: SIDRA Roundabout LOS.

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | [sidrasolutions.com](http://sidrasolutions.com)**

Organisation: TRAFFIC DESIGN GROUP LTD (TDG) | Processed: Wednesday, 12 July 2017 11:18:03 AM

Project: C:\Users\tomguerni\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY

## ▼ Site: 101 [Francis Street-Roger Avenue - Future AM - Option 2]

Future AM Peak Option 2  
Existing plus Development  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| East: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 5                               | T1     | 213                | 0.0        | 0.120         | 0.1               | LOS A            | 0.1                   | 0.8                 | 0.05         | 0.04                        | 49.6               |
| 6                               | R2     | 16                 | 0.0        | 0.120         | 5.1               | LOS A            | 0.1                   | 0.8                 | 0.05         | 0.04                        | 48.7               |
| Approach                        |        | 228                | 0.0        | 0.120         | 0.4               | NA               | 0.1                   | 0.8                 | 0.05         | 0.04                        | 49.6               |
| North: Roger Avenue             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 13                 | 0.0        | 0.028         | 5.0               | LOS A            | 0.1                   | 0.7                 | 0.29         | 0.56                        | 46.0               |
| 9                               | R2     | 17                 | 0.0        | 0.028         | 6.1               | LOS A            | 0.1                   | 0.7                 | 0.29         | 0.56                        | 45.5               |
| Approach                        |        | 29                 | 0.0        | 0.028         | 5.6               | LOS A            | 0.1                   | 0.7                 | 0.29         | 0.56                        | 45.7               |
| West: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 10                              | L2     | 7                  | 0.0        | 0.088         | 4.6               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.02                        | 49.4               |
| 11                              | T1     | 164                | 0.0        | 0.088         | 0.0               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.02                        | 49.9               |
| Approach                        |        | 172                | 0.0        | 0.088         | 0.2               | NA               | 0.0                   | 0.0                 | 0.00         | 0.02                        | 49.8               |
| All Vehicles                    |        | 429                | 0.0        | 0.120         | 0.7               | NA               | 0.1                   | 0.8                 | 0.05         | 0.07                        | 49.4               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | [sidrasolutions.com](http://sidrasolutions.com)**

Organisation: TRAFFIC DESIGN GROUP LTD (TDG) | Processed: Wednesday, 12 July 2017 11:19:09 AM

Project: C:\Users\tomguerni\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7

# MOVEMENT SUMMARY

## ▼ Site: 101 [Francis Street-Roger Avenue - Future PM - Option 2]

Future PM Peak Option 2  
Existing plus Development  
Giveway / Yield (Two-Way)

| Movement Performance - Vehicles |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
|---------------------------------|--------|--------------------|------------|---------------|-------------------|------------------|-----------------------|---------------------|--------------|-----------------------------|--------------------|
| Mov ID                          | OD Mov | Demand Total veh/h | Flows HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back Vehicles veh | of Queue Distance m | Prop. Queued | Effective Stop Rate per veh | Average Speed km/h |
| East: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 5                               | T1     | 81                 | 0.0        | 0.052         | 0.1               | LOS A            | 0.1                   | 0.7                 | 0.11         | 0.09                        | 49.2               |
| 6                               | R2     | 15                 | 0.0        | 0.052         | 5.2               | LOS A            | 0.1                   | 0.7                 | 0.11         | 0.09                        | 48.3               |
| Approach                        |        | 96                 | 0.0        | 0.052         | 0.9               | NA               | 0.1                   | 0.7                 | 0.11         | 0.09                        | 49.1               |
| North: Roger Avenue             |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 7                               | L2     | 1                  | 0.0        | 0.003         | 5.1               | LOS A            | 0.0                   | 0.1                 | 0.29         | 0.52                        | 46.0               |
| 9                               | R2     | 2                  | 0.0        | 0.003         | 5.6               | LOS A            | 0.0                   | 0.1                 | 0.29         | 0.52                        | 45.6               |
| Approach                        |        | 3                  | 0.0        | 0.003         | 5.4               | LOS A            | 0.0                   | 0.1                 | 0.29         | 0.52                        | 45.7               |
| West: Francis Street            |        |                    |            |               |                   |                  |                       |                     |              |                             |                    |
| 10                              | L2     | 11                 | 0.0        | 0.104         | 4.6               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.03                        | 49.3               |
| 11                              | T1     | 193                | 0.0        | 0.104         | 0.0               | LOS A            | 0.0                   | 0.0                 | 0.00         | 0.03                        | 49.8               |
| Approach                        |        | 203                | 0.0        | 0.104         | 0.2               | NA               | 0.0                   | 0.0                 | 0.00         | 0.03                        | 49.8               |
| All Vehicles                    |        | 302                | 0.0        | 0.104         | 0.5               | NA               | 0.1                   | 0.7                 | 0.04         | 0.05                        | 49.5               |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

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 is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

**SIDRA INTERSECTION 7.0 | Copyright © 2000-2017 Akcelik and Associates Pty Ltd | sidrasolutions.com**

Organisation: TRAFFIC DESIGN GROUP LTD (TDG) | Processed: Wednesday, 12 July 2017 11:20:33 AM

Project: C:\Users\tomguerni\Dropbox (TDG)\Australia Business\Australia Jobs\13500 - 13999\13561 - Merc, Cecil Ave, Castle Hill Residential Parking\13561.003 - Miscellaneous\Sidra\120717 Castle Hill.sip7