

# Technical Memorandum

Received 20 December 2023

|               |                                                            |               |                                |
|---------------|------------------------------------------------------------|---------------|--------------------------------|
| Memo No.      | 30031870-ABD-001                                           | Date of Issue | 4 December 2023                |
| Subject       | Aura Business Park Signalised Intersection Assessment      | Discipline    | Traffic Planning and Analytics |
| Project Title | Aura Business Park                                         | Project No.   | 30031870                       |
| Document No.  | 30031870-ABD-001                                           | Revision      | 0                              |
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| Prepared for  | Stockland Development Pty Ltd                              | Attention to  | L. Hiscock                     |
| Attachments   | Appendix A – Traffic Volumes<br>Appendix B – SIDRA Outputs |               |                                |

## 1. Introduction

SMEC Australia Pty Ltd (SMEC) has been commissioned by Stockland Development Pty Ltd to complete an assessment of the operation of several major signalised intersections associated with the development of Aura Business Park (ABP) Precincts 3-5 as referred to in the approved DEV2013/439 Plan of Development (PoD) dated 10/10/2022 shown in Figure 1 below. The purpose of this report is to analyse the intersection operation, assess traffic safety and traffic flow to investigate if there are any operational issues with the designs proposed based on forecast ultimate traffic volumes by others. The proposed designs are required to comply with the requirements of the Caloundra South PDA Infrastructure Agreement (the IA) between Stockland and Sunshine Coast Council.

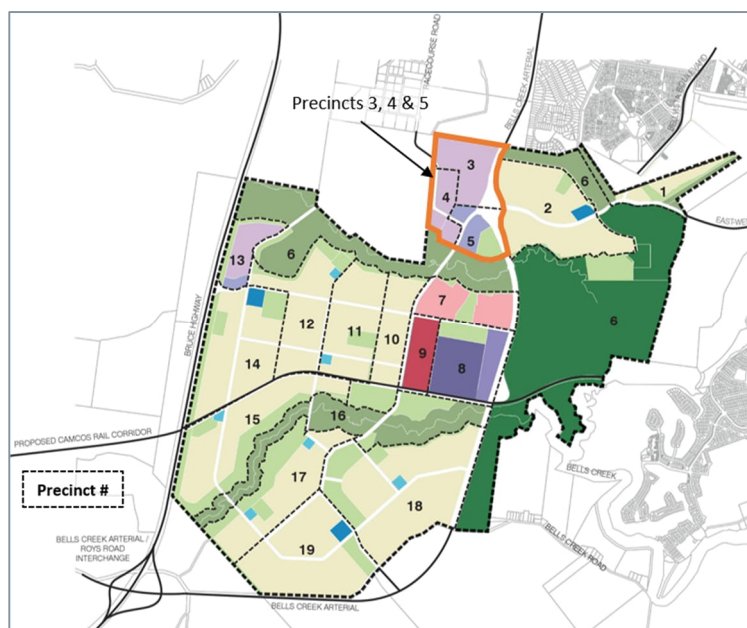


Figure 1 – Aura Development Precincts (Extract from Unitywater Infrastructure Agreement: map produced by URBIS)

## 2. Analysis Background

### 2.1 Key Intersections

The following are the key intersections analysed in this technical memo:

- Aura Blvd and Graf Dr – Signalised (PwC Intersection 61)
- Graf Dr and Hancock Way – Signalised (PwC Intersection 60) (Unsignalised during Phase 1, not analysed)
- Graf Dr and Packer Rd – Signalised (PwC Intersection 62)
- Aura Blvd and Stage 22A – Signalised (PwC Intersection 58) (Unsignalised during Phase 1, not analysed)

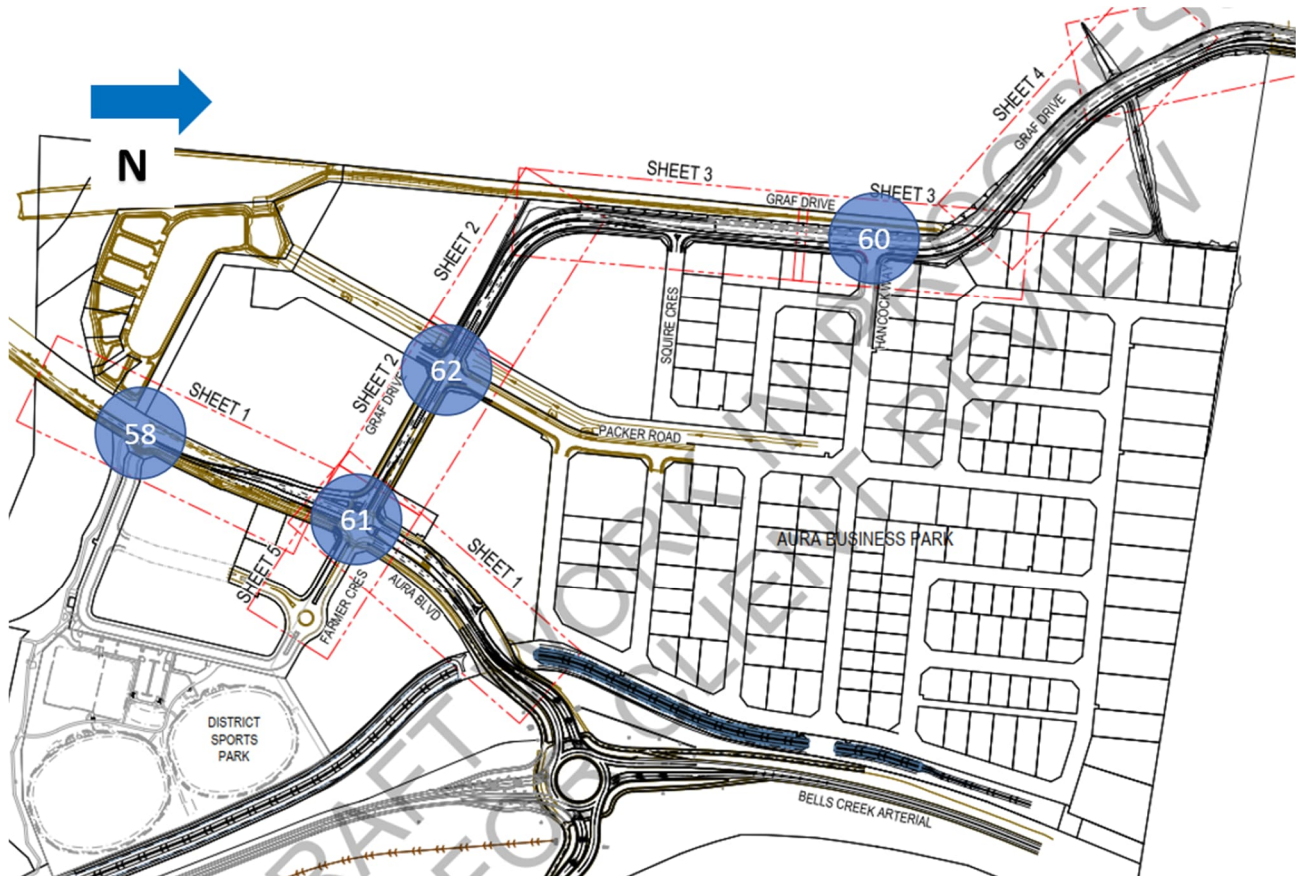


Figure 2 – Aura Boulevard and Graf Drive Intersection Locations

### 2.2 SIDRA Parameters

Each of the intersections were analysed using SIDRA Network to assess the traffic performance. The key parameters that were applied throughout all SIDRA are shown below. These are primarily the default parameters of SIDRA 9.0.

| Parameters               | Value                |
|--------------------------|----------------------|
| Unit time for volumes    | 60 min               |
| Peak flow period         | 30 min               |
| Peak hour factor (PHF)   | 95 %                 |
| Basic saturation flow    | 1,950 tcu/h          |
| Gap acceptance           | SIDRA default values |
| Pedestrian Walking Speed | 1.3 m/s              |
| Pedestrian Volumes       | 20 per hour          |
| Unit time for volumes    | 60 min               |

| Parameters             | Value  |
|------------------------|--------|
| Peak flow period       | 30 min |
| Peak hour factor (PHF) | 95 %   |

#### Level of Service (LoS)

The performance of each of the intersections for the project was undertaken utilising SIDRA Intersection (v9.0) (Ackelik, 2010). The parameters that were used for reporting of performance are consistent with typical TMR requirements, that is, the use of the SIDRA default reporting parameters relating to delay thresholds Table 1 outlines the LoS thresholds used for the purposes of reporting.

Table 1 – Level of Service (based on delay only)

| Level of Service | Signalised                                                           | Unsignalised     |
|------------------|----------------------------------------------------------------------|------------------|
|                  | Control delay per vehicle in seconds (d) (including geometric delay) |                  |
| A                | $d \leq 10$                                                          | $d \leq 10$      |
| B                | $10 < d \leq 20$                                                     | $10 < d \leq 15$ |
| C                | $20 < d \leq 35$                                                     | $15 < d \leq 25$ |
| D                | $35 < d \leq 55$                                                     | $25 < d \leq 35$ |
| E                | $55 < d \leq 80$                                                     | $35 < d \leq 50$ |
| F                | $80 < d$                                                             | $50 < d$         |

#### Degree of Saturation (DoS)

This is a key consideration in macro or mesoscopic modelling level due to their less detailed nature and more simplistic approach to performance. This is less commonly a requirement at microscopic or individual intersection level. However, for this assessment it has been used as a required threshold to comply with the IA. In accordance with the IA, a DoS (V/C) of  $<0.9$  was adopted for signalised intersections for all movements. SIDRA takes the maximum DoS as its overall measure for the intersection. This was generally the critical parameter most difficult to achieve for all intersections.

#### Queue Length

The queue length of an intersection should not interfere with upstream intersections, such as queueing across signalised boxes, or roundabouts. When queueing near unsignalised intersections, the preference is for no queueing across stop or yield lines or blocking right turning traffic into or out of high traffic driveways – such commercial lots or large car parks.

## 2.3 Traffic Volumes Data

The traffic volumes used in this analysis are shown in Appendix A. The demand models for this testing are from the PwC model named “MWH Aura Visum Model” which utilises the ultimate demographic dataset for the Aura Development.

Some minor modifications to distribution were made with additional changes to intersection design and connections, such as the Aura Blvd and Packer Road and Farmer Crescent intersection. Additionally, where volumes were low (such as zero) these were increased to at least 10 vehicles.

### 3. SIDRA Analysis

#### 3.1 Aura Boulevard, Graf Drive and Farmer Crescent (PwC Intersection 61)

The layout of the intersection is shown below, in Figure 3. This layout has the following features:

- Bus queue jump lanes north and south which continue past the next downstream intersection and then merge back into general traffic. These start with left turn pockets just prior to the intersection.
- Dual turn lefts on the western approach to reduce queuing back to the McDonalds driveway approximately 100 meters before the intersection and accommodate the PM traffic volume.
- Right turn pockets on Aura Boulevard to allow for right turning vehicles to queue away from the through traffic.
- Farmer Crescent has dual lanes provided to service the future industrial development and proposed district sports park to the west.
- A staggered pedestrian crossing on the southern approach.

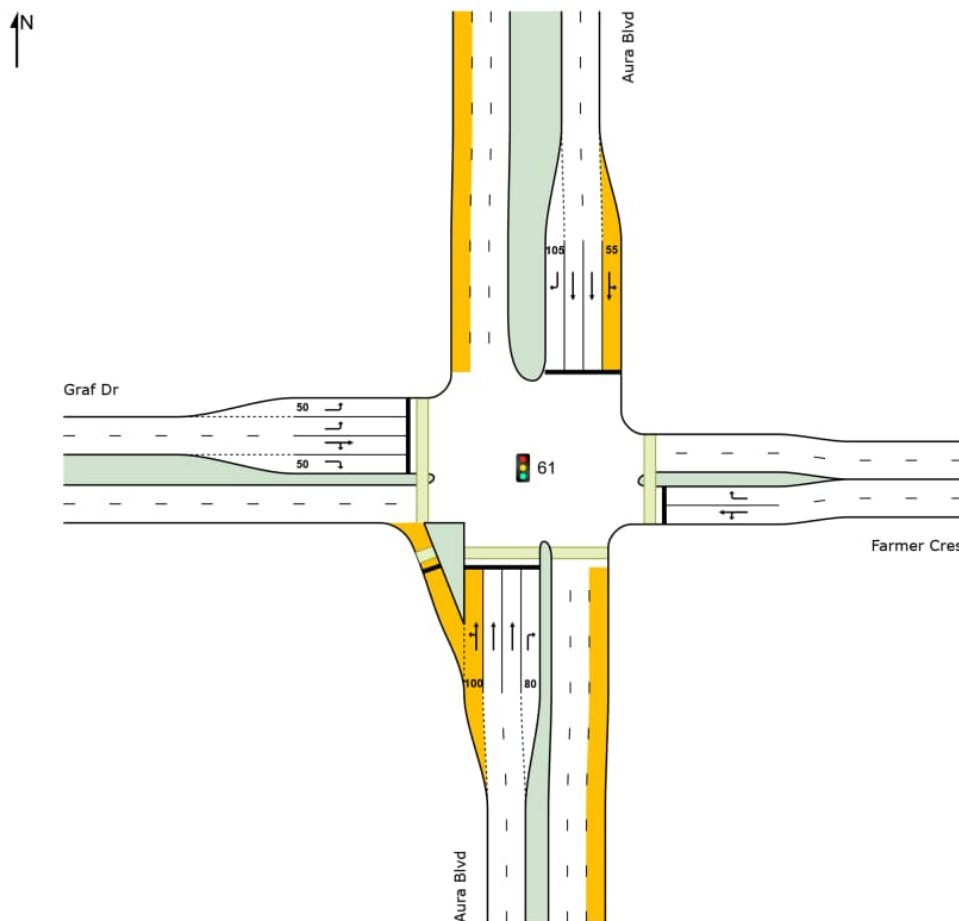


Figure 3 – Aura Boulevard, Graf Drive and Farmer Crescent Layout

Table 2 and Table 3 shows the overall operational performance of the intersection for AM and PM.

Table 2 – Movement Summary – Aura Boulevard, Graf Drive and Farmer Crescent – AM

| Approach           | Volume (vehicles) | Degree of Saturation (V/C) | Avg. Delay (seconds) | LoS   | 95th Percentile Queue (m) |
|--------------------|-------------------|----------------------------|----------------------|-------|---------------------------|
| South: Aura Blvd   | 1151              | 0.589                      | 24.4                 | LOS C | 118                       |
| East: Farmers Cres | 95                | 0.678                      | 58.3                 | LOS E | 28                        |
| North: Aura Blvd   | 1635              | 0.899                      | 46.8                 | LOS D | 242                       |
| West: Graf Dr      | 628               | 0.782                      | 43.0                 | LOS D | 65                        |
| All Vehicles       | 3509              | 0.899                      | 39.1                 | LOS D | 242                       |

Table 3 – Movement Summary – Aura Boulevard, Graf Drive and Farmer Crescent – PM

| Approach           | Volume (vehicles) | Degree of Saturation (V/C) | Avg. Delay (seconds) | LoS   | 95th Percentile Queue (m) |
|--------------------|-------------------|----------------------------|----------------------|-------|---------------------------|
| South: Aura Blvd   | 899               | 0.529                      | 23.6                 | LOS C | 87                        |
| East: Farmers Cres | 195               | 0.797                      | 51.3                 | LOS D | 50                        |
| North: Aura Blvd   | 1372              | 0.837                      | 38.0                 | LOS D | 176                       |
| West: Graf Dr      | 965               | 0.790                      | 37.8                 | LOS D | 72                        |
| All Vehicles       | 3431              | 0.837                      | 34.9                 | LOS C | 176                       |

### 3.1.1 Summary

Both AM and PM are operating within acceptable levels of service (equal to or better than LoS D/E), V/C <0.9, Average Delay < 60 seconds and have a maximum queuing of less than 250 meters on the northern approach along Aura Blvd. This queuing does not interfere with any upstream intersections. The western approach which only has 100 meters before interfering with an upstream driveway (the McDonalds entrance) has a forecast maximum of 72 meters queuing and is therefore unaffected.

A left turn signal is required to be installed on the western approach to allow independent operation of the left turn phase.

### 3.1.2 Additional Observations

The following are general observations to provide context to the intersection's operations and sensitivities.

#### Pedestrian crossings

As part of the intersection design, it was intended to include a fourth pedestrian crossing on the northern leg to improve pedestrian safety and reduce the occurrence of non-compliance crossing. Investigation into this crossing found that it is SIDRA results could not comply with the IA parameters, particularly due to the use of default SIDRA parameters for 50 pedestrians per hour and limiting DoS (V/C) to 0.9.

A non-staggered north and southern crossing could be accommodated if there was a relaxation of the Degree of Saturation criteria and a reduction of assumed pedestrians to 20 per hour. The intersection would still meet level of service criteria (LoS D or better). Also, a reduction of 50 pedestrians to 20 pedestrians would still be below the observed number of activations at the time of this memo. An assumed 50 pedestrians are equivalent to 80-90% pedestrian activation. The observed activations using Council data collected in November 2023 had a maximum of 35% activation rate between 3-4 pm; all other time periods were below 10% activation. An activation rate of 35% would be equivalent to approximately 20 pedestrians based on SIDRA's internal assumptions.

Given that the development in P3-5 is ongoing with delivery of a nearby district sport park imminent it is anticipated this will increase and therefore the northern crossing was removed to comply with the IA. It is suggested that EDQ & Council consider a reduced 20 peak pedestrian per hour value to include the northern crossing, however it is noted that if pedestrian volumes exceed this value the intersection performance will not meet the IA in terms of LoS and DoS (if both peaks occur simultaneously).

A signalised pedestrian crossing has been proposed across the left bypass lane for the southern leg of the intersection in line with the Sunshine Coast Planning Scheme. A zebra crossing could be considered if supported by Council and EDQ.

#### Queuing and dual lefts on western approach

The dual left approach provides the ability to shorten the overall queue length of the western leg in the PM. Accommodating the approximately 500 vehicles turning left. It should be noted that a similar single left turn would allow for an overall better operation for the intersection, but with longer queuing. This queuing would cross the entrance of the McDonalds entrance. The reason for this is a dual left turn cannot safely filter across the pedestrian crossing on the northern leg (Phase B), but a single left turn could. This would allow for a greater amount of overall green time for a single leg left.

### 3.2 Graf Drive and Hancock Way (PwC Intersection 60)

The layout of the intersection is shown in Figure 4.

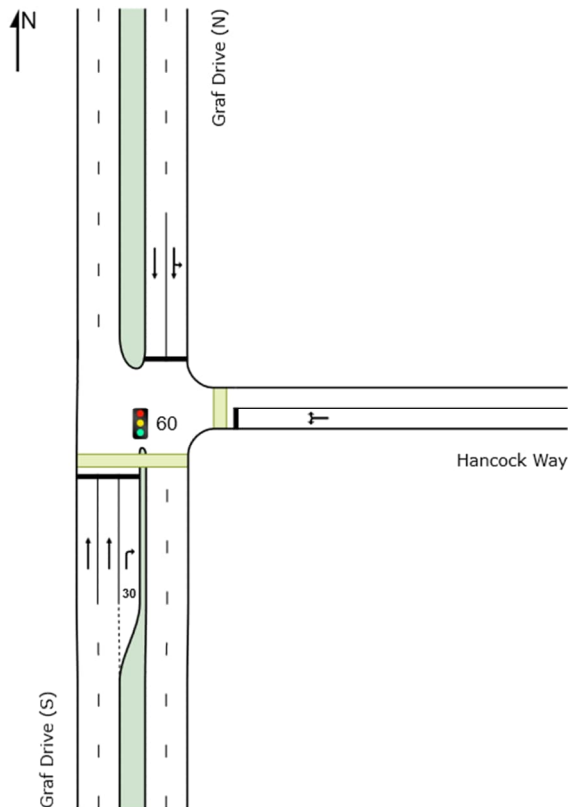


Figure 4 – Graf Drive and Hancock Way

Table 4 and Table 5 shows the overall operational performance of the intersection for AM and PM.

Table 4 – Movement Summary – Graf Drive and Hancock Way – AM

| Approach          | Volume (vehicles) | Degree of Saturation (V/C) | Avg. Delay (seconds) | LoS   | 95th Percentile Queue (m) |
|-------------------|-------------------|----------------------------|----------------------|-------|---------------------------|
| South: Graf Dr    | 298               | 0.146                      | 5.4                  | LOS A | 11                        |
| East: Hancock Way | 75                | 0.294                      | 23.3                 | LOS C | 11                        |
| North: Graf Dr    | 578               | 0.655                      | 17.9                 | LOS B | 43                        |
| All Vehicles      | 951               | 0.655                      | 14.4                 | LOS B | 43                        |

Table 5 – Movement Summary – Graf Drive and Hancock Way – PM

| Approach          | Volume (vehicles) | Degree of Saturation (V/C) | Avg. Delay (seconds) | LoS   | 95th Percentile Queue (m) |
|-------------------|-------------------|----------------------------|----------------------|-------|---------------------------|
| South: Graf Dr    | 290               | 0.149                      | 5.9                  | LOS A | 11                        |
| East: Hancock Way | 186               | 0.624                      | 24                   | LOS C | 29                        |
| North: Graf Dr    | 452               | 0.564                      | 16.7                 | LOS B | 33                        |
| All Vehicles      | 928               | 0.624                      | 14.8                 | LOS B | 33                        |

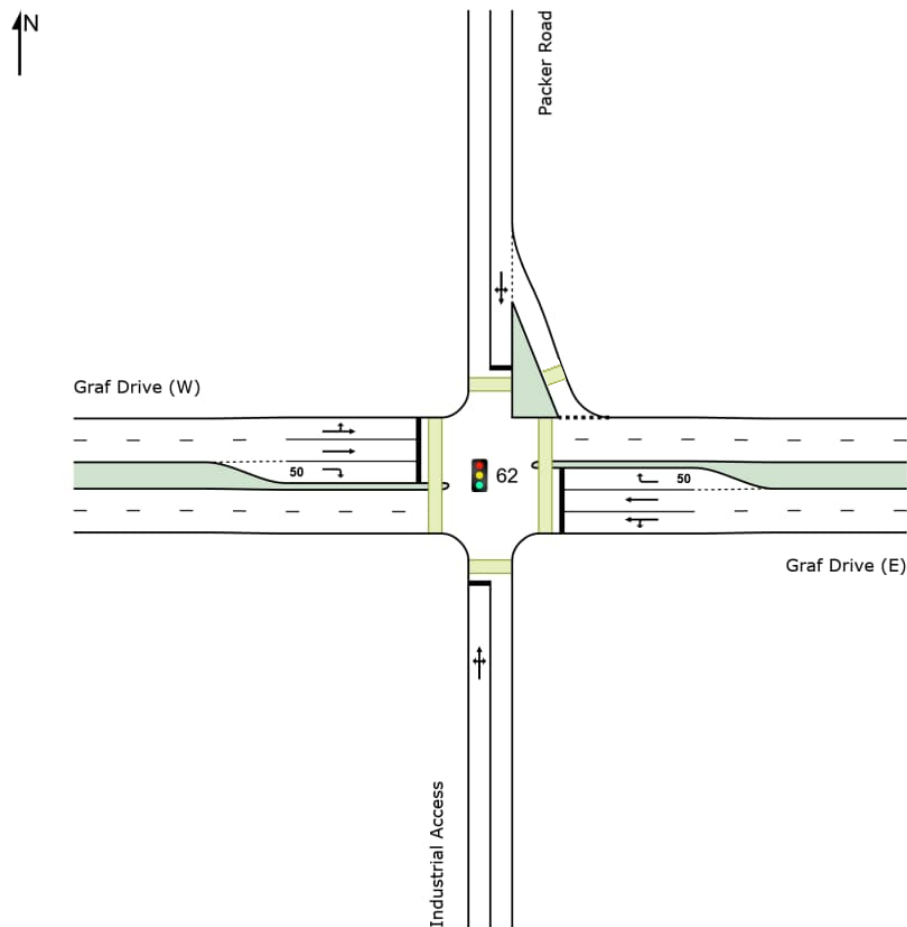
#### 3.2.1 Summary

Both AM and PM are operating within acceptable levels of service (equal to or better than LoS D/E),  $V/C < 0.9$ , Average Delay < 60 seconds and have a maximum queuing of less than 50 meters. This queuing does not interfere with any upstream intersections.



### 3.3 Graf Drive and Packer Road (PwC Intersection 62)

The layout of the intersection is shown in Figure 5.



### Figure 5 – Graf Drive and Packer Road

Table 6 and Table 7 shows the overall operational performance of the intersection for AM and PM.

Table 6 – Movement Summary – Graf Drive and Packer Road – AM

| Approach               | Volumes (vehicles) | Degree of Saturation | Delay (seconds) | LoS   | 95 <sup>th</sup> Percentile Queue (m) |
|------------------------|--------------------|----------------------|-----------------|-------|---------------------------------------|
| South: Packer Road (S) | 111                | 0.609                | 35.4            | LOS D | 26                                    |
| East: Graf Drive (E)   | 610                | 0.804                | 31.8            | LOS C | 68                                    |
| North: Packer Road (N) | 149                | 0.256                | 13.6            | LOS B | 16                                    |
| West: Graf Drive (W)   | 465                | 0.781                | 30.8            | LOS C | 52                                    |
| All Vehicles           | 1335               | 0.804                | 29.7            | LOS C | 68                                    |

Table 7 – Movement Summary – Graf Drive and Packer Road – PM

| Approach               | Volumes (vehicles) | Degree of Saturation | Delay (seconds) | LoS   | 95 <sup>th</sup> Percentile Queue (m) |
|------------------------|--------------------|----------------------|-----------------|-------|---------------------------------------|
| South: Packer Road (S) | 165                | 0.667                | 37.9            | LOS D | 44                                    |
| East: Graf Drive (E)   | 503                | 0.863                | 35.4            | LOS D | 52                                    |
| North: Packer Road (N) | 296                | 0.382                | 12.4            | LOS B | 31                                    |
| West: Graf Drive (W)   | 580                | 0.832                | 36.3            | LOS D | 81                                    |
| All Vehicles           | 1544               | 0.863                | 31.6            | LOS C | 81                                    |

### 3.3.1 Summary

Both AM and PM are operating within acceptable levels of service (equal to or better than LoS D/E), V/C <0.9, Average Delay < 60 seconds and have a maximum queuing of less than 100 meters. This queuing does not interfere with any upstream intersections.

### 3.3.2 Additional observations

The following are general observations to provide context to the intersection's operations and sensitivities.

This intersection is very closely spaced to Aura Boulevard and Graf Drive (PwC Intersection 61) at approximately 200 meters. Additionally, between these two intersections there is currently planned access driveways to businesses to the north (including a large format retail centre and McDonalds) and to the south (fuel station and future commercial offices). The close spacing of these traffic signals and access points are likely to make these two intersections interdependent. It is recommended that if possible that synchronisation between these two intersections be investigated along with the access point impacts. As Graf Drive is a two-lane collector there might also be safety concerns or congestion due to weaving across these two lanes – in particular to enter these access driveways. SIDRA is limited in how it can assess these weaving movements which are better assessed in a microsimulation.



### 3.4 Aura Boulevard, Stage 22A and Farmer Crescent (PwC Intersection 58)

The layout of the intersection is shown below, in Figure 6. This layout has the following features:

- Bus jumps on the north and southbound approach
- Both side streets have all movement signalisation
- Cycle time for this intersection is 100 seconds. This is to match the Aura Blvd and Graf Drive intersection 300 meters north of this intersection. By having matching cycle times the two intersections can be synchronised to allow for a green wave for Aura Blvd through traffic.

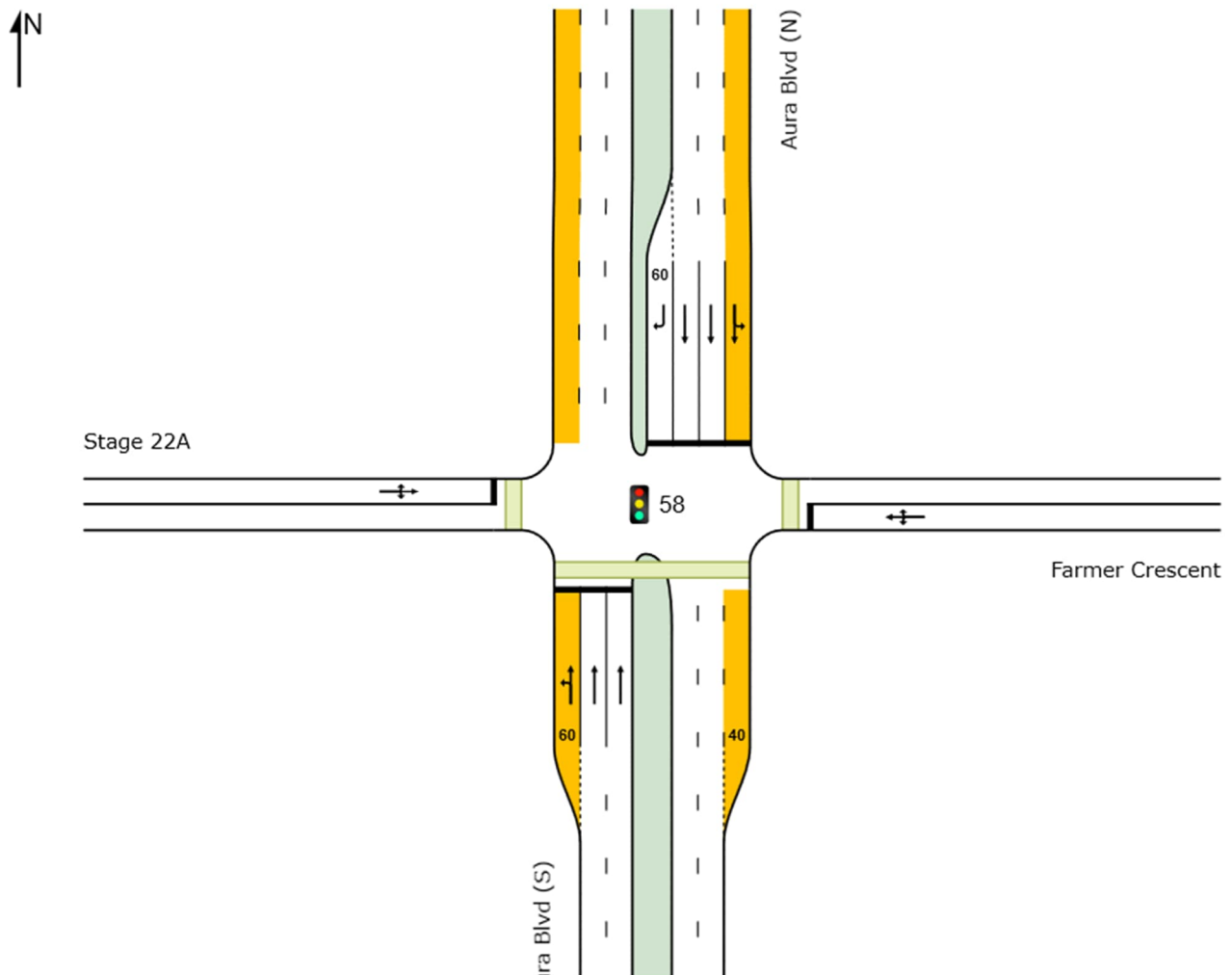


Figure 6 – Aura Boulevard, Stage 22A and Farmer Crescent

Table 8 and Table 9 show the overall operational performance of the intersection for AM and PM.

Table 8 – Movement Summary – Aura Blvd, Stage 22A, and Farmer Crescent – AM

| Approach              | Volumes (vehicles) | Degree of Saturation | Delay (seconds) | LoS   | 95 <sup>th</sup> Percentile Queue (m) |
|-----------------------|--------------------|----------------------|-----------------|-------|---------------------------------------|
| South: Aura Blvd (S)  | 1258               | 0.748                | 26.2            | LOS C | 179                                   |
| East: Farmer Crescent | 75                 | 0.547                | 56.8            | LOS E | 29                                    |
| North: Aura Blvd (N)  | 1452               | 0.732                | 15.9            | LOS B | 133                                   |
| West: Stage 22A       | 116                | 0.753                | 58.1            | LOS E | 47                                    |
| All Vehicles          | 2901               | 0.753                | 23.1            | LOS C | 179                                   |

Table 9 – Movement Summary – Aura Blvd, Stage 22A, and Farmer Crescent – PM

| Approach              | Volumes | Degree of Saturation | Delay | LoS   | 95 <sup>th</sup> Percentile Queue |
|-----------------------|---------|----------------------|-------|-------|-----------------------------------|
| South: Aura Blvd (S)  | 898     | 0.688                | 31.2  | LOS C | 133                               |
| East: Farmer Crescent | 120     | 0.701                | 57.4  | LOS E | 47                                |
| North: Aura Blvd (N)  | 1373    | 0.730                | 23.6  | LOS C | 192                               |
| West: Stage 22A       | 277     | 0.738                | 47.1  | LOS D | 102                               |
| All Vehicles          | 2668    | 0.738                | 30.1  | LOS C | 192                               |

### 3.4.1 Summary

Both AM and PM are operating within acceptable levels of service (equal to or better than LoS D/E), V/C <0.9, Average Delay < 60 seconds. It has a maximum queuing of less than 200 meters on the north approach and does not interfere with any upstream intersections.

The cycle

### 3.4.2 Additional observations

The dominant flow of traffic is the north-south traffic along Aura Boulevard. Three other phases are required to accommodate side street traffic and the southbound right turn into Stage 22A.

The crossing time across Aura Boulevard for pedestrians is quite high due to the distance required to cross, however this crossing will form a key link between the eastern (Stage 23E) and western (Stage 23D) linear parks which ultimately connect to the district sports park (Stage 6B), WSUD wetlands (Stage 23B & 23C) and Aura Precinct 2.

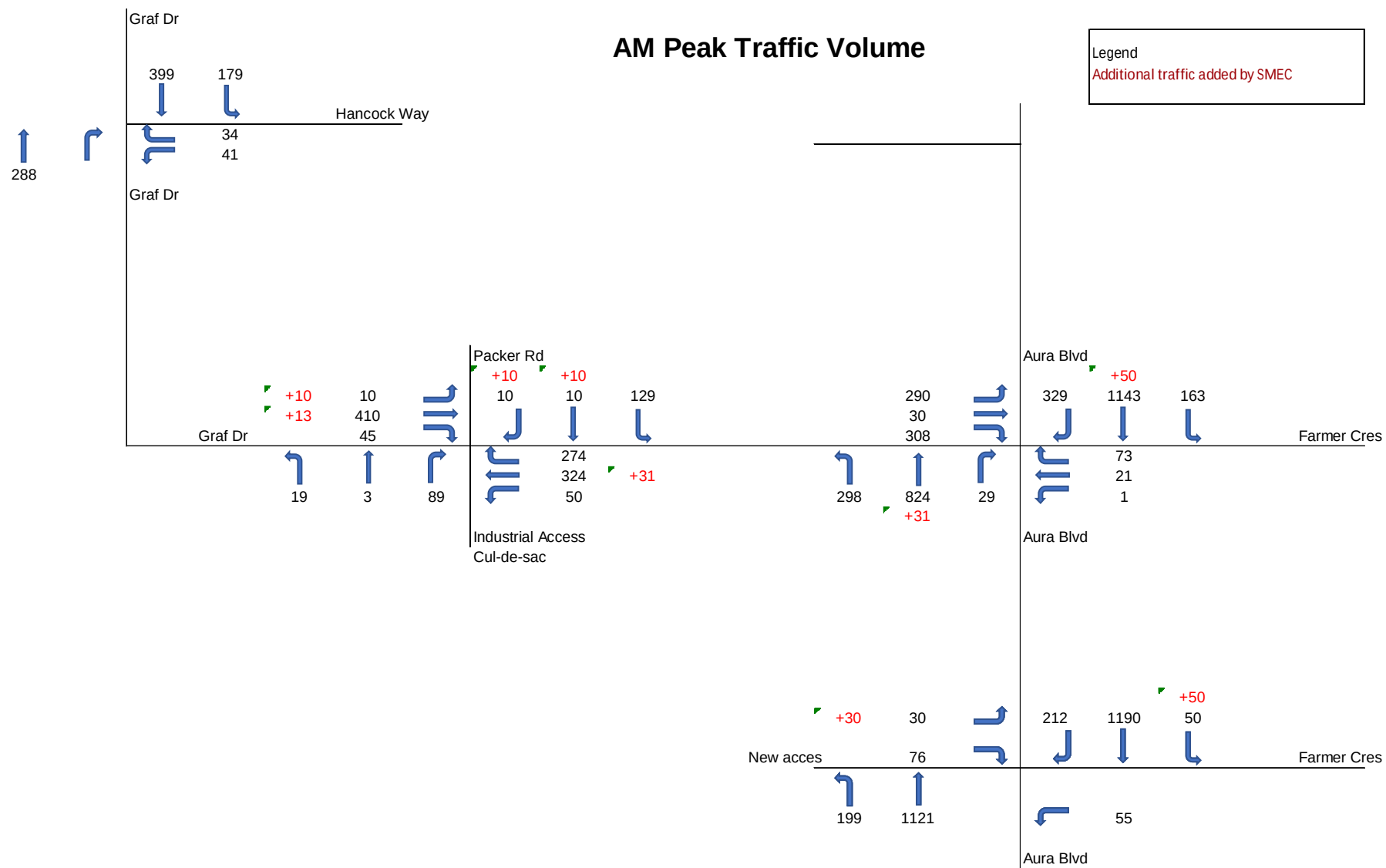
### 3.5 Summary

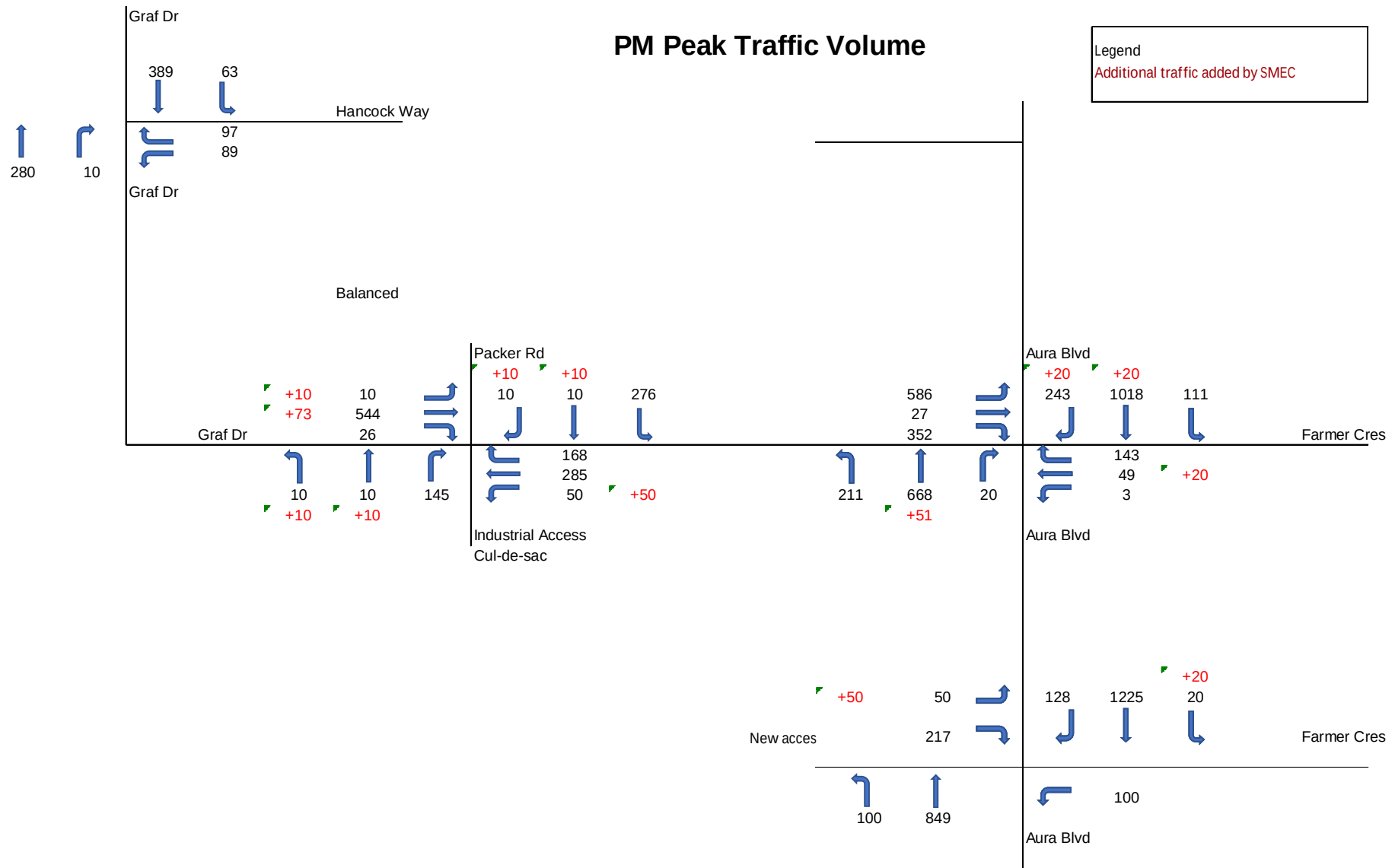
The following is a summary review of all intersection's performance based on the proposed design. Performance criteria for each of these intersections are as follows:

- Level of service is D or better for the intersection overall, worst movement E.
- Degree of saturation for signalised intersections of 0.9 for all individual movements.
- Average delay <60 seconds
- Queuing does not interfere with upstream intersections.

| Intersection Name                         | Operating within Acceptable Criteria | Intersection Type | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------|--------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aura Blvd and Graf Dr                     | ✓                                    | Signalised        | <p>Intersection operates within acceptable performance criteria. The pedestrian crossing across Aura Blvd are approximately 28 meters and the crossing time is quite long. Therefore, the overall operation of the intersection is sensitive pedestrian volumes and increased call times.</p> <p>Unstaggered pedestrian crossings could be provided for all approaches if the degree of saturation performance criteria were relaxed and assumed pedestrians were decreased to 20 pedestrians in the peak hour. The relaxation of degree of saturation criteria would mean focusing instead on meeting Level of Service as the primary criteria. The reduction of pedestrians to 20 pedestrians in the peak hour results in approximately 35% activation which is equivalent to the observed maximum activation occurring during the 3-4pm peak period. All other times of the day the activation is less than 10%.</p> |
| Graf Dr and Hancock Way                   | ✓                                    | Signalised        | Intersection operates within acceptable performance criteria.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Graf Dr and Packer Rd                     | ✓                                    | Signalised        | <p>Intersection operates within acceptable performance criteria. The close interaction between this intersection, Aura Boulevard and the access driveways in between (approximately 100 meters apart) can raise concerns for queuing and weaving. Since Graf Drive is 2 lanes, vehicles may be required to weave across lanes to get into their desired lane to turn into the driveways creating an unsafe environment or congestion if there is significant weaving. This is best assessed in a microsimulation modelling package that would simulate the network of signals based on an individual car basis.</p>                                                                                                                                                                                                                                                                                                     |
| Aura Blvd, Stage 22A, and Farmer Crescent | ✓                                    | Signalised        | Intersection operates within acceptable performance criteria.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## Appendix A      Traffic Volumes (Modelling by PwC)





## Appendix B      SIDRA Outputs



# SITE LAYOUT

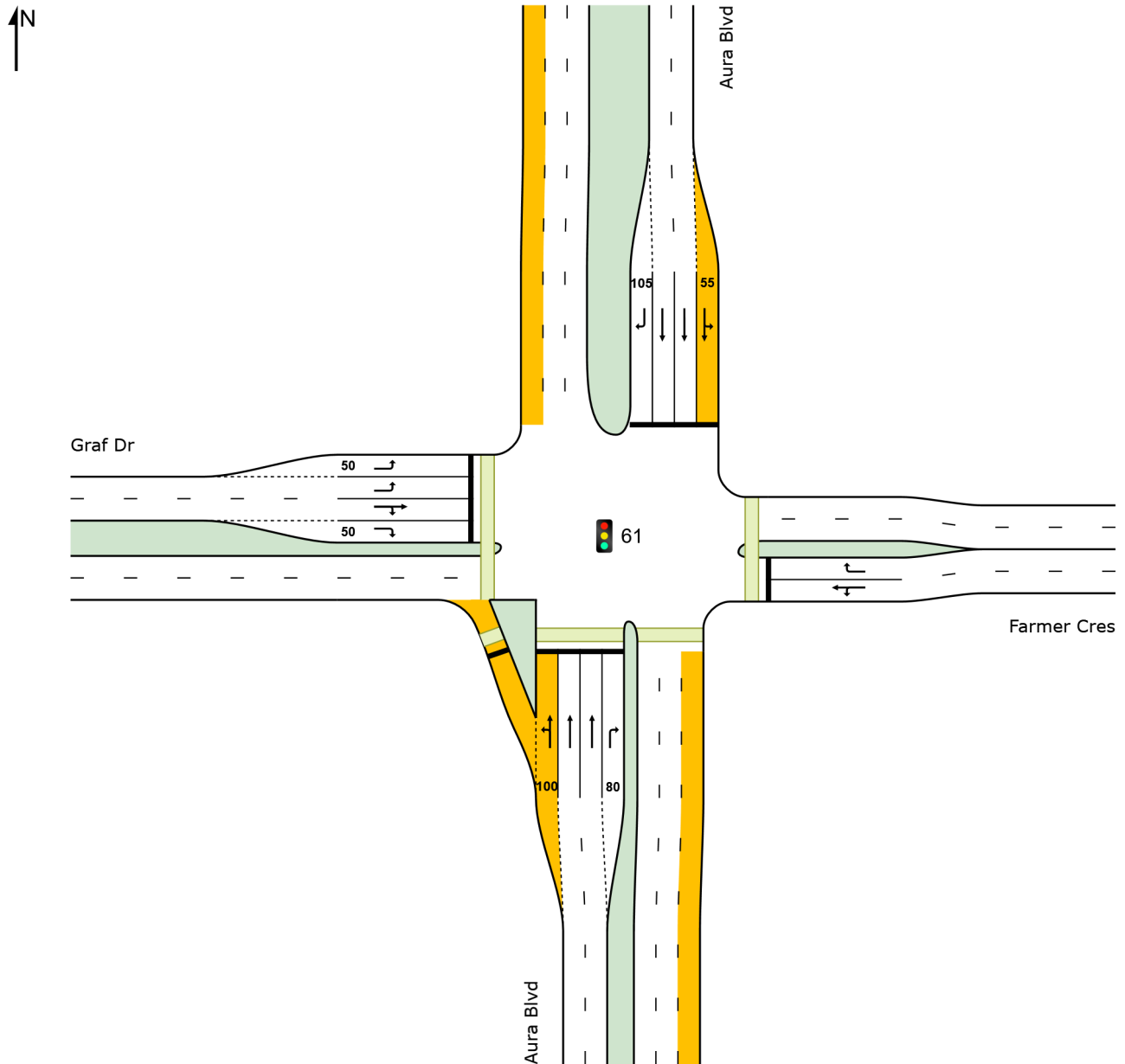
 **Site: 61 [WORKING\_AM - Stockland Final - Diamond (Site Folder: Final Design Updated Volumes - 7 Nov)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Organisation: SMEC AUSTRALIA | Licence: NETWORK / Enterprise | Created: Friday, 1 December 2023 1:30:45 PM

Project: C:\Users\df12561\OneDrive - Surbana Jurong Private Limited\Desktop\SIDRA\01\_AURA SIDRA Refined (61).sip9

# MOVEMENT SUMMARY

 **Site: 61 [WORKING\_AM - Stockland Final - Diamond (Site Folder: Final Design Updated Volumes - 7 Nov)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site Practical Cycle Time)

| Vehicle Movement Performance |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |  |
|------------------------------|------|---------------|--------|---------------|--------|-----------|-------------|------------------|-------------------|----------|-----------|---------------------|------------------|-------------|--|
| Mov ID                       | Turn | INPUT VOLUMES |        | DEMAND FLOWS  |        | Deg. Satn | Aver. Delay | Level of Service | 95% BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed |  |
|                              |      | [ Total veh/h | HV ] % | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |  |
| South: Aura Blvd             |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |  |
| 1                            | L2   | 298           | 5.0    | 298           | 5.0    | * 0.334   | 14.9        | LOS B            | 6.1               | 44.4     | 0.64      | 0.74                | 0.64             | 40.0        |  |
| 2                            | T1   | 824           | 5.1    | 824           | 5.1    | 0.589     | 27.3        | LOS C            | 16.2              | 118.3    | 0.86      | 0.75                | 0.86             | 35.8        |  |
| 3                            | R2   | 29            | 5.0    | 29            | 5.0    | 0.077     | 39.9        | LOS D            | 1.1               | 8.3      | 0.83      | 0.71                | 0.83             | 26.1        |  |
| Approach                     |      | 1151          | 5.1    | 1151          | 5.1    | 0.589     | 24.4        | LOS C            | 16.2              | 118.3    | 0.80      | 0.75                | 0.80             | 36.3        |  |
| East: Farmer Cres            |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |  |
| 4                            | L2   | 1             | 5.0    | 1             | 5.0    | 0.195     | 56.8        | LOS E            | 1.1               | 7.9      | 0.98      | 0.69                | 0.98             | 22.8        |  |
| 5                            | T1   | 21            | 5.0    | 21            | 5.0    | 0.195     | 51.2        | LOS D            | 1.1               | 7.9      | 0.98      | 0.69                | 0.98             | 21.1        |  |
| 6                            | R2   | 73            | 5.0    | 73            | 5.0    | * 0.678   | 60.4        | LOS E            | 3.8               | 28.0     | 1.00      | 0.82                | 1.17             | 21.9        |  |
| Approach                     |      | 95            | 5.0    | 95            | 5.0    | 0.678     | 58.3        | LOS E            | 3.8               | 28.0     | 1.00      | 0.79                | 1.12             | 21.8        |  |
| North: Aura Blvd             |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |  |
| 7                            | L2   | 163           | 5.0    | 163           | 5.0    | 0.248     | 28.8        | LOS C            | 5.5               | 40.1     | 0.73      | 0.76                | 0.73             | 31.9        |  |
| 8                            | T1   | 1143          | 5.1    | 1143          | 5.1    | * 0.899   | 46.2        | LOS D            | 33.1              | 241.9    | 0.97      | 1.08                | 1.25             | 28.0        |  |
| 9                            | R2   | 329           | 5.0    | 329           | 5.0    | * 0.874   | 57.8        | LOS E            | 18.3              | 133.7    | 1.00      | 1.00                | 1.32             | 22.5        |  |
| Approach                     |      | 1635          | 5.1    | 1635          | 5.1    | 0.899     | 46.8        | LOS D            | 33.1              | 241.9    | 0.95      | 1.03                | 1.21             | 27.1        |  |
| West: Graf Dr                |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |  |
| 10                           | L2   | 290           | 5.0    | 290           | 5.0    | 0.207     | 27.3        | LOS C            | 4.7               | 34.1     | 0.70      | 0.75                | 0.70             | 32.8        |  |
| 11                           | T1   | 30            | 5.0    | 30            | 5.0    | 0.782     | 51.3        | LOS D            | 8.8               | 64.5     | 1.00      | 0.92                | 1.21             | 19.9        |  |
| 12                           | R2   | 308           | 5.0    | 308           | 5.0    | 0.782     | 57.0        | LOS E            | 8.8               | 64.5     | 1.00      | 0.91                | 1.21             | 21.6        |  |
| Approach                     |      | 628           | 5.0    | 628           | 5.0    | 0.782     | 43.0        | LOS D            | 8.8               | 64.5     | 0.86      | 0.84                | 0.98             | 25.8        |  |
| All Vehicles                 |      | 3509          | 5.1    | 3509          | 5.1    | 0.899     | 39.1        | LOS D            | 33.1              | 241.9    | 0.89      | 0.90                | 1.03             | 29.1        |  |

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

\* Critical Movement (Signal Timing)

| Pedestrian Movement Performance |              |            |           |             |                  |                       |          |           |                     |             |              |             |
|---------------------------------|--------------|------------|-----------|-------------|------------------|-----------------------|----------|-----------|---------------------|-------------|--------------|-------------|
| Mov ID                          | Crossing     | Input Vol. | Dem. Flow | Aver. Delay | Level of Service | AVERAGE BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Travel Time | Travel Dist. | Aver. Speed |
|                                 |              | ped/h      | ped/h     | sec         |                  | [ Ped ped             | Dist ] m |           |                     | sec         | m            | m/sec       |
| South: Aura Blvd                |              |            |           |             |                  |                       |          |           |                     |             |              |             |
| P11                             | Stage 1      | 50         | 50        | 44.3        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 209.0       | 214.2        | 1.02        |
| P12                             | Stage 2      | 50         | 50        | 44.3        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 206.5       | 210.9        | 1.02        |
| P1B                             | Slip/ Bypass | 50         | 50        | 23.4        | LOS C            | 0.1                   | 0.1      | 0.88      | 0.88                | 180.6       | 204.3        | 1.13        |

|                   |      |     |     |      |       |     |     |      |      |       |       |      |
|-------------------|------|-----|-----|------|-------|-----|-----|------|------|-------|-------|------|
| East: Farmer Cres |      |     |     |      |       |     |     |      |      |       |       |      |
| P2                | Full | 50  | 50  | 39.7 | LOS D | 0.1 | 0.1 | 0.89 | 0.89 | 207.1 | 217.7 | 1.05 |
| West: Graf Dr     |      |     |     |      |       |     |     |      |      |       |       |      |
| P4                | Full | 50  | 50  | 39.7 | LOS D | 0.1 | 0.1 | 0.89 | 0.89 | 211.8 | 223.8 | 1.06 |
| All               |      | 250 | 250 | 38.3 | LOS D | 0.1 | 0.1 | 0.91 | 0.91 | 203.0 | 214.2 | 1.05 |
| Pedestrians       |      |     |     |      |       |     |     |      |      |       |       |      |

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

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

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

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Project: C:\Users\df12561\OneDrive - Surbana Jurong Private Limited\Desktop\SIDRA\01\_AURA SIDRA Refined (61).sip9

# PHASING SUMMARY

 **Site: 61 [WORKING\_AM - Stockland Final - Diamond (Site Folder: Final Design Updated Volumes - 7 Nov)]**

New Site  
Site Category: (None)  
Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 100 seconds (Site Practical Cycle Time)

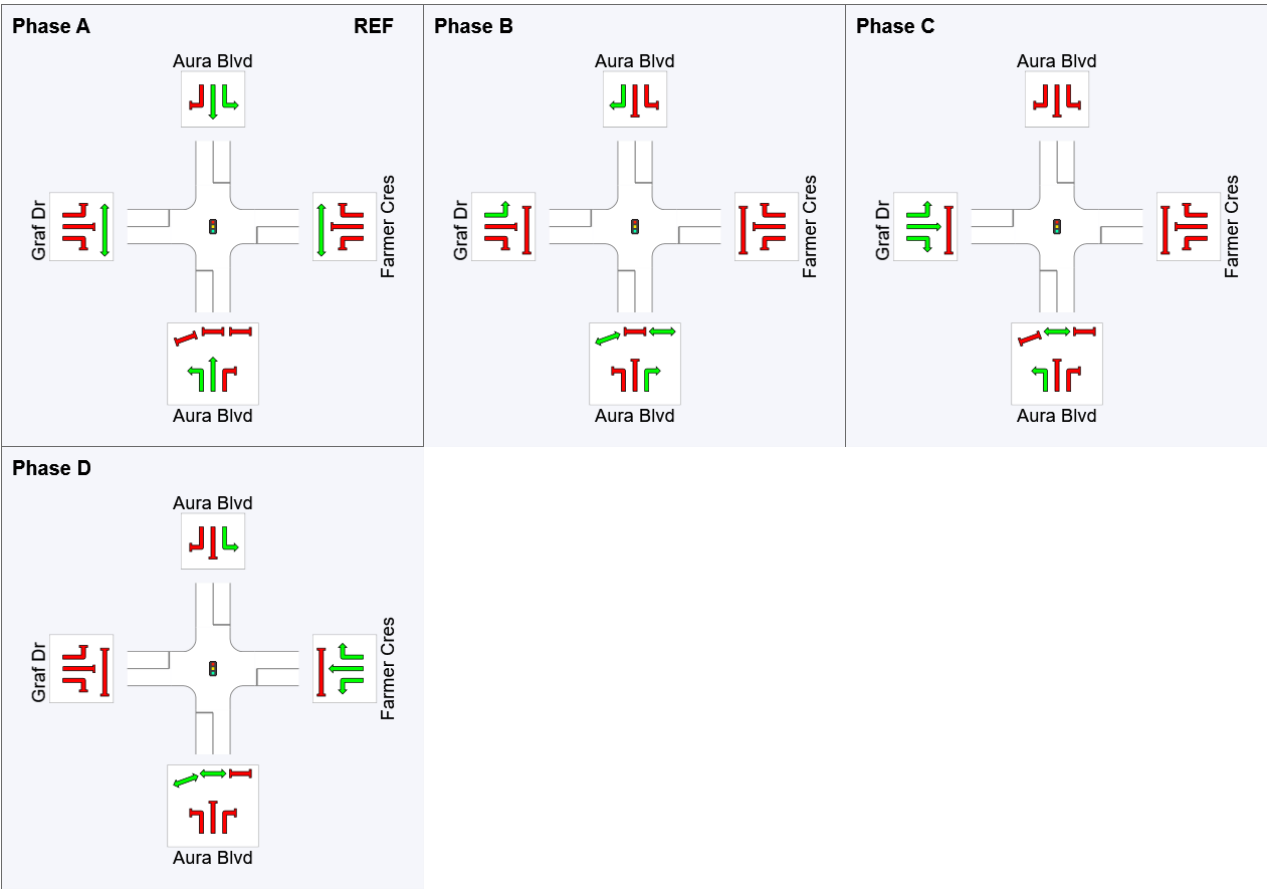
Timings based on settings in the Site Phasing & Timing dialog  
Phase Times determined by the program  
Phase Sequence: AUDRA Precinct - Diamond  
Reference Phase: Phase A  
Input Phase Sequence: A, B, C, D  
Output Phase Sequence: A, B, C, D

## Phase Timing Summary

| Phase                   | A   | B   | C   | D   |
|-------------------------|-----|-----|-----|-----|
| Phase Change Time (sec) | 0   | 43  | 70  | 88  |
| Green Time (sec)        | 37  | 21  | 12  | 6   |
| Phase Time (sec)        | 43  | 27  | 18  | 12  |
| Phase Split             | 43% | 27% | 18% | 12% |

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

## Output Phase Sequence



REF: Reference Phase  
VAR: Variable Phase

|                                                                                   |                                   |                                                                                   |                          |
|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------|--------------------------|
|  | Normal Movement                   |  | Permitted/Opposed        |
|  | Slip/Bypass-Lane Movement         |  | Opposed Slip/Bypass-Lane |
|  | Stopped Movement                  |  | Turn On Red              |
|  | Other Movement Class (MC) Running |  | Undetected Movement      |
|  | Mixed Running & Stopped MCs       |  | Continuous Movement      |
|  | Other Movement Class (MC) Stopped |  | Phase Transition Applied |

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Organisation: SMEC AUSTRALIA | Licence: NETWORK / Enterprise | Processed: Thursday, 30 November 2023 4:40:32 PM

Project: C:\Users\df12561\OneDrive - Surbana Jurong Private Limited\Desktop\SIDRA\01\_AURA SIDRA Refined (61).sip9

# SITE LAYOUT

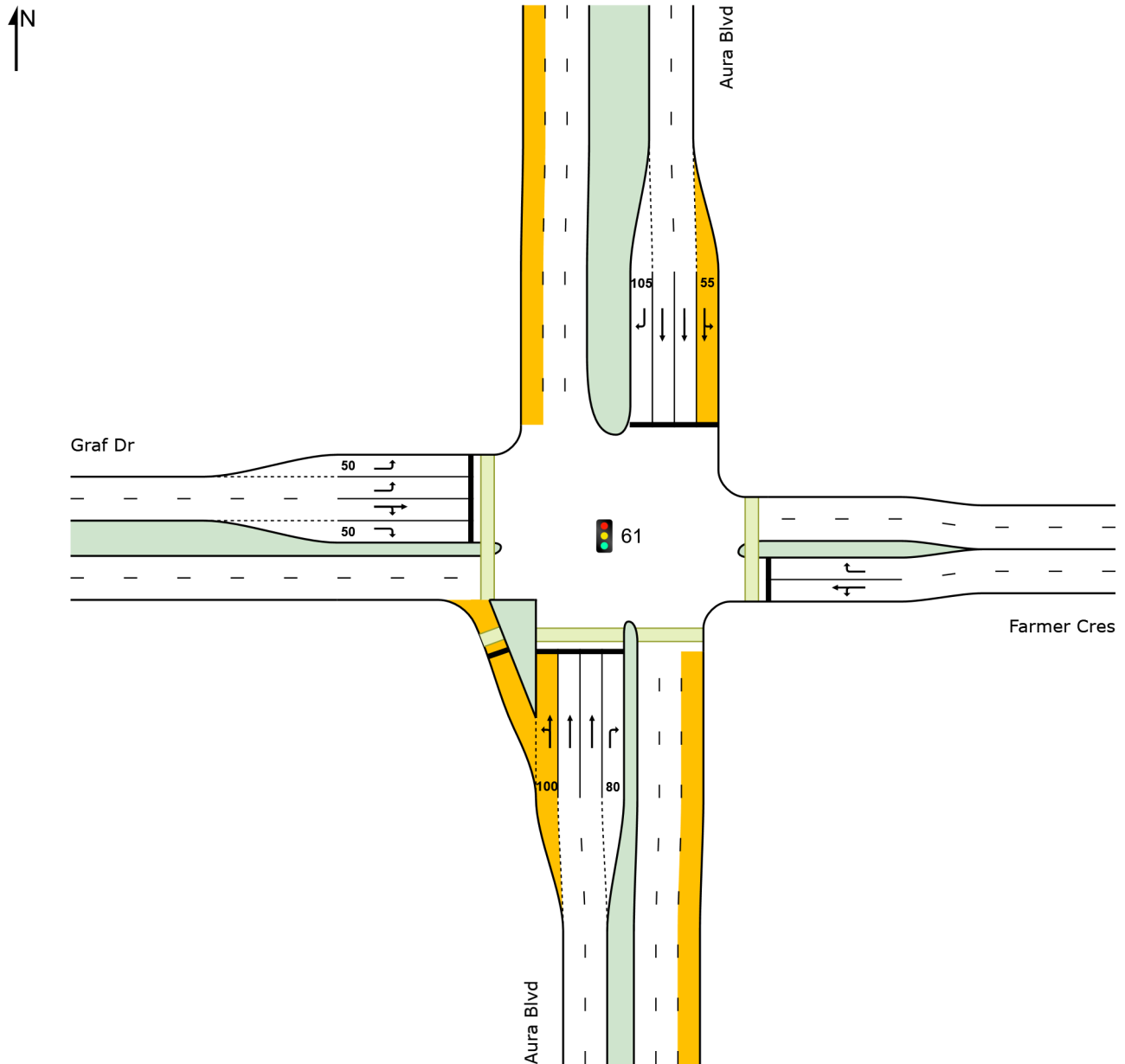
 Site: 61 [WORKING\_PM - Stockland Final - Diamond (Site Folder: Final Design Updated Volumes - 7 Nov)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Organisation: SMEC AUSTRALIA | Licence: NETWORK / Enterprise | Created: Monday, 18 December 2023 3:05:42 PM

Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\01\_AURA SIDRA Refined (61).sip9

## MOVEMENT SUMMARY

 Site: 61 [WORKING\_PM - Stockland Final - Diamond (Site Folder: Final Design Updated Volumes - 7 Nov)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

| Vehicle Movement Performance |      |                                          |     |                                         |     |                      |                        |                  |                                             |       |           |                     |                  |                         |
|------------------------------|------|------------------------------------------|-----|-----------------------------------------|-----|----------------------|------------------------|------------------|---------------------------------------------|-------|-----------|---------------------|------------------|-------------------------|
| Mov ID                       | Turn | INPUT VOLUMES<br>[ Total HV ]<br>veh/h % |     | DEMAND FLOWS<br>[ Total HV ]<br>veh/h % |     | Deg. Satn<br><br>v/c | Aver. Delay<br><br>sec | Level of Service | 95% BACK OF QUEUE<br>[ Veh. Dist ]<br>veh m |       | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed<br><br>km/h |
| South: Aura Blvd             |      |                                          |     |                                         |     |                      |                        |                  |                                             |       |           |                     |                  |                         |
| 1                            | L2   | 211                                      | 5.0 | 211                                     | 5.0 | 0.238                | 13.7                   | LOS B            | 3.6                                         | 26.2  | 0.60      | 0.72                | 0.60             | 41.0                    |
| 2                            | T1   | 668                                      | 5.3 | 668                                     | 5.3 | 0.490                | 26.7                   | LOS C            | 12.6                                        | 92.3  | 0.83      | 0.71                | 0.83             | 36.1                    |
| 3                            | R2   | 20                                       | 5.0 | 20                                      | 5.0 | 0.066                | 43.5                   | LOS D            | 0.8                                         | 6.0   | 0.87      | 0.70                | 0.87             | 24.9                    |
| Approach                     |      | 899                                      | 5.2 | 899                                     | 5.2 | 0.490                | 24.1                   | LOS C            | 12.6                                        | 92.3  | 0.78      | 0.71                | 0.78             | 36.7                    |
| East: Farmer Cres            |      |                                          |     |                                         |     |                      |                        |                  |                                             |       |           |                     |                  |                         |
| 4                            | L2   | 3                                        | 5.0 | 3                                       | 5.0 | 0.276                | 52.3                   | LOS D            | 2.4                                         | 17.9  | 0.96      | 0.72                | 0.96             | 24.0                    |
| 5                            | T1   | 49                                       | 5.0 | 49                                      | 5.0 | 0.276                | 46.7                   | LOS D            | 2.4                                         | 17.9  | 0.96      | 0.72                | 0.96             | 22.4                    |
| 6                            | R2   | 143                                      | 5.0 | 143                                     | 5.0 | * 0.797              | 59.3                   | LOS E            | 7.6                                         | 55.4  | 1.00      | 0.92                | 1.27             | 22.2                    |
| Approach                     |      | 195                                      | 5.0 | 195                                     | 5.0 | 0.797                | 56.0                   | LOS E            | 7.6                                         | 55.4  | 0.99      | 0.87                | 1.19             | 22.2                    |
| North: Aura Blvd             |      |                                          |     |                                         |     |                      |                        |                  |                                             |       |           |                     |                  |                         |
| 7                            | L2   | 111                                      | 5.0 | 111                                     | 5.0 | 0.174                | 28.8                   | LOS C            | 3.7                                         | 27.1  | 0.72      | 0.74                | 0.72             | 31.9                    |
| 8                            | T1   | 1018                                     | 5.1 | 1018                                    | 5.1 | * 0.778              | 32.4                   | LOS C            | 24.0                                        | 174.9 | 0.94      | 0.87                | 0.99             | 33.3                    |
| 9                            | R2   | 243                                      | 5.0 | 243                                     | 5.0 | * 0.797              | 53.9                   | LOS D            | 12.5                                        | 91.3  | 1.00      | 0.92                | 1.19             | 23.5                    |
| Approach                     |      | 1372                                     | 5.1 | 1372                                    | 5.1 | 0.797                | 35.9                   | LOS D            | 24.0                                        | 174.9 | 0.93      | 0.87                | 1.00             | 31.1                    |
| West: Graf Dr                |      |                                          |     |                                         |     |                      |                        |                  |                                             |       |           |                     |                  |                         |
| 10                           | L2   | 586                                      | 5.0 | 586                                     | 5.0 | 0.454                | 32.0                   | LOS C            | 11.0                                        | 80.0  | 0.81      | 0.80                | 0.81             | 30.5                    |
| 11                           | T1   | 27                                       | 5.0 | 27                                      | 5.0 | * 0.810              | 51.9                   | LOS D            | 10.0                                        | 73.3  | 1.00      | 0.94                | 1.25             | 19.7                    |
| 12                           | R2   | 352                                      | 5.0 | 352                                     | 5.0 | 0.810                | 57.6                   | LOS E            | 10.0                                        | 73.3  | 1.00      | 0.94                | 1.25             | 21.4                    |
| Approach                     |      | 965                                      | 5.0 | 965                                     | 5.0 | 0.810                | 41.9                   | LOS D            | 11.0                                        | 80.0  | 0.89      | 0.86                | 0.99             | 26.3                    |
| All Vehicles                 |      | 3431                                     | 5.1 | 3431                                    | 5.1 | 0.810                | 35.6                   | LOS D            | 24.0                                        | 174.9 | 0.88      | 0.82                | 0.95             | 30.3                    |

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

\* Critical Movement (Signal Timing)

| Pedestrian Movement Performance |                 |            |           |             |                  |                       |          |           |                     |             |              |             |
|---------------------------------|-----------------|------------|-----------|-------------|------------------|-----------------------|----------|-----------|---------------------|-------------|--------------|-------------|
| Mov ID                          | Crossing        | Input Vol. | Dem. Flow | Aver. Delay | Level of Service | AVERAGE BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Travel Time | Travel Dist. | Aver. Speed |
|                                 |                 | ped/h      | ped/h     | sec         |                  | [ Ped ped             | Dist ] m |           |                     | sec         | m            | m/sec       |
| South: Aura Blvd                |                 |            |           |             |                  |                       |          |           |                     |             |              |             |
| P11                             | Stage 1         | 50         | 50        | 44.3        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 209.0       | 214.2        | 1.02        |
| P12                             | Stage 2         | 50         | 50        | 44.3        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 206.5       | 210.9        | 1.02        |
| P1B                             | Slip/<br>Bypass | 50         | 50        | 21.7        | LOS C            | 0.1                   | 0.1      | 0.88      | 0.88                | 178.8       | 204.3        | 1.14        |

|                   |     |     |      |       |     |     |      |      |       |       |      |  |
|-------------------|-----|-----|------|-------|-----|-----|------|------|-------|-------|------|--|
| East: Farmer Cres |     |     |      |       |     |     |      |      |       |       |      |  |
| P2 Full           | 50  | 50  | 39.7 | LOS D | 0.1 | 0.1 | 0.89 | 0.89 | 207.1 | 217.7 | 1.05 |  |
| West: Graf Dr     |     |     |      |       |     |     |      |      |       |       |      |  |
| P4 Full           | 50  | 50  | 39.7 | LOS D | 0.1 | 0.1 | 0.89 | 0.89 | 211.8 | 223.8 | 1.06 |  |
| All Pedestrians   | 250 | 250 | 37.9 | LOS D | 0.1 | 0.1 | 0.91 | 0.91 | 202.7 | 214.2 | 1.06 |  |

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.



# PHASING SUMMARY

 **Site: 61 [WORKING\_PM - Stockland Final - Diamond (Site Folder: Final Design Updated Volumes - 7 Nov)]**

New Site  
Site Category: (None)  
Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 100 seconds (Site User-Given Cycle Time)

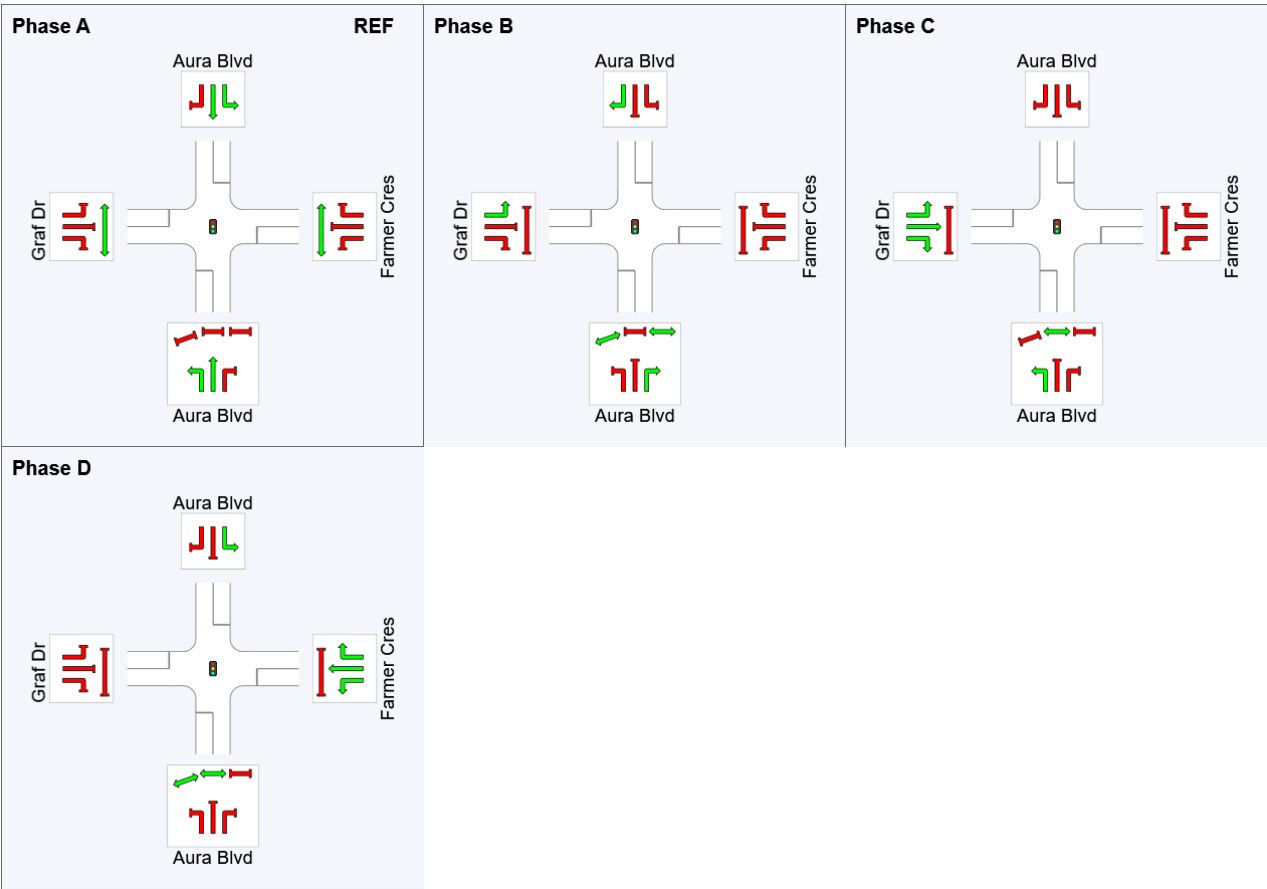
Timings based on settings in the Site Phasing & Timing dialog  
Phase Times determined by the program  
Phase Sequence: AUDRA Precinct - Bus Jump  
Reference Phase: Phase A  
Input Phase Sequence: A, B, C, D  
Output Phase Sequence: A, B, C, D

## Phase Timing Summary

| Phase                   | A   | B   | C   | D   |
|-------------------------|-----|-----|-----|-----|
| Phase Change Time (sec) | 0   | 42  | 65  | 84  |
| Green Time (sec)        | 36  | 17  | 13  | 10  |
| Phase Time (sec)        | 42  | 23  | 19  | 16  |
| Phase Split             | 42% | 23% | 19% | 16% |

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

## Output Phase Sequence



REF: Reference Phase  
VAR: Variable Phase

|                                                                                   |                                   |                                                                                   |                          |
|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------|--------------------------|
|  | Normal Movement                   |  | Permitted/Opposed        |
|  | Slip/Bypass-Lane Movement         |  | Opposed Slip/Bypass-Lane |
|  | Stopped Movement                  |  | Turn On Red              |
|  | Other Movement Class (MC) Running |  | Undetected Movement      |
|  | Mixed Running & Stopped MCs       |  | Continuous Movement      |
|  | Other Movement Class (MC) Stopped |  | Phase Transition Applied |

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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\01\_AURA SIDRA Refined (61).sip9

# SITE LAYOUT

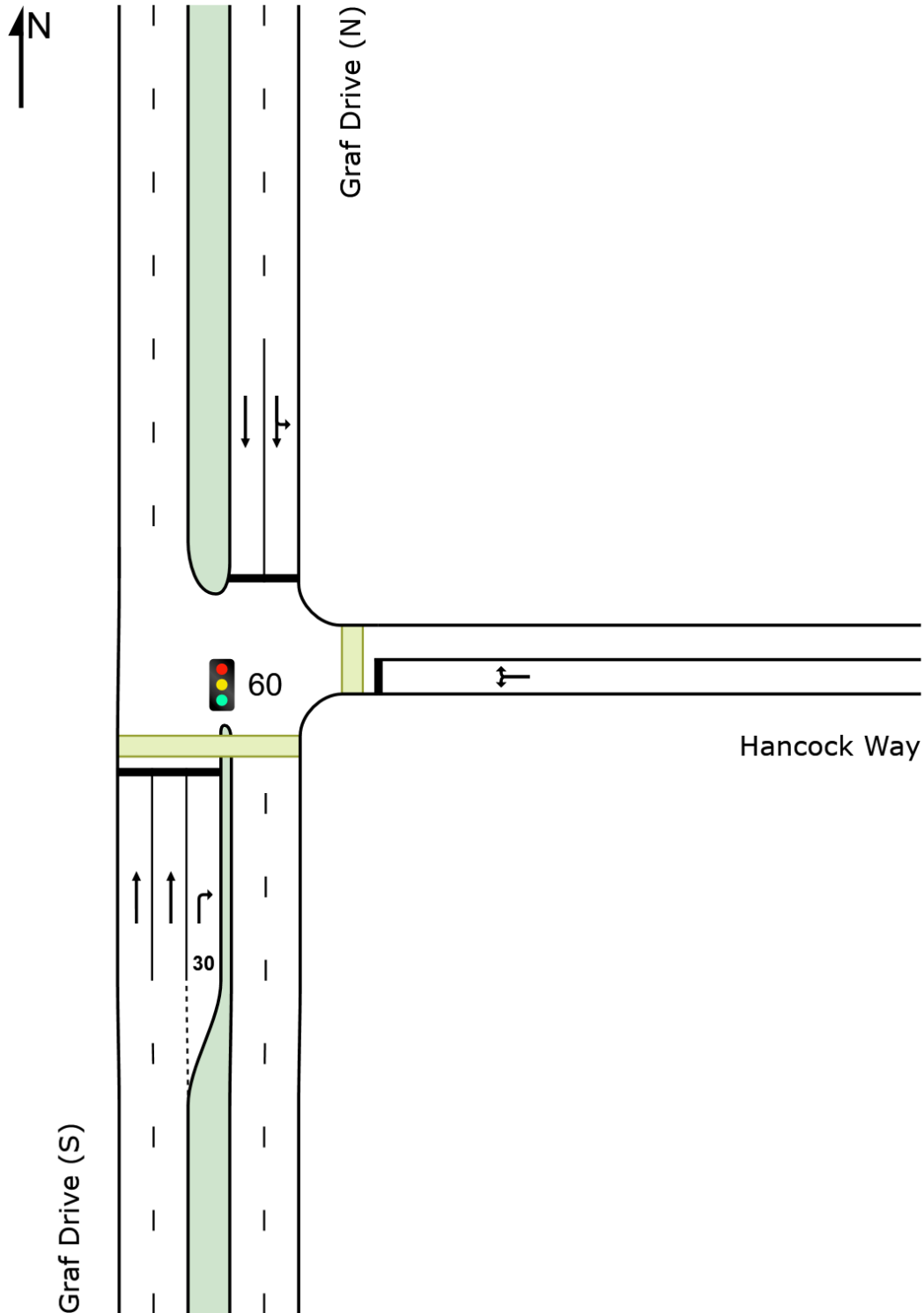
 **Site: 60 [AM 2023 - Conversion (Site Folder: General)]**

Graf Drive and Hancock Way

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



# MOVEMENT SUMMARY

 **Site: 60 [AM 2023 - Conversion (Site Folder: General)]**

Graf Drive and Hancock Way

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

| Vehicle Movement Performance |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
|------------------------------|------|------------------------------------------|-----|-----------------------------------------|-----|------------------|--------------------|------------------|---------------------------------------------|------|-----------|---------------------|------------------|---------------------|
| Mov ID                       | Turn | INPUT VOLUMES<br>[ Total HV ]<br>veh/h % |     | DEMAND FLOWS<br>[ Total HV ]<br>veh/h % |     | Deg. Satn<br>v/c | Aver. Delay<br>sec | Level of Service | 95% BACK OF QUEUE<br>[ Veh. Dist ]<br>veh m |      | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed<br>km/h |
| South: Graf Drive (S)        |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 2                            | T1   | 288                                      | 5.0 | 303                                     | 5.0 | 0.146            | 4.8                | LOS A            | 1.5                                         | 10.7 | 0.52      | 0.42                | 0.52             | 55.6                |
| 3                            | R2   | 10                                       | 5.0 | 11                                      | 5.0 | * 0.039          | 22.1               | LOS C            | 0.2                                         | 1.4  | 0.88      | 0.67                | 0.88             | 42.8                |
| Approach                     |      | 298                                      | 5.0 | 314                                     | 5.0 | 0.146            | 5.4                | LOS A            | 1.5                                         | 10.7 | 0.53      | 0.43                | 0.53             | 55.0                |
| East: Hancock Way            |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 4                            | L2   | 41                                       | 5.0 | 43                                      | 5.0 | 0.294            | 23.3               | LOS C            | 1.5                                         | 10.9 | 0.93      | 0.75                | 0.93             | 42.4                |
| 6                            | R2   | 34                                       | 5.0 | 36                                      | 5.0 | * 0.294          | 23.2               | LOS C            | 1.5                                         | 10.9 | 0.93      | 0.75                | 0.93             | 42.3                |
| Approach                     |      | 75                                       | 5.0 | 79                                      | 5.0 | 0.294            | 23.3               | LOS C            | 1.5                                         | 10.9 | 0.93      | 0.75                | 0.93             | 42.4                |
| North: Graf Drive (N)        |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 7                            | L2   | 179                                      | 5.0 | 188                                     | 5.0 | 0.655            | 21.7               | LOS C            | 5.8                                         | 42.1 | 0.95      | 0.86                | 1.05             | 44.3                |
| 8                            | T1   | 399                                      | 5.0 | 420                                     | 5.0 | * 0.655          | 16.1               | LOS B            | 5.9                                         | 43.4 | 0.95      | 0.84                | 1.04             | 46.9                |
| Approach                     |      | 578                                      | 5.0 | 608                                     | 5.0 | 0.655            | 17.9               | LOS B            | 5.9                                         | 43.4 | 0.95      | 0.85                | 1.04             | 46.0                |
| All Vehicles                 |      | 951                                      | 5.0 | 1001                                    | 5.0 | 0.655            | 14.4               | LOS B            | 5.9                                         | 43.4 | 0.81      | 0.71                | 0.87             | 48.2                |

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.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

\* Critical Movement (Signal Timing)

| Pedestrian Movement Performance |          |            |           |             |                  |                       |          |           |                     |             |              |             |
|---------------------------------|----------|------------|-----------|-------------|------------------|-----------------------|----------|-----------|---------------------|-------------|--------------|-------------|
| Mov ID                          | Crossing | Input Vol. | Dem. Flow | Aver. Delay | Level of Service | AVERAGE BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Travel Time | Travel Dist. | Aver. Speed |
|                                 |          | ped/h      | ped/h     | sec         |                  | [ Ped ped             | Dist ] m |           |                     | sec         | m            | m/sec       |
| South: Graf Drive (S)           |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P1                              | Full     | 50         | 53        | 14.5        | LOS B            | 0.1                   | 0.1      | 0.85      | 0.85                | 183.3       | 219.5        | 1.20        |
| East: Hancock Way               |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P2                              | Full     | 50         | 53        | 14.5        | LOS B            | 0.1                   | 0.1      | 0.85      | 0.85                | 174.9       | 208.6        | 1.19        |
| All Pedestrians                 |          | 0          | 105       | 14.5        | LOS B            | 0.1                   | 0.1      | 0.85      | 0.85                | 179.1       | 214.1        | 1.19        |

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.

# PHASING SUMMARY

**Site: 60 [AM 2023 - Conversion (Site Folder: General)]**

Graf Drive and Hancock Way

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

Timings based on settings in the Site Phasing & Timing dialog

Phase Times determined by the program

Phase Sequence: Convert Function Default

Reference Phase: Phase B

Input Phase Sequence: A, B, C

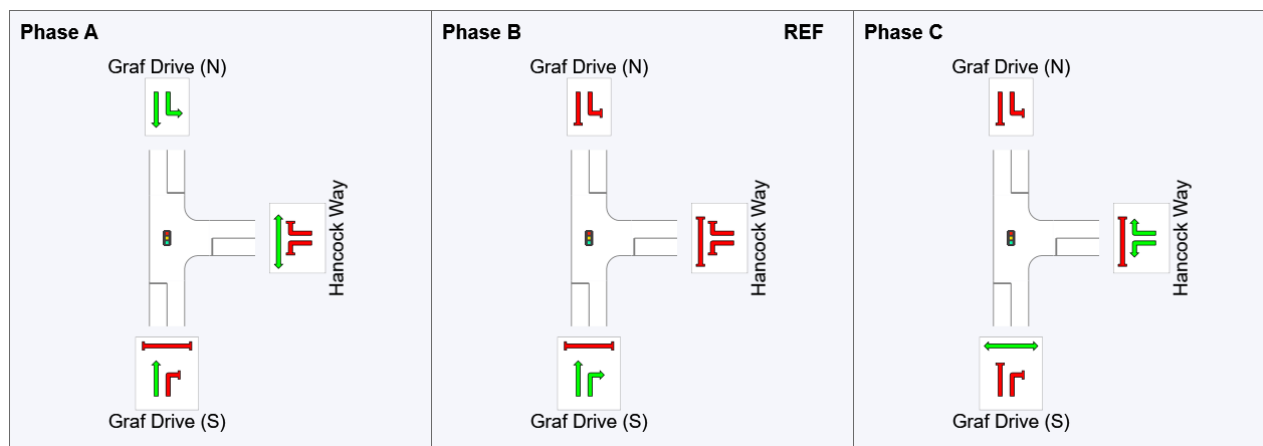
Output Phase Sequence: A, B, C

## Phase Timing Summary

| Phase                   | A   | B   | C   |
|-------------------------|-----|-----|-----|
| Phase Change Time (sec) | 24  | 0   | 12  |
| Green Time (sec)        | 10  | 6   | 6   |
| Phase Time (sec)        | 16  | 12  | 12  |
| Phase Split             | 40% | 30% | 30% |

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

## Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

|  |                                   |  |                          |
|--|-----------------------------------|--|--------------------------|
|  | Normal Movement                   |  | Permitted/Opposed        |
|  | Slip/Bypass-Lane Movement         |  | Opposed Slip/Bypass-Lane |
|  | Stopped Movement                  |  | Turn On Red              |
|  | Other Movement Class (MC) Running |  | Undetected Movement      |
|  | Mixed Running & Stopped MCs       |  | Continuous Movement      |
|  | Other Movement Class (MC) Stopped |  | Phase Transition Applied |

# SITE LAYOUT

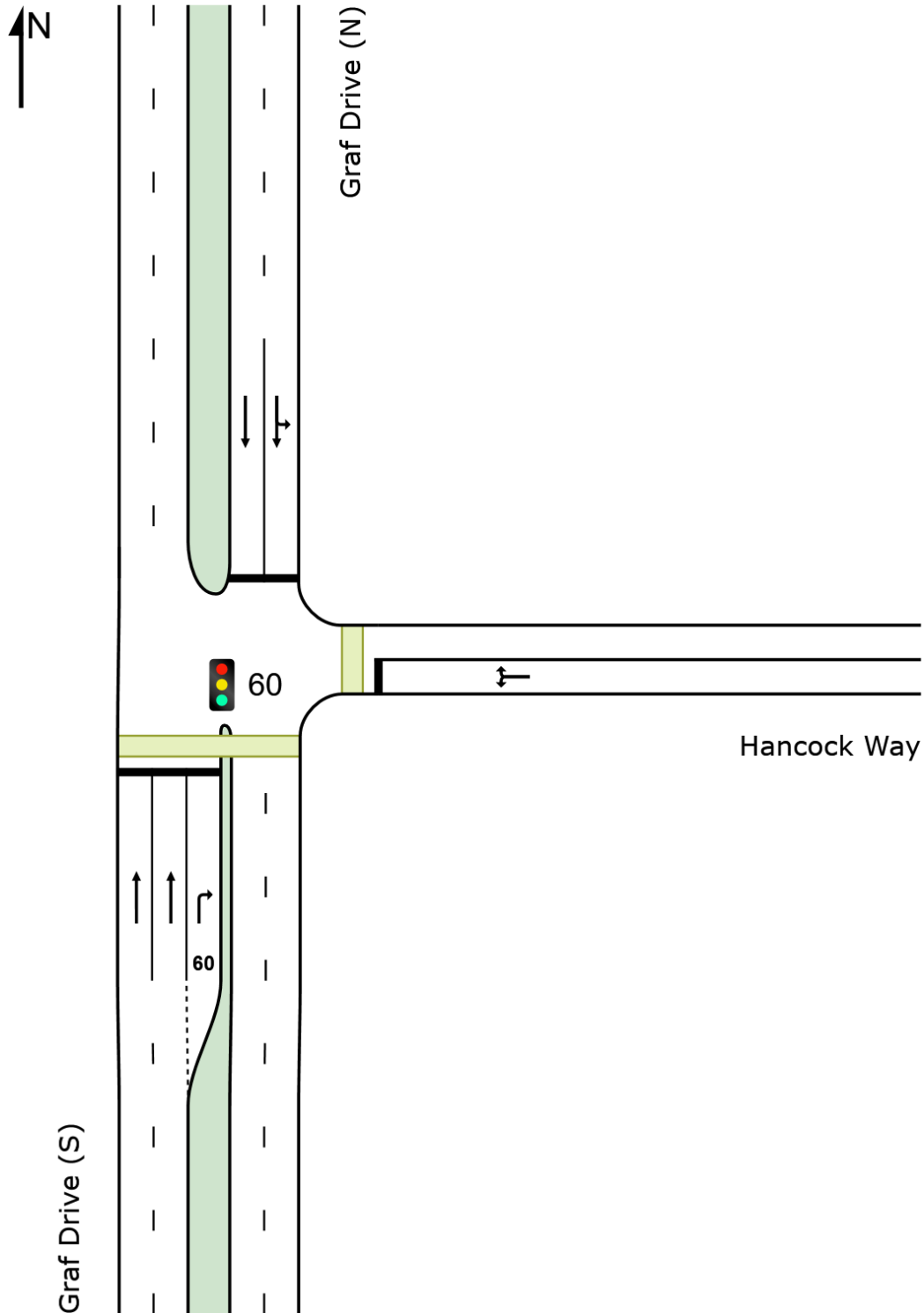
 **Site: 60 [PM 2023 - Conversion (Site Folder: General)]**

Graf Drive and Hancock Way

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



# MOVEMENT SUMMARY

 **Site: 60 [PM 2023 - Conversion (Site Folder: General)]**

Graf Drive and Hancock Way

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

| Vehicle Movement Performance |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
|------------------------------|------|------------------------------------------|-----|-----------------------------------------|-----|------------------|--------------------|------------------|---------------------------------------------|------|-----------|---------------------|------------------|---------------------|
| Mov ID                       | Turn | INPUT VOLUMES<br>[ Total HV ]<br>veh/h % |     | DEMAND FLOWS<br>[ Total HV ]<br>veh/h % |     | Deg. Satn<br>v/c | Aver. Delay<br>sec | Level of Service | 95% BACK OF QUEUE<br>[ Veh. Dist ]<br>veh m |      | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed<br>km/h |
| South: Graf Drive (S)        |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 2                            | T1   | 280                                      | 5.0 | 295                                     | 5.0 | 0.149            | 5.4                | LOS A            | 1.5                                         | 11.0 | 0.54      | 0.44                | 0.54             | 55.1                |
| 3                            | R2   | 10                                       | 5.0 | 11                                      | 5.0 | * 0.039          | 22.1               | LOS C            | 0.2                                         | 1.4  | 0.88      | 0.67                | 0.88             | 42.8                |
| Approach                     |      | 290                                      | 5.0 | 305                                     | 5.0 | 0.149            | 5.9                | LOS A            | 1.5                                         | 11.0 | 0.55      | 0.45                | 0.55             | 54.6                |
| East: Hancock Way            |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 4                            | L2   | 89                                       | 5.0 | 94                                      | 5.0 | 0.624            | 24.0               | LOS C            | 3.9                                         | 28.8 | 0.97      | 0.85                | 1.08             | 42.1                |
| 6                            | R2   | 97                                       | 5.0 | 102                                     | 5.0 | * 0.624          | 24.0               | LOS C            | 3.9                                         | 28.8 | 0.97      | 0.85                | 1.08             | 41.9                |
| Approach                     |      | 186                                      | 5.0 | 196                                     | 5.0 | 0.624            | 24.0               | LOS C            | 3.9                                         | 28.8 | 0.97      | 0.85                | 1.08             | 42.0                |
| North: Graf Drive (N)        |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 7                            | L2   | 63                                       | 5.0 | 66                                      | 5.0 | 0.564            | 21.5               | LOS C            | 4.4                                         | 32.1 | 0.94      | 0.79                | 0.95             | 45.4                |
| 8                            | T1   | 389                                      | 5.0 | 409                                     | 5.0 | * 0.564          | 15.9               | LOS B            | 4.5                                         | 32.5 | 0.94      | 0.78                | 0.95             | 47.1                |
| Approach                     |      | 452                                      | 5.0 | 476                                     | 5.0 | 0.564            | 16.7               | LOS B            | 4.5                                         | 32.5 | 0.94      | 0.78                | 0.95             | 46.9                |
| All Vehicles                 |      | 928                                      | 5.0 | 977                                     | 5.0 | 0.624            | 14.8               | LOS B            | 4.5                                         | 32.5 | 0.82      | 0.69                | 0.85             | 47.9                |

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

\* Critical Movement (Signal Timing)

| Pedestrian Movement Performance |          |            |           |             |                  |                       |          |           |                     |             |              |             |
|---------------------------------|----------|------------|-----------|-------------|------------------|-----------------------|----------|-----------|---------------------|-------------|--------------|-------------|
| Mov ID                          | Crossing | Input Vol. | Dem. Flow | Aver. Delay | Level of Service | AVERAGE BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Travel Time | Travel Dist. | Aver. Speed |
|                                 |          | ped/h      | ped/h     | sec         |                  | [ Ped ped             | Dist ] m |           |                     | sec         | m            | m/sec       |
| South: Graf Drive (S)           |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P1                              | Full     | 50         | 53        | 14.5        | LOS B            | 0.1                   | 0.1      | 0.85      | 0.85                | 183.3       | 219.5        | 1.20        |
| East: Hancock Way               |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P2                              | Full     | 50         | 53        | 14.5        | LOS B            | 0.1                   | 0.1      | 0.85      | 0.85                | 174.9       | 208.6        | 1.19        |
| All Pedestrians                 |          | 0          | 105       | 14.5        | LOS B            | 0.1                   | 0.1      | 0.85      | 0.85                | 179.1       | 214.1        | 1.19        |

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.

# PHASING SUMMARY

 **Site: 60 [PM 2023 - Conversion (Site Folder: General)]**

Graf Drive and Hancock Way

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 40 seconds (Site Practical Cycle Time)

**Timings based on settings in the Site Phasing & Timing dialog**

**Phase Times determined by the program**

**Phase Sequence: Convert Function Default**

**Reference Phase: Phase B**

**Input Phase Sequence: A, B, C**

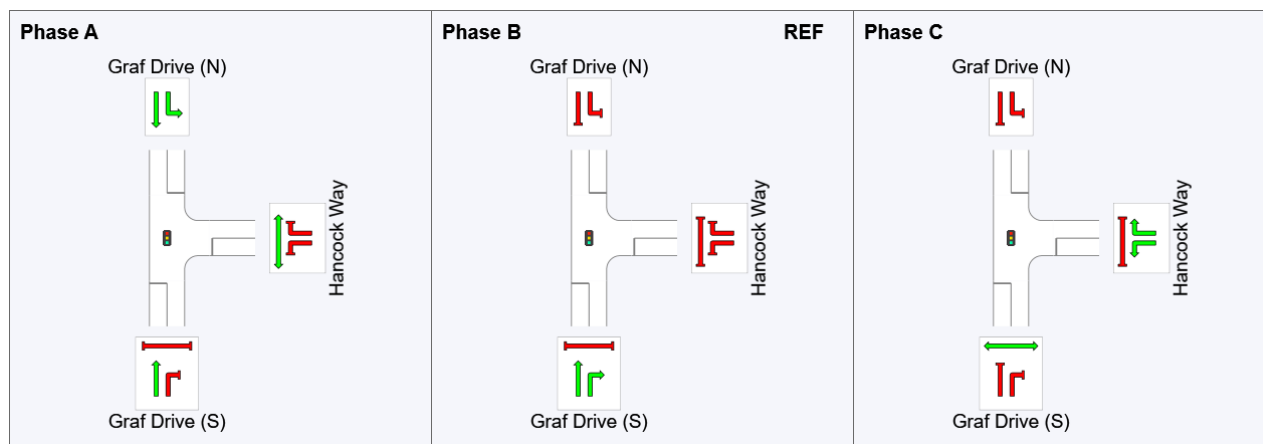
**Output Phase Sequence: A, B, C**

## Phase Timing Summary

| Phase                   | A   | B   | C   |
|-------------------------|-----|-----|-----|
| Phase Change Time (sec) | 25  | 0   | 12  |
| Green Time (sec)        | 9   | 6   | 7   |
| Phase Time (sec)        | 15  | 12  | 13  |
| Phase Split             | 38% | 30% | 33% |

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

## Output Phase Sequence



REF: Reference Phase

VAR: Variable Phase

|                                                                                                                       |                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|  Normal Movement                   |  Permitted/Opposed        |
|  Slip/Bypass-Lane Movement         |  Opposed Slip/Bypass-Lane |
|  Stopped Movement                  |  Turn On Red              |
|  Other Movement Class (MC) Running |  Undetected Movement      |
|  Mixed Running & Stopped MCs       |  Continuous Movement      |
|  Other Movement Class (MC) Stopped |  Phase Transition Applied |



# SITE LAYOUT

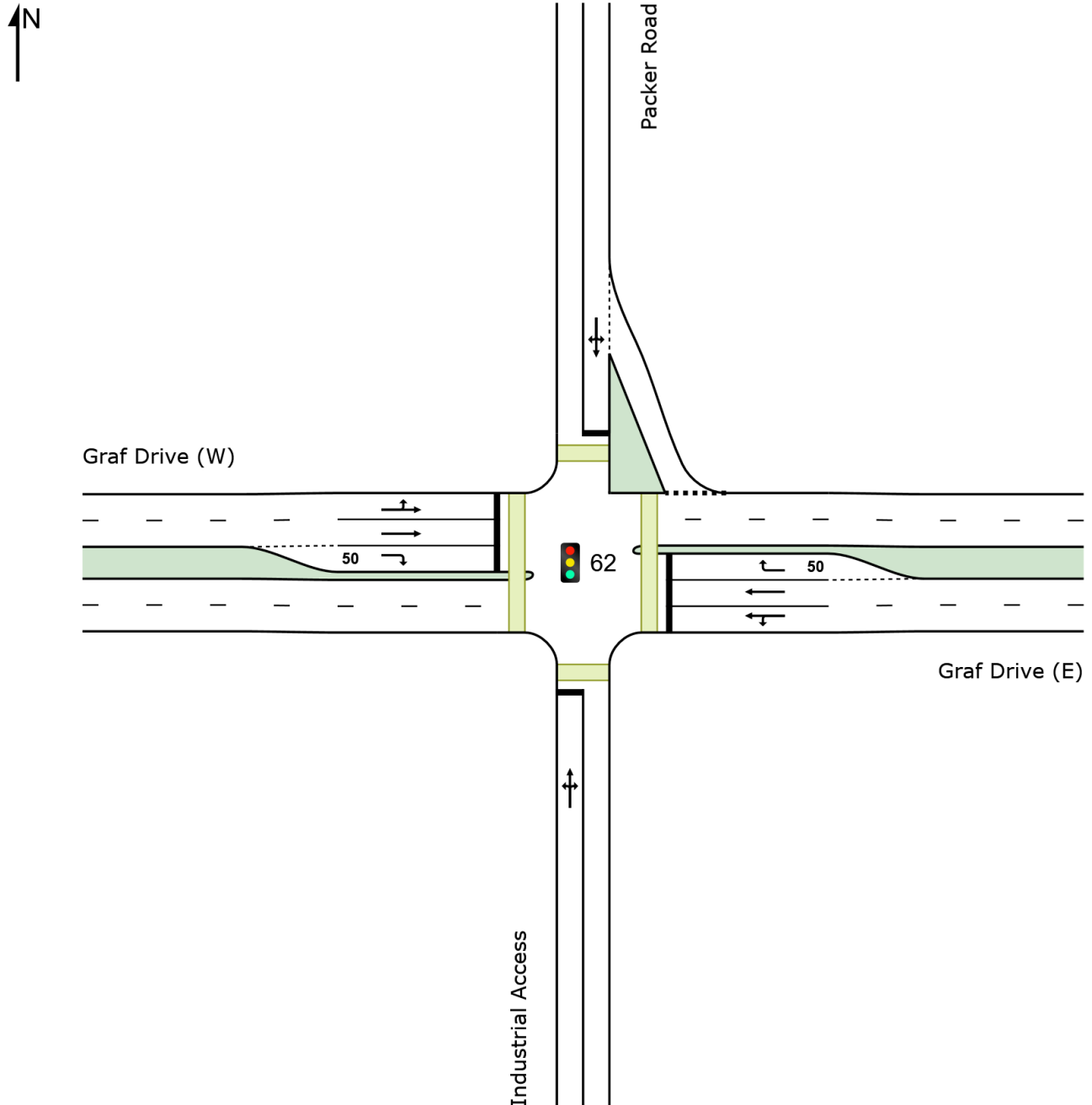
 **Site: 62 [AM\_2032 - Left Slip (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\SS\03\_Graf Drive and Packer Road (62).sip9

# MOVEMENT SUMMARY

 **Site: 62 [AM\_2032 - Left Slip (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 60 seconds (Site Practical Cycle Time)

| Vehicle Movement Performance |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
|------------------------------|------|------------------------------------------|-----|-----------------------------------------|-----|------------------|--------------------|------------------|---------------------------------------------|------|-----------|---------------------|------------------|---------------------|
| Mov ID                       | Turn | INPUT VOLUMES<br>[ Total HV ]<br>veh/h % |     | DEMAND FLOWS<br>[ Total HV ]<br>veh/h % |     | Deg. Satn<br>v/c | Aver. Delay<br>sec | Level of Service | 95% BACK OF QUEUE<br>[ Veh. Dist ]<br>veh m |      | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed<br>km/h |
| South: Industrial Access     |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 1                            | L2   | 19                                       | 5.0 | 20                                      | 5.0 | 0.609            | 35.6               | LOS D            | 3.6                                         | 26.2 | 0.99      | 0.82                | 1.09             | 37.2                |
| 2                            | T1   | 3                                        | 5.0 | 3                                       | 5.0 | * 0.609          | 30.0               | LOS C            | 3.6                                         | 26.2 | 0.99      | 0.82                | 1.09             | 38.0                |
| 3                            | R2   | 89                                       | 5.0 | 94                                      | 5.0 | 0.609            | 35.6               | LOS D            | 3.6                                         | 26.2 | 0.99      | 0.82                | 1.09             | 32.0                |
| Approach                     |      | 111                                      | 5.0 | 117                                     | 5.0 | 0.609            | 35.4               | LOS D            | 3.6                                         | 26.2 | 0.99      | 0.82                | 1.09             | 33.2                |
| East: Graf Drive (E)         |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 4                            | L2   | 50                                       | 5.0 | 53                                      | 5.0 | 0.629            | 33.5               | LOS C            | 5.2                                         | 38.1 | 0.99      | 0.83                | 1.06             | 34.5                |
| 5                            | T1   | 286                                      | 5.0 | 301                                     | 5.0 | 0.629            | 27.9               | LOS C            | 5.3                                         | 38.6 | 0.99      | 0.83                | 1.06             | 35.9                |
| 6                            | R2   | 274                                      | 5.0 | 288                                     | 5.0 | * 0.804          | 35.5               | LOS D            | 9.3                                         | 68.1 | 1.00      | 0.94                | 1.28             | 31.9                |
| Approach                     |      | 610                                      | 5.0 | 642                                     | 5.0 | 0.804            | 31.8               | LOS C            | 9.3                                         | 68.1 | 0.99      | 0.88                | 1.16             | 33.9                |
| North: Packer Road           |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 7                            | L2   | 129                                      | 5.0 | 136                                     | 5.0 | 0.256            | 14.0               | LOS B            | 2.1                                         | 15.7 | 0.75      | 0.73                | 0.75             | 44.6                |
| 8                            | T1   | 10                                       | 5.0 | 11                                      | 5.0 | * 0.256          | 8.4                | LOS A            | 2.1                                         | 15.7 | 0.75      | 0.73                | 0.75             | 49.1                |
| 9                            | R2   | 10                                       | 5.0 | 11                                      | 5.0 | 0.256            | 14.0               | LOS B            | 2.1                                         | 15.7 | 0.75      | 0.73                | 0.75             | 47.9                |
| Approach                     |      | 149                                      | 5.0 | 157                                     | 5.0 | 0.256            | 13.6               | LOS B            | 2.1                                         | 15.7 | 0.75      | 0.73                | 0.75             | 45.2                |
| West: Graf Drive (W)         |      |                                          |     |                                         |     |                  |                    |                  |                                             |      |           |                     |                  |                     |
| 10                           | L2   | 10                                       | 5.0 | 11                                      | 5.0 | 0.781            | 36.6               | LOS D            | 7.1                                         | 51.8 | 1.00      | 0.94                | 1.27             | 38.8                |
| 11                           | T1   | 410                                      | 5.0 | 432                                     | 5.0 | * 0.781          | 31.0               | LOS C            | 7.1                                         | 51.9 | 1.00      | 0.94                | 1.27             | 34.7                |
| 12                           | R2   | 45                                       | 5.0 | 47                                      | 5.0 | 0.132            | 27.5               | LOS C            | 1.2                                         | 8.6  | 0.85      | 0.73                | 0.85             | 40.3                |
| Approach                     |      | 465                                      | 5.0 | 489                                     | 5.0 | 0.781            | 30.8               | LOS C            | 7.1                                         | 51.9 | 0.99      | 0.92                | 1.23             | 35.4                |
| All Vehicles                 |      | 1335                                     | 5.0 | 1405                                    | 5.0 | 0.804            | 29.7               | LOS C            | 9.3                                         | 68.1 | 0.96      | 0.87                | 1.13             | 35.4                |

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.

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

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

\* Critical Movement (Signal Timing)

| Pedestrian Movement Performance |          |            |           |             |                  |                       |          |           |                     |             |              |             |
|---------------------------------|----------|------------|-----------|-------------|------------------|-----------------------|----------|-----------|---------------------|-------------|--------------|-------------|
| Mov ID                          | Crossing | Input Vol. | Dem. Flow | Aver. Delay | Level of Service | AVERAGE BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Travel Time | Travel Dist. | Aver. Speed |
|                                 |          | ped/h      | ped/h     | sec         |                  | [ Ped ped             | Dist ] m |           |                     | sec         | m            | m/sec       |
| South: Industrial Access        |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P1                              | Full     | 50         | 53        | 24.4        | LOS C            | 0.1                   | 0.1      | 0.90      | 0.90                | 184.8       | 208.6        | 1.13        |
| East: Graf Drive (E)            |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P2                              | Full     | 50         | 53        | 24.4        | LOS C            | 0.1                   | 0.1      | 0.90      | 0.90                | 193.2       | 219.5        | 1.14        |
| North: Packer Road              |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P3                              | Full     | 50         | 53        | 24.4        | LOS C            | 0.1                   | 0.1      | 0.90      | 0.90                | 184.8       | 208.6        | 1.13        |

| West: Graf Drive (W) |     |     |      |       |     |     |      |      |       |       |      |  |
|----------------------|-----|-----|------|-------|-----|-----|------|------|-------|-------|------|--|
| P4 Full              | 50  | 53  | 9.6  | LOS A | 0.0 | 0.0 | 0.80 | 0.80 | 178.5 | 219.5 | 1.23 |  |
| All Pedestrians      | 200 | 211 | 20.7 | LOS C | 0.1 | 0.1 | 0.88 | 0.88 | 185.3 | 214.1 | 1.16 |  |

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

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

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

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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\SS\03\_Graf Drive and Packer Road (62).sip9

# PHASING SUMMARY

 **Site: 62 [AM\_2032 - Left Slip (Site Folder: General)]**

New Site  
Site Category: (None)  
Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 60 seconds (Site Practical Cycle Time)

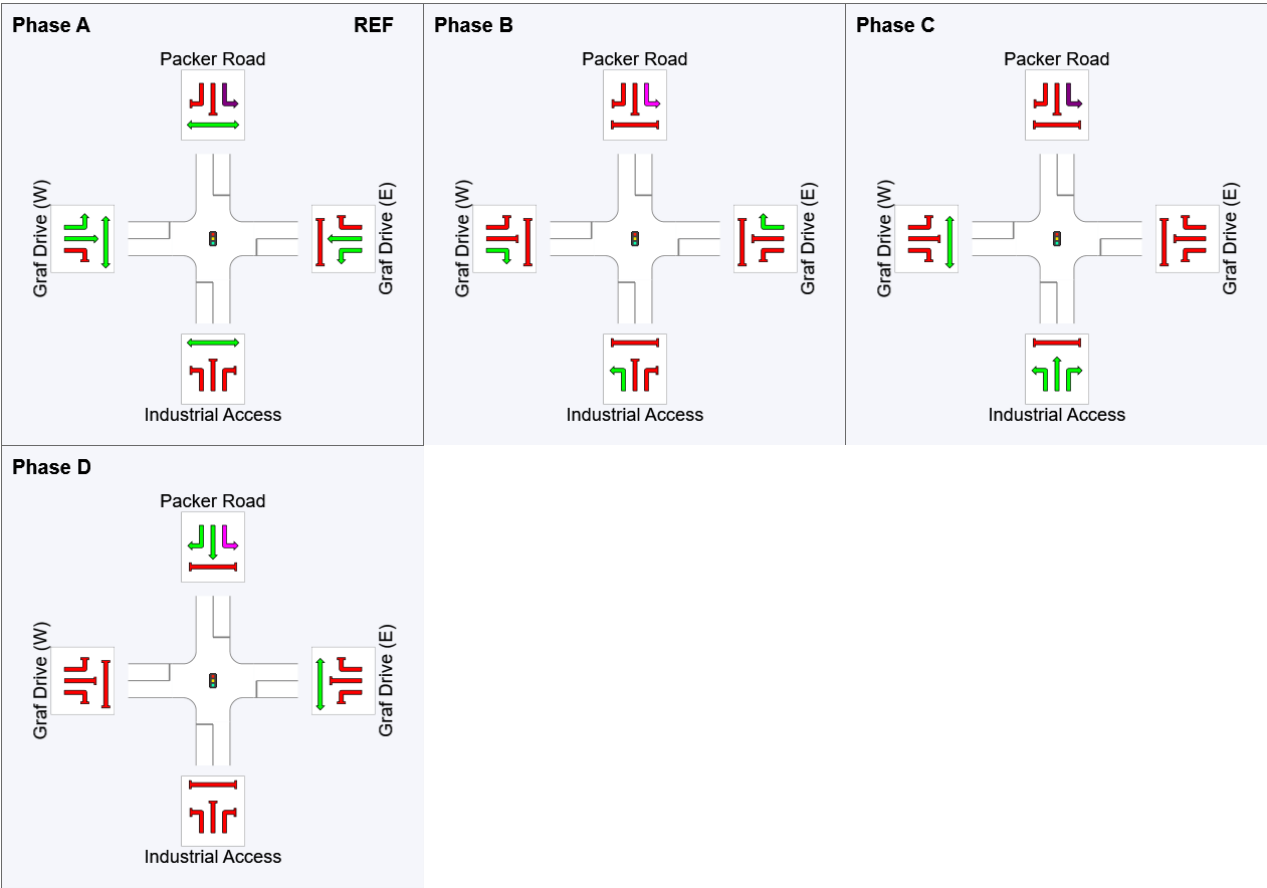
Timings based on settings in the Site Phasing & Timing dialog  
Phase Times determined by the program  
Phase Sequence: Split Phasing  
Reference Phase: Phase A  
Input Phase Sequence: A, B, C, D  
Output Phase Sequence: A, B, C, D

## Phase Timing Summary

| Phase                   | A   | B   | C   | D   |
|-------------------------|-----|-----|-----|-----|
| Phase Change Time (sec) | 0   | 15  | 33  | 45  |
| Green Time (sec)        | 9   | 12  | 6   | 9   |
| Phase Time (sec)        | 15  | 18  | 12  | 15  |
| Phase Split             | 25% | 30% | 20% | 25% |

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

## Output Phase Sequence



REF: Reference Phase  
VAR: Variable Phase

|                                                                                   |                                   |                                                                                   |                          |
|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------|--------------------------|
|  | Normal Movement                   |  | Permitted/Opposed        |
|  | Slip/Bypass-Lane Movement         |  | Opposed Slip/Bypass-Lane |
|  | Stopped Movement                  |  | Turn On Red              |
|  | Other Movement Class (MC) Running |  | Undetected Movement      |
|  | Mixed Running & Stopped MCs       |  | Continuous Movement      |
|  | Other Movement Class (MC) Stopped |  | Phase Transition Applied |

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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\SS\03\_Graf Drive and Packer Road (62).sip9

# SITE LAYOUT

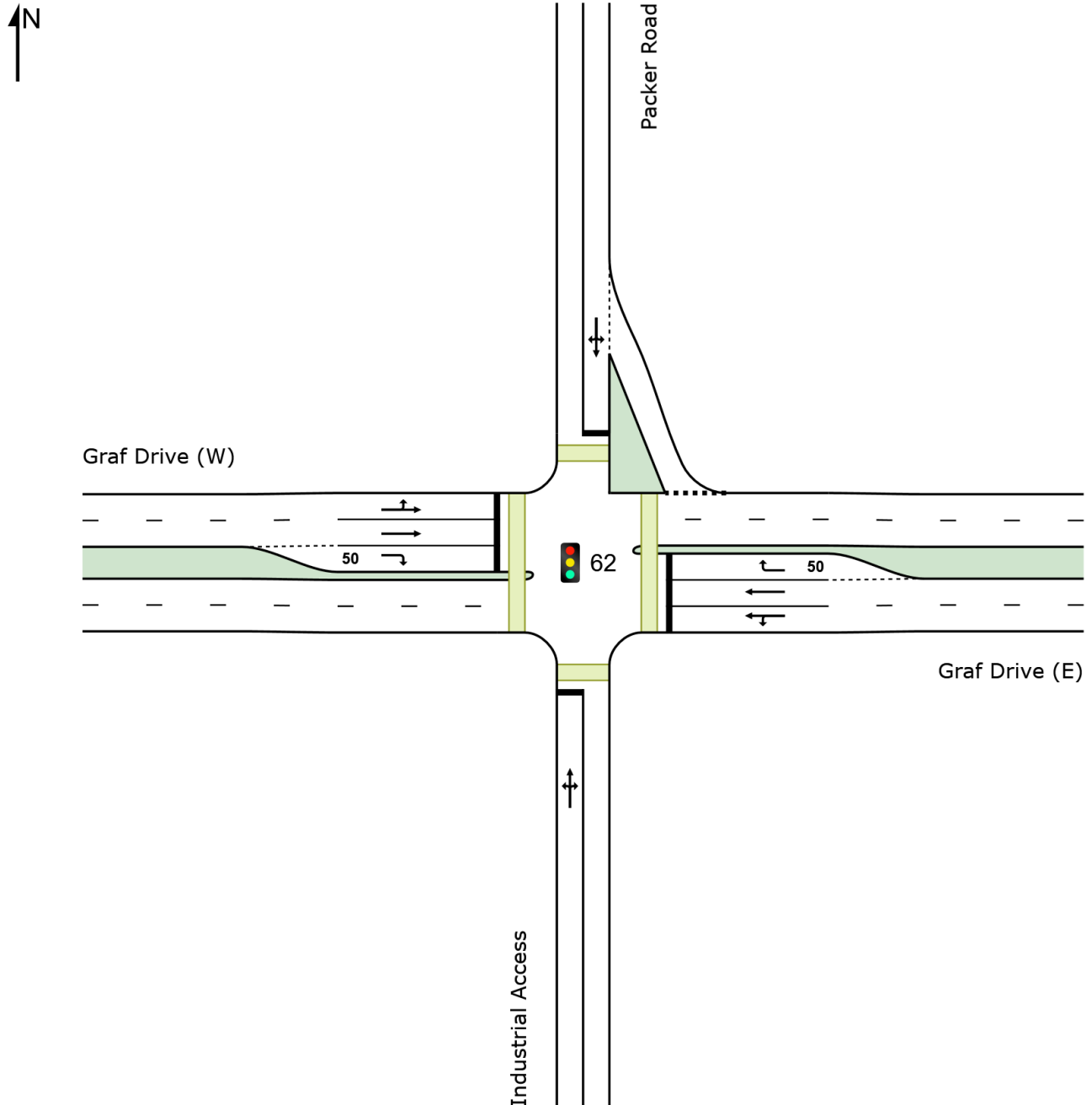
 Site: 62 [PM\_2032 - Left Slip (Site Folder: General)]

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\SS\03\_Graf Drive and Packer Road (62).sip9

# MOVEMENT SUMMARY

 **Site: 62 [PM\_2032 - Left Slip (Site Folder: General)]**

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 70 seconds (Site Practical Cycle Time)

| Vehicle Movement Performance |      |                                          |     |                                         |     |                      |                        |                  |                                             |      |           |                     |                  |                         |
|------------------------------|------|------------------------------------------|-----|-----------------------------------------|-----|----------------------|------------------------|------------------|---------------------------------------------|------|-----------|---------------------|------------------|-------------------------|
| Mov ID                       | Turn | INPUT VOLUMES<br>[ Total HV ]<br>veh/h % |     | DEMAND FLOWS<br>[ Total HV ]<br>veh/h % |     | Deg. Satn<br><br>v/c | Aver. Delay<br><br>sec | Level of Service | 95% BACK OF QUEUE<br>[ Veh. Dist ]<br>veh m |      | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed<br><br>km/h |
| South: Industrial Access     |      |                                          |     |                                         |     |                      |                        |                  |                                             |      |           |                     |                  |                         |
| 1                            | L2   | 10                                       | 5.0 | 11                                      | 5.0 | 0.667                | 38.2                   | LOS D            | 6.1                                         | 44.3 | 0.99      | 0.85                | 1.09             | 36.3                    |
| 2                            | T1   | 10                                       | 5.0 | 11                                      | 5.0 | * 0.667              | 32.6                   | LOS C            | 6.1                                         | 44.3 | 0.99      | 0.85                | 1.09             | 37.0                    |
| 3                            | R2   | 145                                      | 5.0 | 153                                     | 5.0 | 0.667                | 38.2                   | LOS D            | 6.1                                         | 44.3 | 0.99      | 0.85                | 1.09             | 31.1                    |
| Approach                     |      | 165                                      | 5.0 | 174                                     | 5.0 | 0.667                | 37.9                   | LOS D            | 6.1                                         | 44.3 | 0.99      | 0.85                | 1.09             | 31.9                    |
| East: Graf Drive (E)         |      |                                          |     |                                         |     |                      |                        |                  |                                             |      |           |                     |                  |                         |
| 4                            | L2   | 50                                       | 5.0 | 53                                      | 5.0 | 0.507                | 34.3                   | LOS C            | 5.6                                         | 40.9 | 0.95      | 0.78                | 0.95             | 34.1                    |
| 5                            | T1   | 285                                      | 5.0 | 300                                     | 5.0 | 0.507                | 28.7                   | LOS C            | 5.7                                         | 41.5 | 0.95      | 0.77                | 0.95             | 35.5                    |
| 6                            | R2   | 168                                      | 5.0 | 177                                     | 5.0 | * 0.863              | 47.1                   | LOS D            | 7.1                                         | 51.8 | 1.00      | 1.00                | 1.50             | 27.9                    |
| Approach                     |      | 503                                      | 5.0 | 529                                     | 5.0 | 0.863                | 35.4                   | LOS D            | 7.1                                         | 51.8 | 0.96      | 0.85                | 1.13             | 32.4                    |
| North: Packer Road           |      |                                          |     |                                         |     |                      |                        |                  |                                             |      |           |                     |                  |                         |
| 7                            | L2   | 276                                      | 5.0 | 291                                     | 5.0 | 0.382                | 12.6                   | LOS B            | 4.3                                         | 31.1 | 0.68      | 0.75                | 0.68             | 45.6                    |
| 8                            | T1   | 10                                       | 5.0 | 11                                      | 5.0 | * 0.382              | 6.9                    | LOS A            | 4.3                                         | 31.1 | 0.68      | 0.75                | 0.68             | 50.0                    |
| 9                            | R2   | 10                                       | 5.0 | 11                                      | 5.0 | 0.382                | 12.5                   | LOS B            | 4.3                                         | 31.1 | 0.68      | 0.75                | 0.68             | 48.7                    |
| Approach                     |      | 296                                      | 5.0 | 312                                     | 5.0 | 0.382                | 12.4                   | LOS B            | 4.3                                         | 31.1 | 0.68      | 0.75                | 0.68             | 45.9                    |
| West: Graf Drive (W)         |      |                                          |     |                                         |     |                      |                        |                  |                                             |      |           |                     |                  |                         |
| 10                           | L2   | 10                                       | 5.0 | 11                                      | 5.0 | 0.832                | 41.7                   | LOS D            | 11.1                                        | 81.2 | 1.00      | 0.99                | 1.30             | 36.8                    |
| 11                           | T1   | 544                                      | 5.0 | 573                                     | 5.0 | * 0.832              | 36.1                   | LOS D            | 11.1                                        | 81.3 | 1.00      | 0.99                | 1.30             | 32.4                    |
| 12                           | R2   | 26                                       | 5.0 | 27                                      | 5.0 | 0.134                | 37.1                   | LOS D            | 0.9                                         | 6.5  | 0.93      | 0.71                | 0.93             | 36.4                    |
| Approach                     |      | 580                                      | 5.0 | 611                                     | 5.0 | 0.832                | 36.3                   | LOS D            | 11.1                                        | 81.3 | 1.00      | 0.98                | 1.28             | 32.7                    |
| All Vehicles                 |      | 1544                                     | 5.0 | 1625                                    | 5.0 | 0.863                | 31.6                   | LOS C            | 11.1                                        | 81.3 | 0.93      | 0.88                | 1.10             | 34.5                    |

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

\* Critical Movement (Signal Timing)

| Pedestrian Movement Performance |          |            |           |             |                  |                       |          |           |                     |             |              |             |
|---------------------------------|----------|------------|-----------|-------------|------------------|-----------------------|----------|-----------|---------------------|-------------|--------------|-------------|
| Mov ID                          | Crossing | Input Vol. | Dem. Flow | Aver. Delay | Level of Service | AVERAGE BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Travel Time | Travel Dist. | Aver. Speed |
|                                 |          | ped/h      | ped/h     | sec         |                  | [ Ped ped             | Dist ] m |           |                     | sec         | m            | m/sec       |
| South: Industrial Access        |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P1                              | Full     | 50         | 53        | 29.3        | LOS C            | 0.1                   | 0.1      | 0.92      | 0.92                | 189.8       | 208.6        | 1.10        |
| East: Graf Drive (E)            |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P2                              | Full     | 50         | 53        | 29.3        | LOS C            | 0.1                   | 0.1      | 0.92      | 0.92                | 198.2       | 219.5        | 1.11        |
| North: Packer Road              |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P3                              | Full     | 50         | 53        | 29.3        | LOS C            | 0.1                   | 0.1      | 0.92      | 0.92                | 189.8       | 208.6        | 1.10        |

| West: Graf Drive (W) |      |     |     |      |       |     |     |      |      |       |       |      |
|----------------------|------|-----|-----|------|-------|-----|-----|------|------|-------|-------|------|
| P4                   | Full | 50  | 53  | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 | 198.2 | 219.5 | 1.11 |
| All                  |      | 200 | 211 | 29.3 | LOS C | 0.1 | 0.1 | 0.92 | 0.92 | 194.0 | 214.1 | 1.10 |
| Pedestrians          |      |     |     |      |       |     |     |      |      |       |       |      |

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

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

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

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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\SS\03\_Graf Drive and Packer Road (62).sip9



# PHASING SUMMARY

 **Site: 62 [PM\_2032 - Left Slip (Site Folder: General)]**

New Site  
Site Category: (None)  
Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 70 seconds (Site Practical Cycle Time)

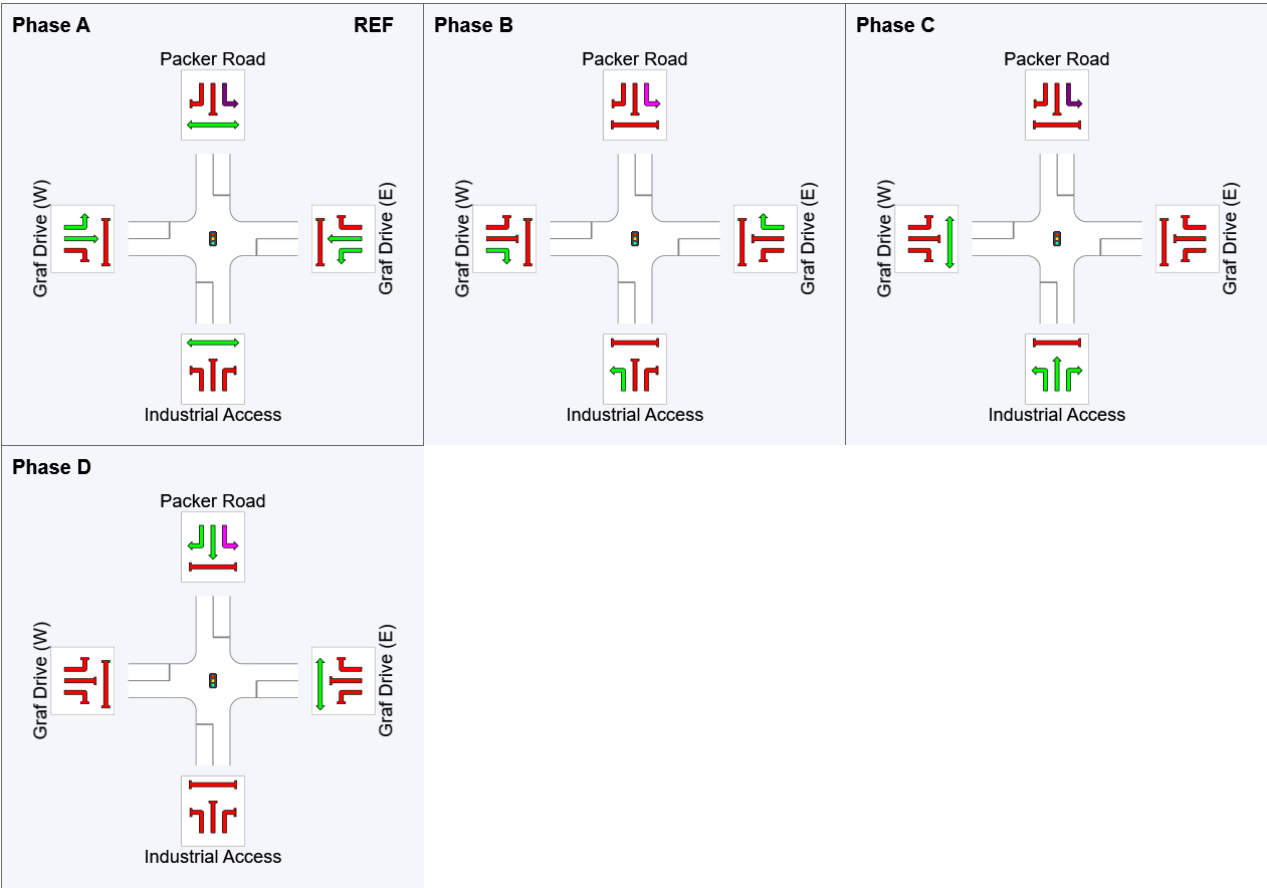
Timings based on settings in the Site Phasing & Timing dialog  
Phase Times determined by the program  
Phase Sequence: Split Phasing  
Reference Phase: Phase A  
Input Phase Sequence: A, B, C, D  
Output Phase Sequence: A, B, C, D

## Phase Timing Summary

| Phase                   | A   | B   | C   | D   |
|-------------------------|-----|-----|-----|-----|
| Phase Change Time (sec) | 0   | 19  | 33  | 49  |
| Green Time (sec)        | 13  | 8   | 10  | 15  |
| Phase Time (sec)        | 19  | 14  | 16  | 21  |
| Phase Split             | 27% | 20% | 23% | 30% |

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

## Output Phase Sequence



REF: Reference Phase  
VAR: Variable Phase

|                                                                                   |                                   |                                                                                   |                          |
|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------|--------------------------|
|  | Normal Movement                   |  | Permitted/Opposed        |
|  | Slip/Bypass-Lane Movement         |  | Opposed Slip/Bypass-Lane |
|  | Stopped Movement                  |  | Turn On Red              |
|  | Other Movement Class (MC) Running |  | Undetected Movement      |
|  | Mixed Running & Stopped MCs       |  | Continuous Movement      |
|  | Other Movement Class (MC) Stopped |  | Phase Transition Applied |

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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\SS\03\_Graf Drive and Packer Road (62).sip9

# SITE LAYOUT

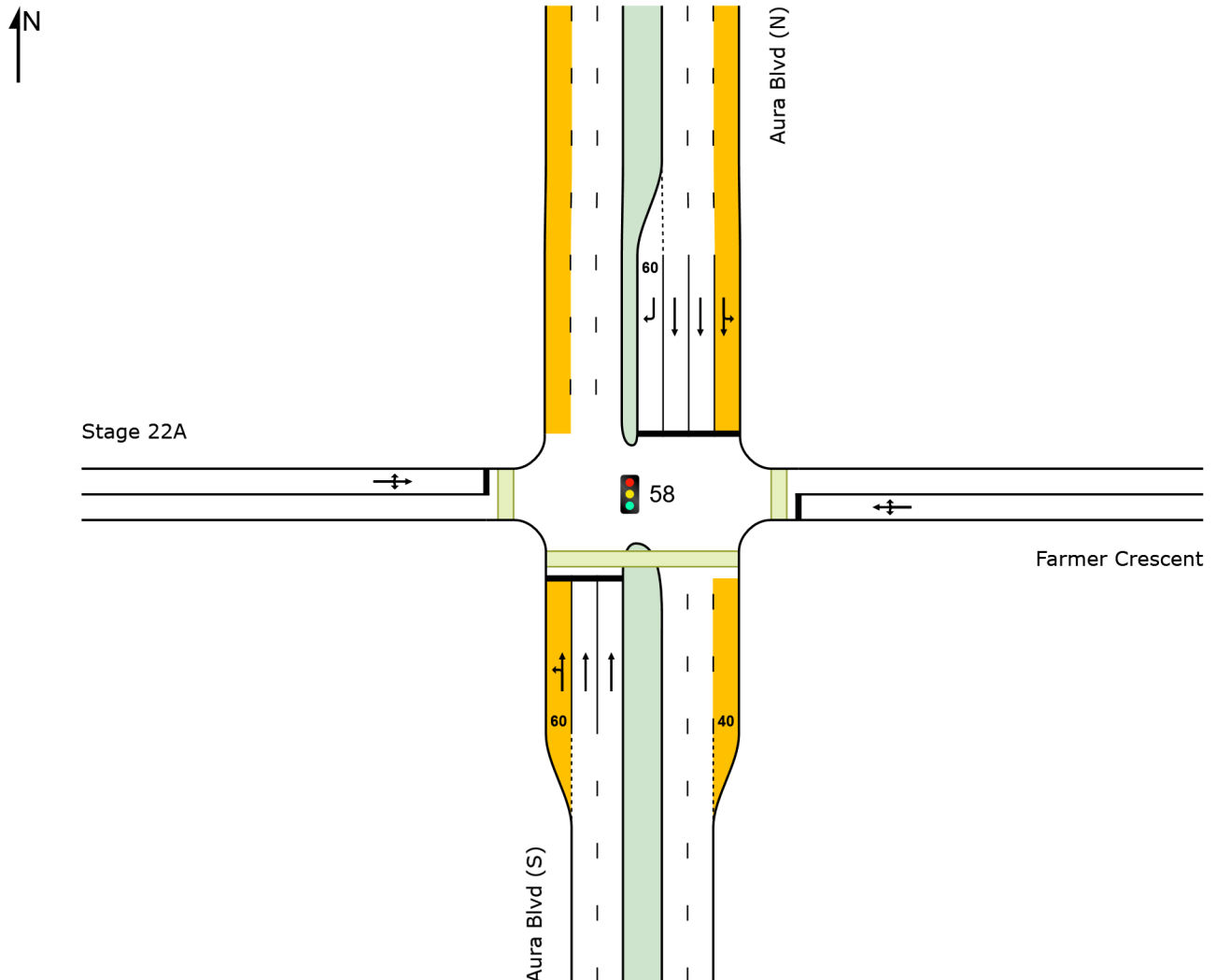
 Site: 58 [WORKING\_AM 2023 - Stockland Final (Site Folder: General - CURRENT - Update 18\_12)]

New Access / Farmer Crescent

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\04\_Aura Blvd and Farmer Crescent (58).sip9

## MOVEMENT SUMMARY

 Site: 58 [WORKING\_AM 2023 - Stockland Final (Site Folder: General - CURRENT - Update 18\_12)]

New Access / Farmer Crescent

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

| Vehicle Movement Performance |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
|------------------------------|------|---------------|--------|---------------|--------|-----------|-------------|------------------|-------------------|----------|-----------|---------------------|------------------|-------------|
| Mov ID                       | Turn | INPUT VOLUMES |        | DEMAND FLOWS  |        | Deg. Satn | Aver. Delay | Level of Service | 95% BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed |
|                              |      | [ Total veh/h | HV ] % | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| South: Aura Blvd (S)         |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 1                            | L2   | 199           | 5.0    | 209           | 5.0    | 0.280     | 26.0        | LOS C            | 6.7               | 49.2     | 0.70      | 0.76                | 0.70             | 41.2        |
| 2                            | T1   | 1059          | 5.1    | 1115          | 5.1    | * 0.748   | 26.2        | LOS C            | 24.6              | 179.4    | 0.89      | 0.80                | 0.90             | 41.9        |
| Approach                     |      | 1258          | 5.1    | 1324          | 5.1    | 0.748     | 26.2        | LOS C            | 24.6              | 179.4    | 0.86      | 0.79                | 0.87             | 41.8        |
| East: Farmer Crescent        |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 4                            | L2   | 55            | 5.0    | 58            | 5.0    | 0.547     | 58.0        | LOS E            | 4.0               | 28.8     | 1.00      | 0.77                | 1.01             | 30.9        |
| 5                            | T1   | 10            | 5.0    | 11            | 5.0    | * 0.547   | 50.8        | LOS D            | 4.0               | 28.8     | 1.00      | 0.77                | 1.01             | 31.4        |
| 6                            | R2   | 10            | 5.0    | 11            | 5.0    | 0.547     | 56.4        | LOS E            | 4.0               | 28.8     | 1.00      | 0.77                | 1.01             | 31.0        |
| Approach                     |      | 75            | 5.0    | 79            | 5.0    | 0.547     | 56.8        | LOS E            | 4.0               | 28.8     | 1.00      | 0.77                | 1.01             | 31.0        |
| North: Aura Blvd (N)         |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                            | L2   | 50            | 5.0    | 53            | 5.0    | 0.047     | 12.2        | LOS B            | 0.9               | 6.8      | 0.38      | 0.65                | 0.38             | 48.8        |
| 8                            | T1   | 1190          | 5.1    | 1253          | 5.1    | 0.559     | 9.8         | LOS A            | 18.2              | 132.7    | 0.57      | 0.51                | 0.57             | 51.7        |
| 9                            | R2   | 212           | 5.0    | 223           | 5.0    | * 0.732   | 51.1        | LOS D            | 11.0              | 80.3     | 1.00      | 0.87                | 1.10             | 32.1        |
| Approach                     |      | 1452          | 5.1    | 1528          | 5.1    | 0.732     | 15.9        | LOS B            | 18.2              | 132.7    | 0.63      | 0.57                | 0.64             | 47.3        |
| West: Stage 22A              |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                           | L2   | 30            | 5.0    | 32            | 5.0    | 0.753     | 58.6        | LOS E            | 6.4               | 46.6     | 1.00      | 0.88                | 1.21             | 30.2        |
| 11                           | T1   | 10            | 5.0    | 11            | 5.0    | * 0.753   | 53.0        | LOS D            | 6.4               | 46.6     | 1.00      | 0.88                | 1.21             | 30.7        |
| 12                           | R2   | 76            | 5.0    | 80            | 5.0    | 0.753     | 58.6        | LOS E            | 6.4               | 46.6     | 1.00      | 0.88                | 1.21             | 30.3        |
| Approach                     |      | 116           | 5.0    | 122           | 5.0    | 0.753     | 58.1        | LOS E            | 6.4               | 46.6     | 1.00      | 0.88                | 1.21             | 30.3        |
| All Vehicles                 |      | 2901          | 5.1    | 3054          | 5.1    | 0.753     | 23.1        | LOS C            | 24.6              | 179.4    | 0.75      | 0.68                | 0.77             | 43.3        |

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

\* Critical Movement (Signal Timing)

| Pedestrian Movement Performance |          |            |           |             |                  |                       |          |           |                     |             |              |             |
|---------------------------------|----------|------------|-----------|-------------|------------------|-----------------------|----------|-----------|---------------------|-------------|--------------|-------------|
| Mov ID                          | Crossing | Input Vol. | Dem. Flow | Aver. Delay | Level of Service | AVERAGE BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Travel Time | Travel Dist. | Aver. Speed |
|                                 |          | ped/h      | ped/h     | sec         |                  | [ Ped ped             | Dist ] m |           |                     | sec         | m            | m/sec       |
| South: Aura Blvd (S)            |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P1                              | Full     | 20         | 21        | 44.2        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 218.7       | 226.8        | 1.04        |
| East: Farmer Crescent           |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P2                              | Full     | 20         | 21        | 44.2        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 204.7       | 208.6        | 1.02        |
| West: Stage 22A                 |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P4                              | Full     | 20         | 21        | 44.2        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 204.7       | 208.6        | 1.02        |

|                 |   |    |      |       |     |     |      |      |       |       |      |
|-----------------|---|----|------|-------|-----|-----|------|------|-------|-------|------|
| All Pedestrians | 0 | 63 | 44.2 | LOS E | 0.1 | 0.1 | 0.94 | 0.94 | 209.3 | 214.7 | 1.03 |
|-----------------|---|----|------|-------|-----|-----|------|------|-------|-------|------|

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

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

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

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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\04\_Aura Blvd and Farmer Crescent (58).sip9

# PHASING SUMMARY

 Site: 58 [WORKING\_AM 2023 - Stockland Final (Site Folder: General - CURRENT - Update 18\_12)]

New Access / Farmer Crescent  
Site Category: (None)  
Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 100 seconds (Site User-Given Cycle Time)

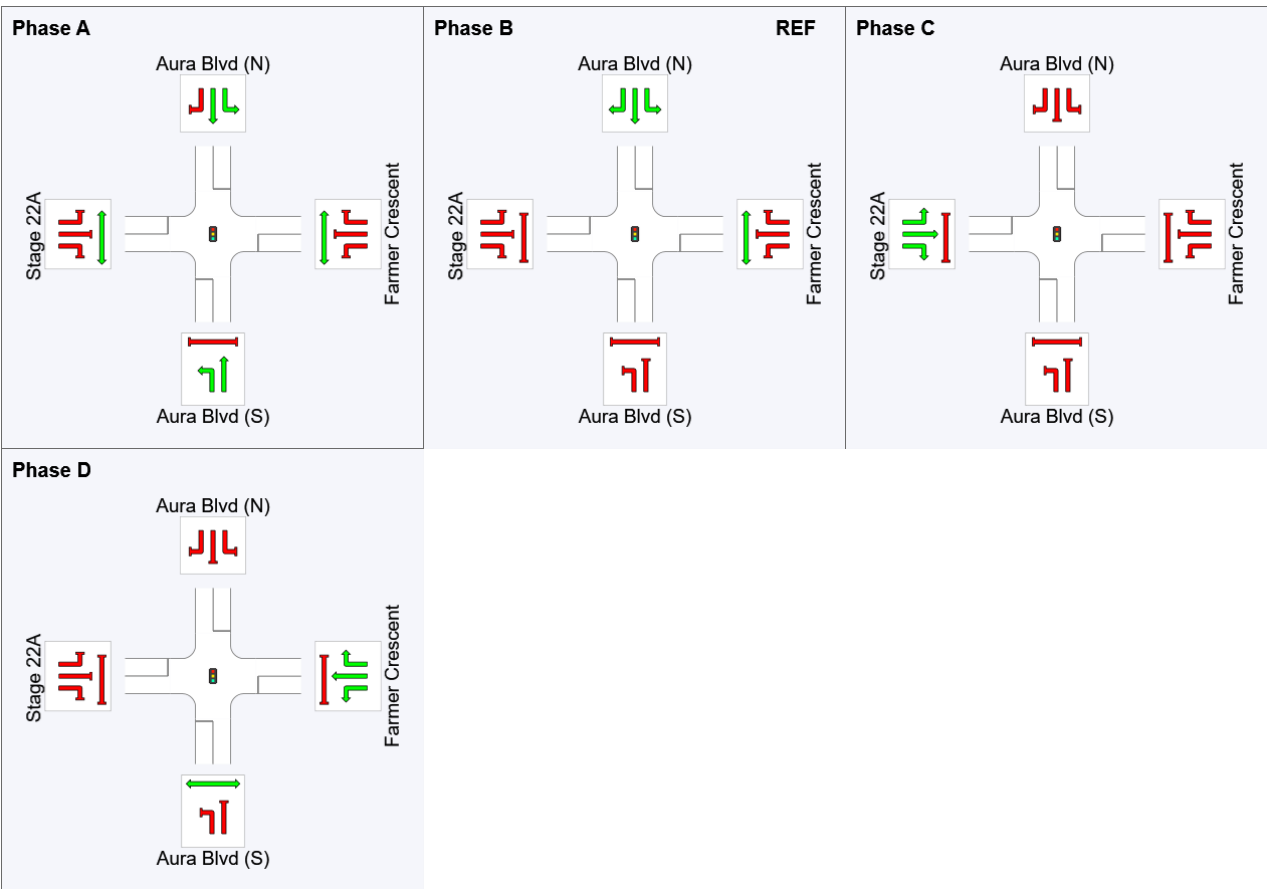
Timings based on settings in the Site Phasing & Timing dialog  
Phase Times determined by the program  
Phase Sequence: Opposed Turns  
Reference Phase: Phase B  
Input Phase Sequence: A, B, C, D  
Output Phase Sequence: A, B, C, D

## Phase Timing Summary

| Phase                   | A   | B   | C   | D   |
|-------------------------|-----|-----|-----|-----|
| Phase Change Time (sec) | 52  | 0   | 23  | 38  |
| Green Time (sec)        | 42  | 17  | 9   | 8   |
| Phase Time (sec)        | 48  | 23  | 15  | 14  |
| Phase Split             | 48% | 23% | 15% | 14% |

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

## Output Phase Sequence



REF: Reference Phase  
VAR: Variable Phase

|                                                                                   |                                   |                                                                                   |                          |
|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------|--------------------------|
|  | Normal Movement                   |  | Permitted/Opposed        |
|  | Slip/Bypass-Lane Movement         |  | Opposed Slip/Bypass-Lane |
|  | Stopped Movement                  |  | Turn On Red              |
|  | Other Movement Class (MC) Running |  | Undetected Movement      |
|  | Mixed Running & Stopped MCs       |  | Continuous Movement      |
|  | Other Movement Class (MC) Stopped |  | Phase Transition Applied |

# SITE LAYOUT

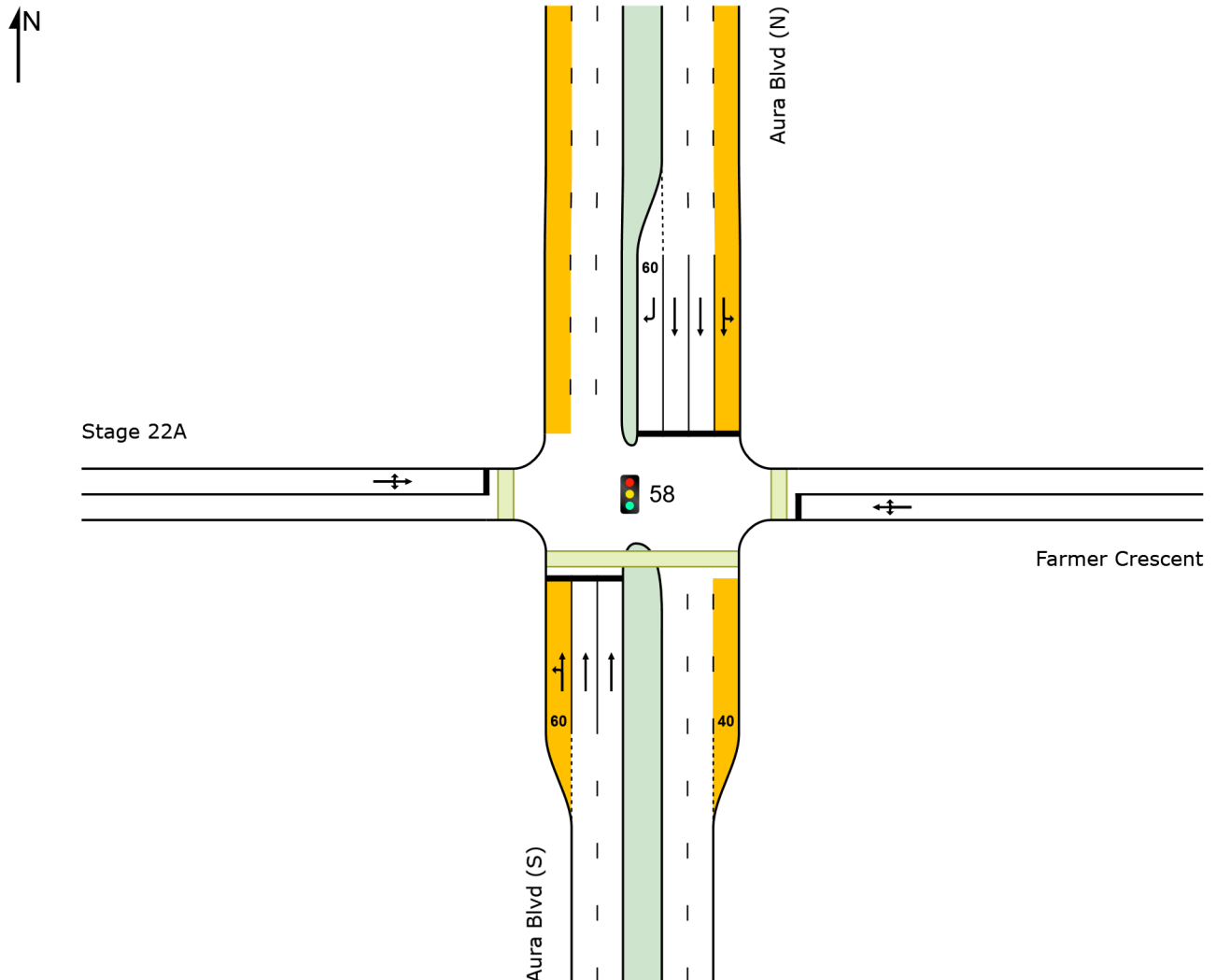
 Site: 58 [WORKING\_PM 2023 - Stockland Final (Site Folder: General - CURRENT - Update 18\_12)]

New Access / Farmer Crescent

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\04\_Aura Blvd and Farmer Crescent (58).sip9



## MOVEMENT SUMMARY

 Site: 58 [WORKING\_PM 2023 - Stockland Final (Site Folder: General - CURRENT - Update 18\_12)]

New Access / Farmer Crescent

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 100 seconds (Site User-Given Cycle Time)

| Vehicle Movement Performance |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
|------------------------------|------|---------------|--------|---------------|--------|-----------|-------------|------------------|-------------------|----------|-----------|---------------------|------------------|-------------|
| Mov ID                       | Turn | INPUT VOLUMES |        | DEMAND FLOWS  |        | Deg. Satn | Aver. Delay | Level of Service | 95% BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Aver. No. Cycles | Aver. Speed |
|                              |      | [ Total veh/h | HV ] % | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| South: Aura Blvd (S)         |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 1                            | L2   | 100           | 5.0    | 105           | 5.0    | 0.180     | 31.2        | LOS C            | 3.7               | 27.0     | 0.75      | 0.75                | 0.75             | 38.9        |
| 2                            | T1   | 798           | 5.1    | 840           | 5.1    | 0.688     | 31.2        | LOS C            | 18.3              | 133.3    | 0.92      | 0.80                | 0.92             | 39.6        |
| Approach                     |      | 898           | 5.1    | 945           | 5.1    | 0.688     | 31.2        | LOS C            | 18.3              | 133.3    | 0.90      | 0.80                | 0.90             | 39.5        |
| East: Farmer Crescent        |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 4                            | L2   | 100           | 5.0    | 105           | 5.0    | 0.701     | 58.1        | LOS E            | 6.4               | 47.0     | 1.00      | 0.85                | 1.13             | 30.8        |
| 5                            | T1   | 10            | 5.0    | 11            | 5.0    | * 0.701   | 50.8        | LOS D            | 6.4               | 47.0     | 1.00      | 0.85                | 1.13             | 31.3        |
| 6                            | R2   | 10            | 5.0    | 11            | 5.0    | 0.701     | 56.5        | LOS E            | 6.4               | 47.0     | 1.00      | 0.85                | 1.13             | 30.9        |
| Approach                     |      | 120           | 5.0    | 126           | 5.0    | 0.701     | 57.4        | LOS E            | 6.4               | 47.0     | 1.00      | 0.85                | 1.13             | 30.8        |
| North: Aura Blvd (N)         |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                            | L2   | 20            | 5.0    | 21            | 5.0    | 0.025     | 18.9        | LOS B            | 0.5               | 4.1      | 0.53      | 0.65                | 0.53             | 44.9        |
| 8                            | T1   | 1225          | 5.1    | 1289          | 5.1    | * 0.730   | 20.4        | LOS C            | 26.4              | 192.4    | 0.82      | 0.74                | 0.82             | 44.9        |
| 9                            | R2   | 128           | 5.0    | 135           | 5.0    | 0.683     | 55.1        | LOS E            | 6.8               | 49.4     | 1.00      | 0.84                | 1.10             | 31.0        |
| Approach                     |      | 1373          | 5.1    | 1445          | 5.1    | 0.730     | 23.6        | LOS C            | 26.4              | 192.4    | 0.83      | 0.75                | 0.84             | 43.1        |
| West: Stage 22A              |      |               |        |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                           | L2   | 50            | 5.0    | 53            | 5.0    | 0.738     | 47.3        | LOS D            | 14.0              | 102.1    | 0.99      | 0.87                | 1.06             | 33.3        |
| 11                           | T1   | 10            | 5.0    | 11            | 5.0    | * 0.738   | 41.7        | LOS D            | 14.0              | 102.1    | 0.99      | 0.87                | 1.06             | 33.9        |
| 12                           | R2   | 217           | 5.0    | 228           | 5.0    | 0.738     | 47.3        | LOS D            | 14.0              | 102.1    | 0.99      | 0.87                | 1.06             | 33.3        |
| Approach                     |      | 277           | 5.0    | 292           | 5.0    | 0.738     | 47.1        | LOS D            | 14.0              | 102.1    | 0.99      | 0.87                | 1.06             | 33.3        |
| All Vehicles                 |      | 2668          | 5.1    | 2808          | 5.1    | 0.738     | 30.1        | LOS C            | 26.4              | 192.4    | 0.88      | 0.78                | 0.90             | 39.9        |

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.

Delay Model: SIDRA Standard (Geometric Delay is included).

Queue Model: SIDRA Standard.

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

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

\* Critical Movement (Signal Timing)

| Pedestrian Movement Performance |          |            |           |             |                  |                       |          |           |                     |             |              |             |
|---------------------------------|----------|------------|-----------|-------------|------------------|-----------------------|----------|-----------|---------------------|-------------|--------------|-------------|
| Mov ID                          | Crossing | Input Vol. | Dem. Flow | Aver. Delay | Level of Service | AVERAGE BACK OF QUEUE |          | Prop. Que | Effective Stop Rate | Travel Time | Travel Dist. | Aver. Speed |
|                                 |          | ped/h      | ped/h     | sec         |                  | [ Ped ped             | Dist ] m |           |                     | sec         | m            | m/sec       |
| South: Aura Blvd (S)            |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P1                              | Full     | 20         | 21        | 44.2        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 218.7       | 226.8        | 1.04        |
| East: Farmer Crescent           |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P2                              | Full     | 20         | 21        | 44.2        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 204.7       | 208.6        | 1.02        |
| West: Stage 22A                 |          |            |           |             |                  |                       |          |           |                     |             |              |             |
| P4                              | Full     | 20         | 21        | 44.2        | LOS E            | 0.1                   | 0.1      | 0.94      | 0.94                | 204.7       | 208.6        | 1.02        |

|                 |   |    |      |       |     |     |      |      |       |       |      |
|-----------------|---|----|------|-------|-----|-----|------|------|-------|-------|------|
| All Pedestrians | 0 | 63 | 44.2 | LOS E | 0.1 | 0.1 | 0.94 | 0.94 | 209.3 | 214.7 | 1.03 |
|-----------------|---|----|------|-------|-----|-----|------|------|-------|-------|------|

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

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

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

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Project: X:\Projects\300318\30031870\Traffic\Aura Business Park - 09-23 update\SIDRA\04\_Aura Blvd and Farmer Crescent (58).sip9

# PHASING SUMMARY

 Site: 58 [WORKING\_PM 2023 - Stockland Final (Site Folder: General - CURRENT - Update 18\_12)]

New Access / Farmer Crescent  
Site Category: (None)  
Signals - EQUISAT (Fixed-Time/SCATS) Isolated    Cycle Time = 100 seconds (Site User-Given Cycle Time)

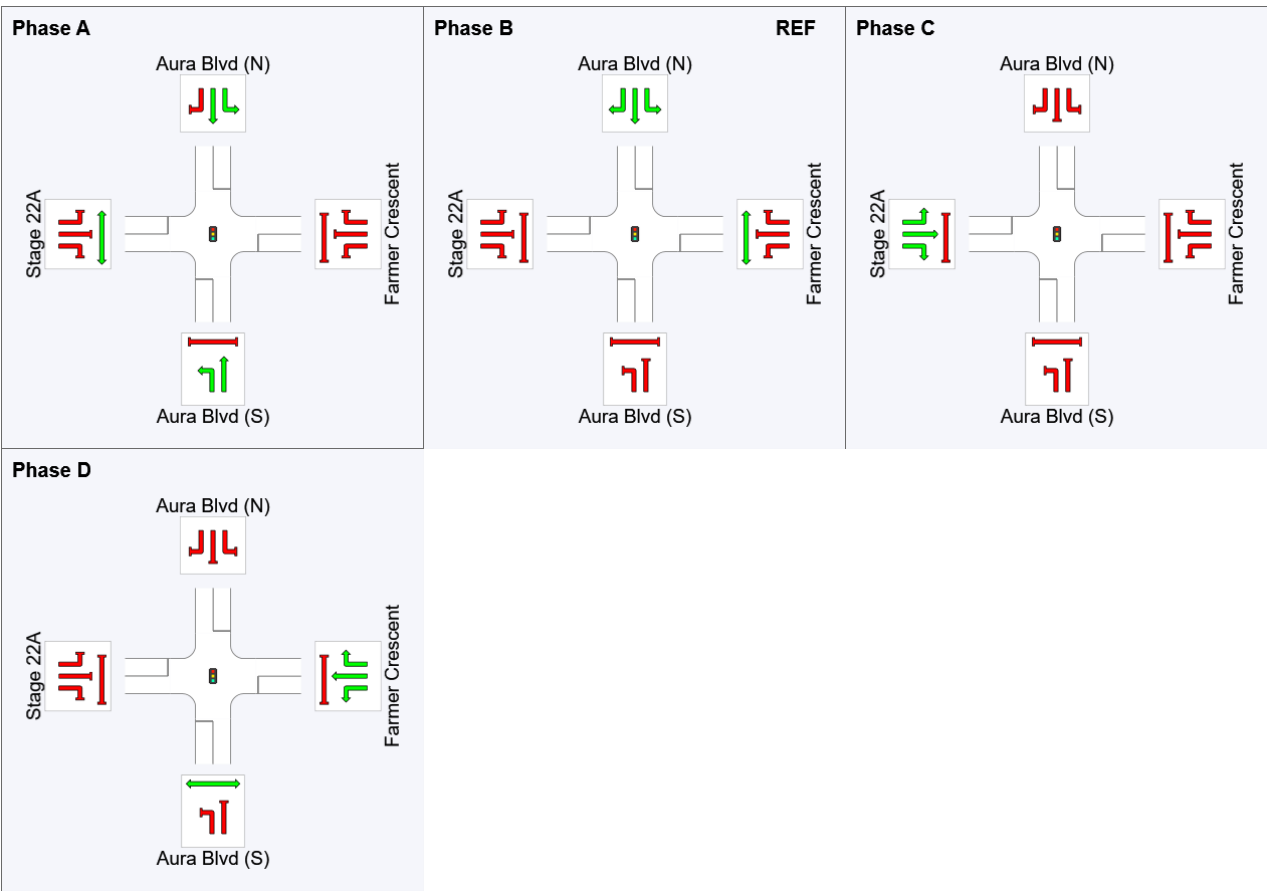
Timings based on settings in the Site Phasing & Timing dialog  
Phase Times determined by the program  
Phase Sequence: Opposed Turns  
Reference Phase: Phase B  
Input Phase Sequence: A, B, C, D  
Output Phase Sequence: A, B, C, D

## Phase Timing Summary

| Phase                   | A   | B   | C   | D   |
|-------------------------|-----|-----|-----|-----|
| Phase Change Time (sec) | 61  | 0   | 17  | 45  |
| Green Time (sec)        | 33  | 11  | 22  | 10  |
| Phase Time (sec)        | 39  | 17  | 28  | 16  |
| Phase Split             | 39% | 17% | 28% | 16% |

See the Timing Analysis report for more detailed information including input values of Yellow Time and All-Red Time, and information on any adjustments to Intergreen Time, Phase Time and Green Time values in cases of Pedestrian Actuation, Minor Phase Actuation and Phase Frequency values (user-specified or implied) less than 100%.

## Output Phase Sequence



REF: Reference Phase  
VAR: Variable Phase

|                                                                                   |                                   |                                                                                   |                          |
|-----------------------------------------------------------------------------------|-----------------------------------|-----------------------------------------------------------------------------------|--------------------------|
|  | Normal Movement                   |  | Permitted/Opposed        |
|  | Slip/Bypass-Lane Movement         |  | Opposed Slip/Bypass-Lane |
|  | Stopped Movement                  |  | Turn On Red              |
|  | Other Movement Class (MC) Running |  | Undetected Movement      |
|  | Mixed Running & Stopped MCs       |  | Continuous Movement      |
|  | Other Movement Class (MC) Stopped |  | Phase Transition Applied |

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