



**MOUNT LOFTY GOLF ESTATE  
GOLFLINKS ROAD, STIRLING**

**TRAFFIC AND ACCESS IMPACT STATEMENT**



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Traffic and Access Impact Statement

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Client contact: Sonia Mercorella

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### CIRQA Pty Ltd

ABN 12 681 029 983

PO Box 144, Glenside SA 5065

150 Halifax Street, Adelaide SA 5000

(08) 7078 1801

[www.cirqa.com.au](http://www.cirqa.com.au)

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## 1. EXECUTIVE SUMMARY

CIRQA has been engaged to provide design and assessment advice for the Mount Lofty Golf Estate at 35 Golflinks Road, Stirling. Specifically, CIRQA has been engaged to provide advice in respect to traffic and parking aspects of the proposal.

This report provides a review of the subject site, the proposed development, its access and parking provisions and the associated traffic impact on the adjacent road network.

The proposal comprises the redevelopment of the Stirling Golf Club to provide tourist accommodation and associated hospitality facilities along with the existing golfing facilities (to be referred to as Mount Lofty Golf Estate).

Vehicle access to the site will be provided via the existing two-way access point on Golflinks Road and a secondary access point Old Carey Gully Road (albeit emergency vehicle access will also be accommodated at an additional access on Golflinks Road). The site has been designed such that all vehicles can enter and exit in a forward direction. The parking and access areas within the site will be provided in accordance with the relevant Australian Standards. Adequate areas for waste storage and collection have been provided within the site.

A total of 200 formalised parking spaces plus a porte cochère (set-down/pick-up) facility will be provided within the hotel and golf facility buildings. Additional parking will also be provided adjacent the 'Perfumery' building (20 spaces) with further informal parking opportunities within the site. There would be a shortfall in parking provision when assessed against the Deemed to Satisfy criteria of the Planning and Design Code. However, such an assessment grossly overestimates realistic demands associated with the proposed uses given the shared and complimentary parking arrangements that will be achieved within the site. An alternative assessment based on realistic demand rates (taking into account data from comparable developments) identifies that the proposed provision will be adequate to accommodate the overall peak parking requirements during key demand periods (and at all other times). Such an approach is contemplated by the Planning and Design Code (which allows application of lower parking rates where justified based on specific development and land use considerations).

The proposal is conservatively forecast to generate an additional 40 to 85 movements during the site's peak hours. While there will be an increase in movements on Golflinks Road and Old Carey Gully Road, the additional movements would be accommodated without significant impact on traffic conditions. Notably, the future traffic volumes on Golflinks Road would remain

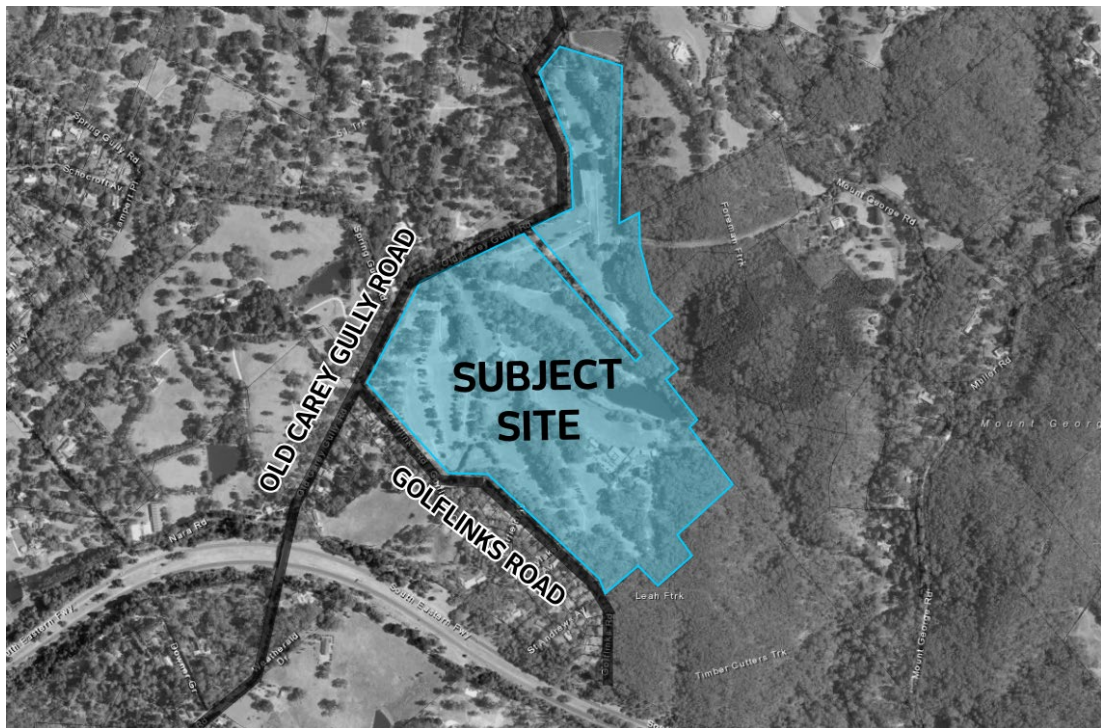
within the level typically associated with a local road and the proposal therefore will not change the nature or function of Golflinks Road (nor other adjacent roads).

Detailed analysis has also been prepared in respect to weekday am and pm peak hours and the weekend (Saturday) peak hour conditions at surrounding key intersections as well as the site's primary access point. The analysis identifies that the access point and key intersections surrounding the site would easily accommodate the additional movements with minimal impact. The analysis has also been prepared on a conservative basis and realistic results would be even better than suggested by the assessment. While minor shoulder sealing treatments would be of benefit on Golflinks Road and its intersection with Old Carey Gully Road, major upgrades to the adjacent road network are not considered necessary to accommodate the additional volumes forecast.

## 2. BACKGROUND

### 2.1 SUBJECT SITE

The subject site is located on the corner of Old Carey Gully Road and Golflinks Road, Stirling. The site is bound by residential properties to the north, Mount George Conservation Park to the east, Golflinks Road to the south and Old Carey Gully Road to the west. Figure 1 illustrates the location of the subject site with respect to the adjacent road network.



*Figure 1 – Location of the subject site with respect to the adjacent road network*

The Planning and Design Code identifies that the site is located within a Recreation Zone, with the following Overlays applicable:

- Environment and Food Production Area;
- Hazards (Bushfire – High Risk);
- Hazards (Flooding – Evidence Required);
- Local Heritage Place;
- Mount Lofty Ranges Water Supply Catchment (Area 2);
- Native Vegetation;
- Prescribed Water Resources Area;

- State Significant Native Vegetation;
- Traffic Generating Development; and
- Water Resources.

The subject site is currently occupied by the existing Stirling Golf Club including the 18-hole golf course and its associated clubroom, pro-shop, five motel rooms, offices, maintenance buildings and the 'Perfumery' building. The Club hosts functions and weddings (for up to 300 guests) as well as regular events.

General vehicle access is provided via a primary access point on Golflinks Road (near the southern end of the site), at which all turning movements are permitted. The site contains an easement for Davenport Road, which is an unsealed track that runs from Carey Gully Road along the Heysen Trail through the site. Maintenance access points are also provided on Carey Gully Road.

The primary parking areas are located to the east and south of the main buildings. A total of 71 parking spaces are provided in these areas. Additional informal parking is also available within the site.

## **2.2 ADJACENT ROAD NETWORK**

Golflinks Road is a local road under the care and control of Adelaide Hills Council. Golflinks Road generally comprises an approximately 5.5 m to 6.0 m wide carriageway with a single traffic lane in each direction. No Stopping restrictions apply on both sides of Golflinks Road. Traffic data recorded by Adelaide Hills Council indicates that the Average Annual Daily Traffic (AADT) volume is in the order of 444 vehicles per day (vpd). In comparison, 'local roads' are typically considered to have upper volume limits in the order of 1,500 to 2,000 vpd (such levels relate to amenity considerations as technical capacity would be higher). The default urban speed limit of 50 km/h applies on Golflinks Road.

Old Carey Gully Road is a minor collector road under the care and control of Adelaide Hills Council. Old Carey Gully Road comprises a 6.2 m wide carriageway (approximate) with a single traffic lane each direction. No Stopping restrictions apply on both sides of Old Carey Gully Road. The speed limit varies along the stretch of Old Carey Gully Road adjacent the site. Approximately 50 m north of the Cox Creek crossing, the speed limit changes with a 50 km/h zone south of this point and an 80 km/h zone north of this point. Traffic data recorded by Austraffic (on behalf of CIRQA) indicates Old Carey Gully Road has a daily traffic volume of approximately 1,625 vpd (which is well below the upper level of 3,000 vpd typically associated with minor collector roads).

Old Carey Gully Road and Golflinks Road form a priority-controlled T-intersection (with priority assigned to Old Carey Gully Road). All turning movements are permitted at this intersection.

A review of available crash statistics provided by the Department for Infrastructure and Transport (DIT) (for the last available 5-year period) indicates that there have been no reported crashes on Golflinks Road or at the intersection of Old Carey Gully Road/Golflinks Road.

### **2.3 WALKING AND CYCLING**

No footpaths or bicycle lanes are provided on either Golflinks Road or Old Carey Gully Road (both pedestrians and cyclists are required to share the carriageway with vehicles).

The Heysen Trail is located within the subject site (along the north-eastern side of the site). The Heysen Trail is South Australia's premier walking trail comprising approximately 1,200 km of trail between Cape Jervis (on the Fleurieu Peninsula) to Parachilna Gorge (in the Flinders Ranges). Given the subject section's location within the Adelaide Hills and relatively close proximity to Adelaide, the adjacent section forms one of the higher use portions of the trail.



### 3. PROPOSED DEVELOPMENT

#### 3.1 LAND USE AND YIELD

The traffic and parking assessments have been based upon plans prepared by R Architecture (Drawings TP01 to TP17 dated 29 November 2022). Specifically, the proposed development comprises redevelopment of the subject site including:

- Hotel - 3-5 level hotel building comprising:
  - 56 hotel suites;
  - 15 x two bedroom serviced apartments;
  - 15 x three bedroom serviced apartments;
  - 2 penthouse serviced apartments;
  - back of house, plant storage and maintenance areas;
  - a 537 m<sup>2</sup> function room (with a capacity for 270 patrons);
  - a 212 m<sup>2</sup> restaurant with 89 m<sup>2</sup> external terrace (with a capacity for 80 patrons);
  - a 186 m<sup>2</sup> sports bar (with a capacity for 80 patrons);
  - a 189 m<sup>2</sup> gallery and café (with a capacity for 85 patrons); and
  - a 94 m<sup>2</sup> wellness centre with 125m<sup>2</sup> gym and spa/massage treatment rooms.
- Private retreats – ‘Pods’
  - 17 x one bedroom units; and
  - 1 x back of house Service Pod.
- Adaptive reuse of the existing perfumery:
  - refurbishment of the existing local heritage place to accommodate a multipurpose space for use as café, retail or functions;
  - extension to the Perfumery to include a covered outdoor dining area; and
  - orchard and perfumery garden plantings to reimagine the former use of the building as a “Scent Factory”.
- Golf Course Facilities
  - retention of 18-hole golf course with improvements;
  - refurbished function facilities, cart storage and 138 m<sup>2</sup> clubhouse in new building; and
  - new 97 m<sup>2</sup> pro-shop, administration areas, gym and change rooms.

### 3.2 ACCESS AND PARKING DESIGN

Vehicle access to the site will be provided via the existing crossover on Golflinks Road. The internal driveway from the main access will provide access to the various parking areas, the loading/service bay and a porte cochère (set-down/pick-up lane). The existing geometry of the site access will be retained (which currently accommodates two-way movements as well as commercial vehicle movements associated with the existing site uses).

An additional emergency vehicle (only) access will be provided further west on Golflinks Road for CFS fire appliance access to the accommodation pods (CFS vehicles will also be able to utilise the main access and internal driveway). Detailed design of the vehicle connection to and in the vicinity of the pods shall ensure conformance with the *“Minister’s Code – Undertaking Development in Bushfire Protection Areas”* (as reflected in the Planning and Design Code). It is noted that emergency access will also be possible via the existing access points to Old Carey Gully Road.

The existing central access on Old Carey Gully Road will continue to be utilised for maintenance access for the site. Additionally, this access will be utilised for vehicle access to the ‘Perfumery’ building. The access shall be sealed and widened to accommodate two-way movements (i.e. a minimum width of 6.0 m). Figure 2 illustrates a concept layout of the access. Further liaison with Council should be undertaken as part of detailed design of the access. Minor trimming of roadside vegetation may also be required (to the north of the access) to ensure adequate sight distance provisions between drivers exiting the access and others travelling along Old Carey Gully Road.



*Figure 2 – Access treatment on Old Carey Gully Road to accommodate two-way movements*

No change in the use of Davenport Road is proposed as part of the project. The unmade road will be retained as a fire access track and as part of the Heysen Trail. Maintenance access for the golf course will also utilise sections of Davenport Port for access to/from the holes located north of it (as currently occurs).

The site will be serviced by parking areas within the two hotel/golf club buildings with a total of 200 parking spaces provided (of which four spaces will be reserved exclusively for use by people with disabilities). An additional three cars can be accommodated within the porte cochère (albeit this can also accommodate buses). In addition, in the order of 20 spaces will be provided adjacent the 'Perfumery' (with additional informal parking opportunities on or adjacent the associated internal access road). It is also noted that, if needed for large events, parking can be accommodated on the golf course holes (albeit such use would be rare/infrequent and not considered a typical design demand scenario).

The detailed design of the parking areas shall comply with the requirements of Australian/New Zealand Standard, *Parking Facilities Part 1: Off-street car parking* (AS/NZS 2890.1:2004) and Australian/New Zealand Standard, *Parking Facilities Part 6: Off-street parking for people with disabilities* (AS/NZS 2890.6:2009) in that:

- regular parking spaces shall be at least 2.5 m wide and 5.4 m long (or 4.8 m long with 0.6 m overhang);
- the parking spaces for use by persons with disabilities shall be 2.4 m wide and 5.4 m long (with an adjacent shared space of the same dimension);

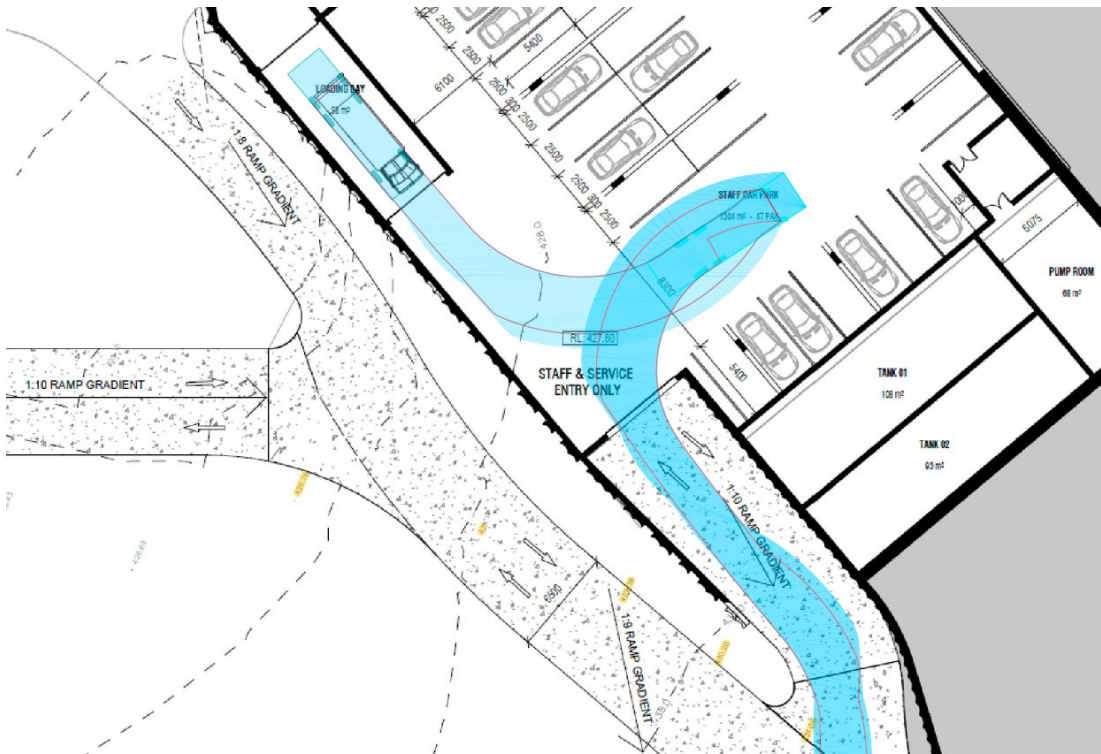
- the parking aisles shall be at least 5.8 m wide (albeit the primary circulation aisle will be 6.5 m where two-way to accommodate commercial vehicle movements);
- 1.0 m end-of-aisle extensions shall be provided beyond the last parking spaces in a 'blind' aisle;
- turn-around bays shall be provided at the end of the 'blind' aisles in publicly accessible parking areas;
- ramp gradients where only car access is required shall have a maximum grade of 1 in 5 with adjacent 1 in 8 transitions. Where commercial vehicle access is required, grades shall not exceed 1 in 6.5 (albeit will generally be flatter) with transitions also to be provided (detailed design should ensure site levels achieve the required ramping requirements of the relevant Australian Standards and that vertical clearance analysis is done for commercial vehicle areas). It would also be desirable to provide a separate pedestrian path from the main access with appropriate grades achieved (given the grades associated with the driveway); and
- a minimum headheight of 2.3 m shall be achieved within the general parking areas with a greater provision of at least 3.8 m for the service bay and associated access area (this will need to be confirmed as part of detailed design and can be conditioned accordingly).

### **3.3 DELIVERIES AND SERVICING**

Deliveries and servicing (including refuse collection) will occur via a dedicated service bay within the eastern hotel building. This will be located adjacent the staff car park (where turnover of spaces will be low to avoid interaction between patron/guest vehicles and commercial vehicles). This area will accommodate vehicles up to 10.4 m in length allowing for a range of refuse collection vehicles and other delivery vehicles to access the site (albeit delivery vehicles would mostly be smaller than this size).

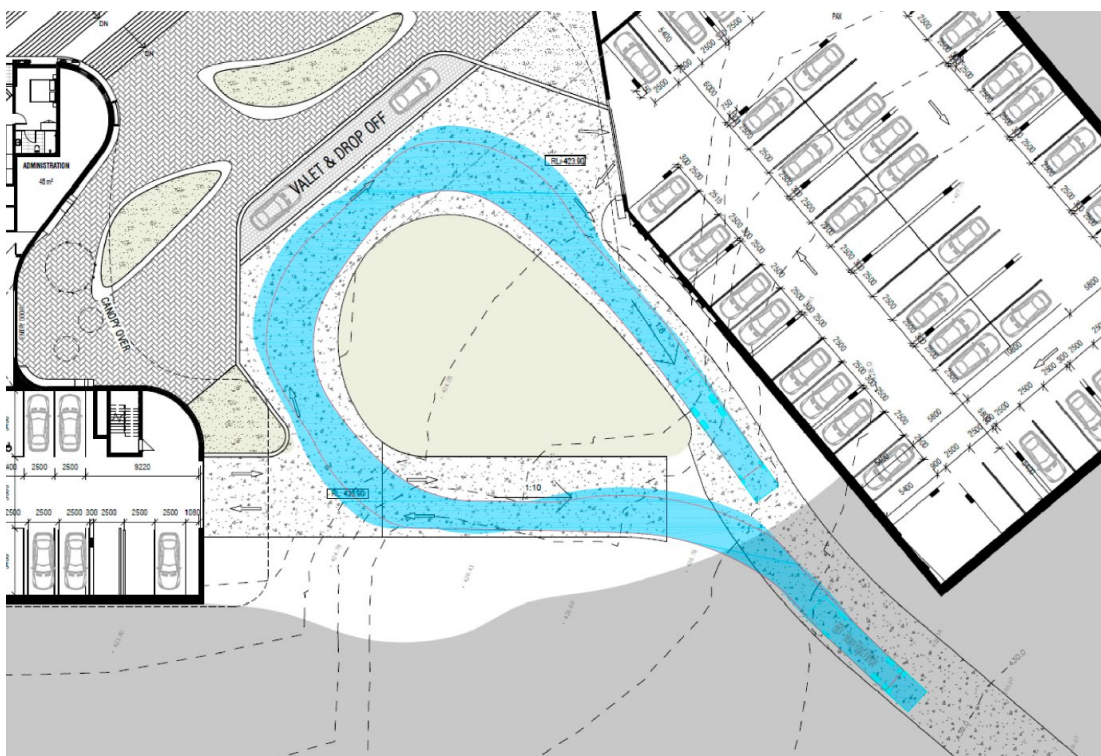
Figure 3 illustrates the turn path for a 10.4 m truck to enter and exit the site in a forward direction.





*Figure 3 – 10.4 m refuse collection vehicle turning movements*

The porte cochère will accommodate bus movements as well as CFS vehicle movements (allowing for turnaround by vehicles up to 12.5 m in length) as illustrated in Figure 4.



*Figure 4 – 12.5 m bus turnaround movement in porte cochère*

In respect to the accommodation of commercial vehicles associated with the site on Golflinks Road, it is noted that such vehicles are already required for access to/from the site. This includes heavy rigid trucks for refuse collection and buses for weddings/functions. Notably, the proposed function facility will have a similar (albeit slightly smaller) capacity than that currently identified for the site. Therefore, while the number of times buses are utilised per year may increase (if more weddings/functions are held), the number over a single hour (typical period for assessment of traffic impacts) would be unlikely to be associated with a notable change. Similarly, while there will be increased demands for servicing and deliveries, this does not necessarily mean a commensurate increase in commercial vehicle movements, particularly refuse collection trucks, as the existing services may (or could) have additional capacity available within the existing services. There would likely be an increase in the number of delivery movements made by commercial vehicles, however these would generally be smaller than the refuse collection vehicles (i.e. small to medium rigid vehicles).

#### 4. PARKING ASSESSMENT

The Planning and Design Code identifies a number of parking rates applicable to this development:

- **tourist accommodation** – one car parking space per accommodation unit/guest room [applied to the hotel accommodation and pods];
- **hotel** – one space for every 2 m<sup>2</sup> of total floor area in a public bar, plus one space for every 6 m<sup>2</sup> of total floor area available to the public in a lounge or beer garden, plus one space per two gaming machines, plus one space per three seats in a restaurant [applied to the food and beverage components of the hotel];
- **residential flat building** – dwelling with three or more bedrooms (including rooms capable of being used as a bedroom) – two spaces per dwelling [applied to the apartment dwellings];
- **indoor recreation facility** – 4.5 spaces per 100 m<sup>2</sup> of total floor area [applied to the gymnasium and wellness centre]; and
- **meeting hall** [applied to the function room] – 0.2 spaces per seat.

For the purposes of this assessment, it is assumed that parking demands associated with the golf course and its facilities (clubroom, pro-shop etc.) remain as per the current situation as there are no specific applicable rates for golf courses (albeit a literature review has indicated similar golf courses, including their various facilities, have been traditionally assessed on the basis of four spaces per hole – this would equate to 72 spaces which is similar to the above assumption).

On this basis the proposed uses within the site would require 196 parking spaces (rounded) plus the additional 71 spaces currently provided for the golf club and its facilities. However, the above rates are typically applied to standalone developments and are excessively conservative (and onerous) for application to the subject proposal.

Specifically, the above rates include no allowance for consideration of realistic occupancy rates and that the food, beverage, function, Perfumery building, gym and wellness areas are largely (and in some instances wholly) ancillary to the accommodation component.

There will also be shared demands between the tourist accommodation and the golf club (i.e. hotel guests who play golf at the site). Additionally, such an assessment does not consider the differing peaks of the uses (particularly the golf course compared to the proposed components) and the ability to provide a shared and complimentary parking arrangement within the site.

Notably, while the proposal would not strictly meet the Deemed to Satisfy criteria of the Code in respect to parking provision, it is noted that Performance Objective 5.1 of the General Development Policies (Transport, Access and Parking) states the following:

*“Sufficient on-site vehicle parking and specifically marked accessible car parking places are provided to meet the needs of the development or land use having regard to factors that may support a reduced on-site rate...” (our emphases)*

The Planning and Design Code therefore contemplates acceptance of lower parking provisions (than suggested by the specified rates) based on development and land use considerations.

In comparison to the direct application of the Code’s rates, it is noted that the recently approved Dock One Hotel in Port Adelaide was assessed by GTA Consultants (traffic consultants) on the basis of surveys at a number of similar suburban accommodation sites (and subsequently approved by the State Commission Assessment Panel). GTA adopted the average demand rate of 0.44 spaces per bedroom on a weekday evening and 0.4 spaces per bedroom on a weekend evening for assessment of the Hotel. It is noted that, if the 85<sup>th</sup> percentile rates were adopted, the demands would be 0.61 spaces per bedroom on a weekday evening and 0.58 spaces per bedroom on a weekend evening.

Notably, GTA stated that the accommodation “... *would not typically be above 85% occupancy during normal operating conditions*”. Furthermore, the hotel included a 270 m<sup>2</sup> restaurant which was assessed at being wholly ancillary to the accommodation use and no additional parking was provided for that use.

If the higher 85<sup>th</sup> percentile rate calculated from the GTA information was adopted, there would be a demand for 91 spaces during a weekday peak evening and 92 spaces during a weekend peak evening. While not addressed in the GTA assessment, it is noted that peak parking demands at accommodation facilities during the day (between 10:00 am and 6:00 pm) are much lower (in the order of 20% to 25%) than the evening peaks as guests are typically off-site at these times.

It is acknowledged that the locality of the Dock One Hotel provides a higher level of public transport accessibility. It is therefore considered that, for the accommodation component, the higher 85<sup>th</sup> percentile rates noted above should be adopted for the assessment of the proposal.

In respect to the other uses on the site, it is anticipated that the food and beverage uses will largely be ancillary to the accommodation uses (i.e. patrons of



these areas would generally also be guests of the hotel). Nevertheless, there would be potential for the general public to also access the facilities. Accordingly, it is considered pertinent to include a proportion of additional demand for these areas. For the gym, wellness centre and the Perfumery gift shop, it has been assumed that these will be wholly ancillary to the tourist accommodation and golf club (the Perfumery function area has been included). For the existing golf club, it is assumed that the current provision of 71 spaces is equivalent to its peak design demand.

In order to further consider likely demands associated with the overall proposal, an assessment has been made of three key demand periods, namely the hotel peak period (weekday evening), the golf course peak (Saturday lunch) and the hotel weekend peak period (weekend evenings). The following assumptions have been adopted for the two scenarios:

- **weekday (hotel) peak**

- the tourist accommodation (units/suites and pods) will generate at a peak demand for 91 spaces (based on the higher 85<sup>th</sup> percentile rates from the GTA survey data);
- the food and beverage components will generate at 50% of the Planning and Design Code rates (i.e. assuming peak occupancy but that half of the patrons are hotel guests and the remaining half are general public requiring parking);
- the apartment dwellings will generate a demand for four spaces (it is assumed that dedicated spaces will be assigned to the residents); and
- the golf club use generates a demand for 25% of its peak.

- **weekend lunch (golf) peak**

- the tourist accommodation (units/suites and pods) will generate at a demand for 26 spaces (based on a conservative assumption of 50% of guests remaining on-site during the day – noting that those playing golf are essentially 'double counted' in the golf club demand);
- the food and beverage components will generate at 50% of the Planning and Design Code rates (i.e. assuming 50% of the patrons during the lunch period are hotel guests and the remaining 50% are general public requiring parking);
- the apartment dwellings will generate a demand for four spaces (it is assumed that dedicated spaces will be assigned to the residents); and
- the golf club use generates a demand for its full peak of 65 spaces.

- **weekend evening (secondary hotel) peak**
  - the tourist accommodation (units/suites and pods) will generate at a peak demand for 92 spaces (based on the higher 85<sup>th</sup> percentile weekend rates from the GTA survey data);
  - the food and beverage components will generate at 25% of the Planning and Design Code rates (i.e. assuming 75% of the patrons are hotel guests and the remaining 25% are general public requiring parking);
  - the apartment dwellings will generate a demand for four spaces (it is assumed that dedicated spaces will be assigned to the residents); and
  - the golf club use generates a demand for 25% of its peak.

On the basis of the above, the parking assessment indicates an overall demand for 192 parking spaces during the weekday evening peak, 180 spaces during the Saturday lunch period and 167 parking spaces during the weekend hotel peak period. Such levels of demand would easily be accommodated with the proposed 220 spaces (including the Perfumery spaces) plus additional porte cochère spaces. In addition, there are additional informal/overflow parking areas within the site that could be used in the infrequent/unlikely event of higher demands (use of overflow areas can be managed by staff on an as needs basis).

It is noted that the above parking assessment methodology was the same as that adopted by CIRQA for the 35 South Marina's hotel development in North Haven which was approved by SCAP in 2020. The 35 South project was similar to the current proposal in that it considered the development of a hotel with associated food, beverage and function areas around an existing recreational (marina) use. The 35 South assessment (and its approval) acknowledged the variance in temporal demands associated with such a mixed-use development as applied above.

## **5. TRAFFIC GENERATION AND DISTRIBUTION**

### **5.1 CONSTRUCTION PHASE**

#### **5.1.1 CONSTRUCTION TRAFFIC GENERATION**

Movements generated during the construction phase would relate to the removal of demolition waste and delivery of construction materials as well as the movement of workers associated with the project. These movements will be associated with a range of vehicle types (from light vehicles to heavy commercial). Specific details are not yet available in respect to the number of anticipated staff/trades associated with the construction nor commercial vehicle movements. Such details will be dependent on the selection of the construction contractor, their construction methodology and timing. This could be further reviewed as part of the preparation of a Construction Environmental Management Plan (CEMP) once development approval has been achieved. However, for the purposes of this assessment, the following commentary is provided in respect to construction traffic management considerations.

Nevertheless, based on other projects CIRQA has provided advice on, it is anticipated that there would typically be 20 to 30 staff/trades on site each day during construction (this will vary depending on the construction phase). Assuming all workers drive to the site, this would result in at least 30 to 60 light vehicle movements per day (albeit this may be slightly higher as some workers may need to undertake additional trips). Generally, it is considered that in the order of 100 light vehicle movements could be generated per day (of construction). Vehicles associated with workers will typically be light/domestic vehicles (up to dual-cab 'ute' in size or similar).

Vehicle types associated with the construction of the infrastructure will include a range of demolition, general construction/delivery vehicles and earthmoving equipment. It is anticipated that such movements would be undertaken by 19.0 m Semi-Trailers or smaller rigid trucks (i.e. general access vehicles). Should access to the site be sought with larger and/or specialised vehicles (including Restricted Access Vehicles, oversize and/or overmass vehicles), access permits would be required to be sought from the National Heavy Vehicle Regulator (NHVR) and the relevant road authorities (the respective Councils and/or DIT). While numbers would need to be confirmed by the construction contractor, based on CIRQA's experience, it is anticipated there would be typically be in the order of 20 to 40 commercial vehicle movements per day (albeit, as with staff/trades movements, this will vary depending on the construction phase).

#### **5.1.2 CONSTRUCTION TRAFFIC DISTRIBUTION**

While subject to the specific construction contractor's methodology, it is anticipated that construction traffic would be distributed between the site's

existing access points on Golflinks Road and Old Carey Gully Road. Larger vehicles associated with the construction would desirably enter and exit via the Old Carey Gully Road access to minimise impacts on Golflinks Road and its adjacent residents.

Other than a small proportion of trades/construction staff originating from the north of the site or those locally based, it is anticipated that the vast majority of construction related movements would be undertaken via the South Eastern Freeway. Movements between the South Eastern Freeway and the site would utilise the route via Pomona Road, Gould Road, Old Mount Barker Road and Old Carey Gully Road.

## 5.2 OPERATIONAL PHASE

### 5.2.1 OPERATIONAL TRAFFIC GENERATION

The RTA's *"Guide to Traffic Generating Developments"* (the RTA Guide), and its subsequent updates, are documents commonly used by traffic engineers in order to determine the forecast traffic generation of a variety of land uses. The RTA Guide identifies the following peak period trip generation rates applicable to this development:

- **tourist accommodation** – 0.4 trips per unit;
- **high-density apartment dwellings** – 0.5 trips per dwelling; and
- **restaurant/café/function room** – 5.0 trips per 100 m<sup>2</sup> gross floor area;

On the basis of the above rates, the proposed (additional) uses are forecast to generate 128 additional peak hour trips. However, as with parking, not all uses will peak at the same time and the food and beverage facilities will largely be ancillary to tourist accommodation. Adopting similar assumptions as the parking assessment, it forecast that the peak traffic generation of the site would be in the order of 50 to 85 additional peak hour trips (assuming all uses are at full occupancy).

This would equate to a theoretical increase of approximately 675 additional daily movements. However, this assumes full occupancy of all uses on site which would rarely (if ever) occur. Typically, there will be fluctuations in occupancy of the various uses and the actual increase in the AADT volume would be more likely to be in the order of 350 additional daily trips (noting that volumes associated with the golf club are already accommodated on the adjacent road network).

The majority of movements associated with the development will be light/domestic vehicles, however, there will also be some commercial vehicle movements associated with service and delivery movements (a proportion of

which would already be generated by the existing uses). The following movements associated with the new development yields are anticipated:

- one linen service per day;
- two food and beverage deliveries per day;
- one to two 'non-perishables' delivery per day; and
- one to two refuse collection service per day.

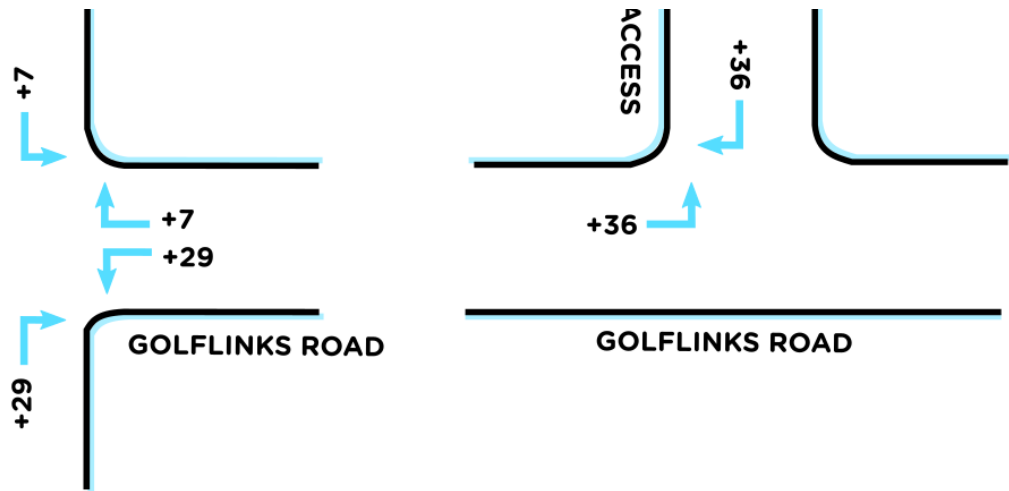
Accordingly, in the order of five to seven additional commercial vehicle movements would be anticipated each day (albeit this will fluctuate depending on scheduling as well as site occupancy). In reality, there are existing service and delivery movements currently associated with the golf facilities and there will be some efficiencies achieved (i.e. additional waste volumes collected as part of the existing collection services).

### **5.2.2 OPERATIONAL TRAFFIC DISTRIBUTION**

To determine the distribution of the above movements, the following assumptions were made:

- 85% of generated traffic enters and exits the site via the primary access point on Golflinks Road and 15% enters/exits via the Old Carey Gully Road access;
- all traffic utilising the Golflinks Road access enters and exits the site from the north-western side of the access (given Golflinks Road forms a 'dead-end' to the south-east of the access);
- 80% of traffic is distributed to/from the south via Old Carey Gully Road;
- 20% of traffic is distributed to/from the north via Old Carey Gully Road; and
- movements during the site's peak period are split 50% inbound and 50% outbound.

Based on the above distribution, the forecast additional (site) peak hour volumes at the site access and the Golflinks Road/Old Carey Gully Road intersection are illustrated in Figure 5 (note that this figure excludes existing traffic associated with the site which is already accommodated on the road network). This has been based on the worst-case generation of 85 additional peak hour trips.



*Figure 5 – Conservatively forecast additional traffic distributed onto the road network*

The majority of movements would then be distributed to/from Stirling and the South Eastern Freeway via the Old Mount Barker Road–Pomona Road route. The forecast distribution of movements at the access points and on the adjacent road network is provided in Appendix A.

## **6. TRAFFIC IMPACT**

### **6.1.1 CONSTRUCTION PHASE**

The number of vehicle movements associated with the construction phase would not be significant. Notably, the peak hour volumes during the construction phase would be well below that forecast for the operational phase. Detailed capacity analysis of impacts during the construction phase is not considered warranted (the analytic results would simply show more favourable results than identified for the operational phase as detailed in the following sub-section).

However, it is acknowledged that the construction phase would have a higher level of commercial vehicle movements to/from the site. In order to minimise impacts on Golflinks Road, it would be desirable that a proportion of commercial vehicle movements associated with construction be accommodated via the Old Carey Gully Road access (particularly large commercial vehicles such as Semi-Trailers).

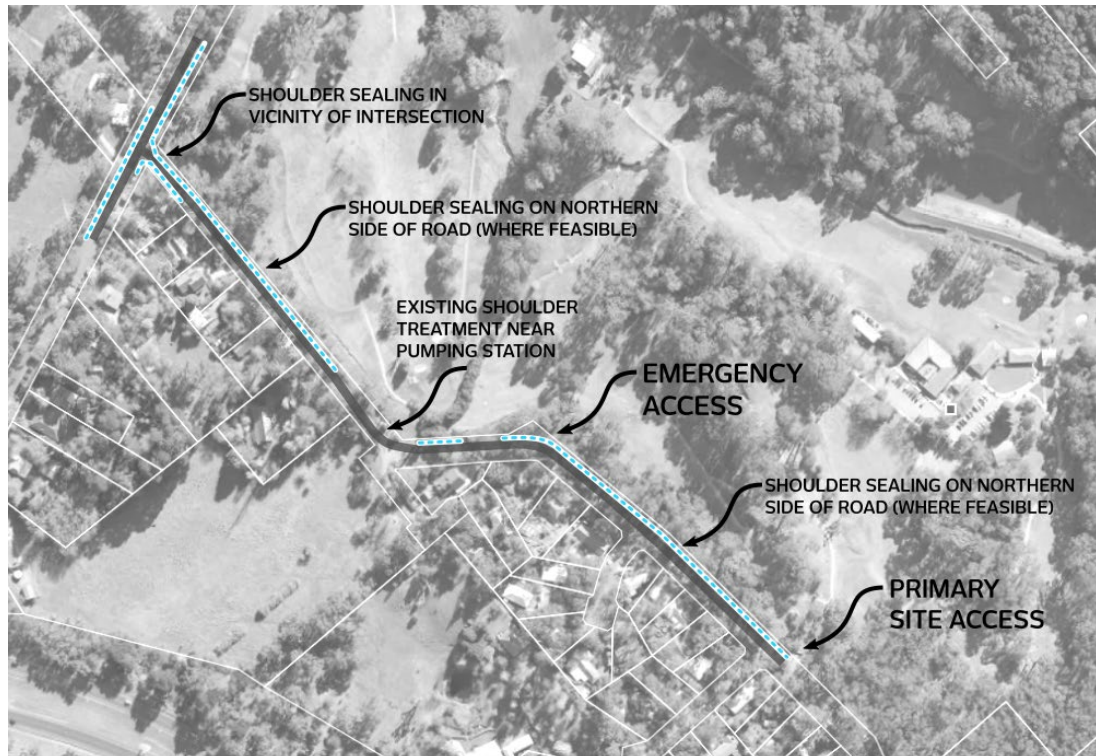
The impacts of the construction vehicle movements should be considered further as part of the development with a CEMP prepared once the construction contractor has been appointed and their methodology identified.

### **6.1.2 OPERATIONAL PHASE**

The proposed development will result in the distribution of additional movements along Golflinks Road. While the proportional increase will be relatively high, the future traffic volumes on Golflinks Road would remain well below the capacity of a local road which is typically taken to be 1,500 vpd (notably, this upper level is based on amenity factors, rather than technical capacities which would be much higher). Therefore, while other road users (such as adjacent residents) would experience an increase in movements, the additional traffic activity is not considered excessive or unreasonable. Importantly, the proposal would not change the nature or function of Golflinks Road. Similarly, future volumes on Old Carey Gully Road would be within the level associated with its function as a minor collector road (i.e. less than 3,000 vpd). It is acknowledged that there would be an increase in commercial vehicle movements on Golflinks Road (in the order of five additional commercial vehicle movements per day). However, such vehicles already access the site for deliveries and servicing and are already accommodated via Golflinks Road. There would, however, be benefit in providing shoulder sealing along Golflinks Road to assist with accommodation of the additional commercial vehicle movements (where feasible). Generally, this can be achieved in the vicinity of the intersection with Old Carey Gully Road as well as along the northern side of Golflinks Road (such works on the southern side would impact embankments and gardens at the front of residential properties and be difficult to achieve without significant impact). Figure X illustrates the general



opportunities for shoulder sealing and these can be discussed further with Council as the application progresses.



*Figure 6 – Opportunities for shoulder sealing along Golflinks Road*

In respect to peak hour impacts, the peak period associated with the site would not directly align with the peak commuter (am and pm) periods. Volumes during the site’s peak hour associated with other (non-site) users of the adjacent roads would be relatively low.

Nevertheless, to provide a conservative assessment, analysis has been prepared of the impact of the proposal if its peak generation aligned with weekday am and pm peak hours as well as the Saturday peak hour. The further assessment has been undertaken for the primary access point and intersections associated with the primary access route through Stirling and to/from the South Eastern Freeway (the distribution to other intersections beyond this route would be very low and have minimal, if not negligible impact).

To inform the analyses, traffic surveys were undertaken at key surrounding intersections adjacent the site and within Stirling township on a weekday (10 August 2022) and on a Saturday (13 August 2022). The impact of the proposal on these intersections has been assessed utilising SIDRA intersection analysis software and is detailed for the key access points and intersections in the following sub-sections. The detailed SIDRA output for each location is provided in Appendices B to G.



### 6.1.3 GOLFLINKS ROAD SITE ACCESS

The SIDRA analysis identifies the following key results in relation to the impact of additional volumes at the site's primary access point on Golflinks Road:

- there will be extremely low increases in average delays at the intersection (0.2 or less additional seconds delay or less for any one movement during the weekday and weekend peak hours);
- there will be very low increases in 95<sup>th</sup> percentile queues at the intersection (less than one additional vehicle in the 95<sup>th</sup> percentile queue for any one movement during the weekday and weekend peak hours); and
- Levels of Service of 'A' (the best level of service) will be retained for all movements during the weekday and weekend peak hours.

Movements associated with this site will almost exclusively be left-in and right-out movements. Noting that the access point has sufficient geometry to accommodate movements in a two-way manner (including commercial vehicle access movements), the existing layout is considered appropriate.

### 6.1.4 GOLFLINKS ROAD/OLD CAREY GULLY ROAD INTERSECTION

The SIDRA analysis identifies the following key results in relation to the impact of additional volumes at the intersection of Golflinks Road/Old Carey Gully Road:

- there will be very low increases in average delays at the intersection (0.5 or less additional seconds delay or less for any one movement during the weekday and weekend peak hours);
- there will be very low increases in 95<sup>th</sup> percentile queues at the intersection (less than one additional vehicle in the 95<sup>th</sup> percentile queue for any one movement during the weekday and weekend peak hours); and
- Levels of Service of 'A' (the best level of service) will be retained for all movements during the weekday and weekend peak hours.

It is also noted that the increase in traffic would not warrant the provision of separated turn lanes as per the warrants of the Austroads' *"Guide to Traffic Management – Part 6: Intersections, Interchanges and Crossings Management"*. It would, however, be desirable to undertake basic shoulder sealing in the vicinity of the intersection as per the Austroads' requirements (given the increase in right-turn movements from Old Carey Gully Road to Golflinks Road).

As noted above, there will be a small increase in the number of additional commercial vehicle movements associated with the proposal. However, such vehicles already undertake movements to/from the site via the intersection of

Old Carey Gully Road to Golflinks Road. The existing intersection geometry is adequate to accommodate the swept paths of the commercial vehicles anticipated to be associated with the development (11 m rigid vehicles or shorter). Figure 6 illustrates the associated turn paths for the design vehicle.



*Figure 7 - Indicative commercial vehicle swept paths at the Golflinks Road/Old Carey Gully Road intersection*

### **6.1.5 OLD CAREY GULLY ROAD/OLD MOUNT BARKER ROAD INTERSECTION**

The SIDRA analysis identifies the following key results in relation to the impact of additional volumes at the intersection of Old Carey Gully Road/Old Mount Barker Road:

- there will be extremely low increases in average delays at the intersection (0.2 additional seconds delay or less for any one movement during the weekday and weekend peak hours);
- there will be very low increases in 95<sup>th</sup> percentile queues at the intersection (less than one additional vehicle in the 95<sup>th</sup> percentile queue for any one movement during the weekday and weekend peak hours with no increase in queues for some movements); and
- Levels of Service of 'A' (the best level of service) will be retained for all movements during the weekday and weekend peak hours.

The existing intersection geometry is sufficient to accommodate the additional traffic movements. In particular, commercial vehicle movements (which will typically be undertaken between the north-eastern and western legs) will be easily accommodated within the existing traffic lanes (refer Figure 7).



*Figure 8 - Indicative commercial vehicle swept paths at the Old Carey Gully Road/Old Mount Barker Road intersection*

#### **6.1.6 OLD MOUNT BARKER ROAD/GOULD ROAD INTERSECTION**

The SIDRA analysis identifies the following key results in relation to the impact of additional volumes at the intersection of Old Mount Barker Road/Gould Road:

- there will be extremely low increases in average delays at the intersection (0.3 additional seconds delay or less for any one movement during the weekday and weekend peak hours);
- there will be very low increases in 95<sup>th</sup> percentile queues at the intersection (less than one additional vehicle in the 95<sup>th</sup> percentile queue for any one movement during the weekday and weekend peak hours with no increase in queues for some movements); and
- Levels of Service of 'A' (the best level of service) will be retained for all movements during the weekday and weekend peak hours.

A review of commercial vehicle turn paths (for movements to/from the site via the Freeway) indicates the existing intersection geometry will easily accommodate the associated turning movements. Figure 8 illustrates the commercial vehicle paths for the intersection as well as the staggered intersection of Gould Road with Pomona Road.





*Figure 9 - Indicative commercial vehicle swept paths at the intersections of Gould Road with Old Mount Barker Road and Pomona Road*

### **6.1.7 GOULD ROAD/POMONA ROAD INTERSECTION**

The SIDRA analysis identifies the following key results in relation to the impact of additional volumes at the intersection of Gould Road/Pomona Road:

- there will be extremely low increases in average delays at the intersection (0.4 additional seconds delay or less for any one movement during the weekday and weekend peak hours);
- there will be very low increases in 95<sup>th</sup> percentile queues at the intersection (less than one additional vehicle in the 95<sup>th</sup> percentile queue for any one movement during the weekday and weekend peak hours with no increase in queues for some movements); and
- Levels of Service of 'A' (the best level of service) will be retained for all movements during the weekday and weekend peak hours.

As illustrated in Figure 8 above, commercial vehicle movements associated with the site would easily be accommodated at the intersection. It is noted that there is some existing deterioration/potholing of the pavement on the Pomona Road approach which would desirably be addressed by Council (regardless of the subject proposal). Council may also wish to consider replacement of the missing

pavement bars on the Pomona Road approach to the intersection to assist with its delineation.

### **6.1.8 POMONA ROAD/MOUNT BARKER ROAD/AVENUE ROAD INTERSECTION**

The SIDRA analysis identifies the following key results in relation to the impact of additional volumes at the intersection of Pomona Road/Mount Barker Road/Avenue Road:

- there will be low increases in average delays at the intersection (typically less than one additional second delay for most movements during the weekday and weekend peak hours, albeit delays movements out of Pomona Road increase by 1 to 3 seconds);
- there will be low increases in 95<sup>th</sup> percentile queues at the intersection (less than one additional vehicle in the 95<sup>th</sup> percentile queue for any one movement during the weekday and weekend peak hours with the exception of movements out of Pomona Road which would have an increase of 1.5 vehicles to the 95<sup>th</sup> percentile queue, albeit still well within acceptable levels); and
- Levels of Service of 'B' or better for all movements will be retained during the weekday and weekend peak hours.

Noting the roundabout control of the intersection (and partial dual lane arrangements), movements (including those by commercial vehicles) will be easily accommodated.

## **6.2 TRAFFIC IMPACT CONCLUSIONS**

As above, while it is acknowledged that there will be an increase in movements on the adjacent road network as a result of the proposal, it is considered that the traffic impacts will be within acceptable levels and not result in significant impact on other road users in the vicinity of the site. Notably, the analysis identifies that there would be minimal change in traffic conditions on the adjacent road network. It is also reiterated that the assessment is conservative as it has applied the proposal's peak traffic generation directly to the existing peak hour movements on both weekdays and the weekend. In reality, these would not directly and completely align and conditions will be even better than suggested by the analysis. Some minor shoulder sealing treatments have been suggested to assist with the accommodation of the additional movements, however, major upgrades are not considered necessary or warranted as a result of the proposal.

# **APPENDIX A**

## **FORECAST PEAK HOUR DISTRIBUTION**

# Forecast Distribution of Peak Hour Trips

|                              |      |
|------------------------------|------|
| <b>Total Peak Hour Trips</b> | 85   |
| <b>Inbound (50%)</b>         | 42.5 |
| <b>Outbound (50%)</b>        | 42.5 |

## Additional Trips

### Golflinks Road Access

|                  |               |    |
|------------------|---------------|----|
| Access [N]       | Left Out      |    |
|                  | Right Out     | 36 |
| Golflinks Rd [E] | Right In      |    |
|                  | Straight Thru |    |
| Golflinks Rd [W] | Left In       | 36 |
|                  | Straight Thru |    |

### Old Carey Gully Road Access

|                        |               |   |
|------------------------|---------------|---|
| Old Carey Gully Rd [N] | Left In       |   |
|                        | Straight Thru |   |
| Access [E]             | Left Out      | 6 |
|                        | Right Out     |   |
| Old Carey Gully Rd [S] | Right In      | 6 |
|                        | Straight Thru |   |

### Golflinks/Old Carey Gully

|                        |               |    |
|------------------------|---------------|----|
| Old Carey Gully Rd [N] | Left In       | 7  |
|                        | Straight Thru | 6  |
| Golflinks Rd [E]       | Left Out      | 29 |
|                        | Right Out     | 7  |
| Old Carey Gully Rd [S] | Right In      | 29 |
|                        | Straight Thru | 6  |

### Old Carey Gully/Old Mount Barker

|                         |               |    |
|-------------------------|---------------|----|
| Old Carey Gully Rd [N]  | Left Out      | 4  |
|                         | Right Out     | 32 |
| Old Mount Barker Rd [E] | Right In      | 4  |
|                         | Straight Thru | 0  |
| Old Mount Barker Rd [W] | Left In       | 32 |
|                         | Straight Thru | 0  |

### Old Mount Barker/Gould

|                         |               |    |
|-------------------------|---------------|----|
| Old Mount Barker Rd [E] | Left Out      | 30 |
|                         | Right Out     | 2  |
| Old Mount Barker Rd [W] | Left In       | 2  |
|                         | Straight Thru | 0  |
| Gould Road [S]          | Right In      | 30 |
|                         | Straight Thru | 0  |

### Gould/Pomona

|                 |               |    |
|-----------------|---------------|----|
| Gould Road [N]  | Right In      | 29 |
|                 | Straight Thru | 2  |
| Gould Road [S]  | Left In       | 0  |
|                 | Straight Thru | 2  |
| Pomona Road [W] | Left Out      | 29 |
|                 | Right Out     | 0  |

### Pomona/Mt Barker/Avenue

|                  |               |    |
|------------------|---------------|----|
| Pomona Road [E]  | Left Out      | 5  |
|                  | Straight Thru | 1  |
|                  | Right Out     | 23 |
| Mt Barker Rd [S] | Left Out      | 0  |
|                  | Straight Thru | 0  |
|                  | Right Out     | 5  |
| Avenue Rd [W]    | Left Out      | 0  |
|                  | Straight Thru | 1  |
|                  | Right Out     | 0  |
| Mt Barker Rd [N] | Left Out      | 23 |
|                  | Straight Thru | 0  |
|                  | Right Out     | 0  |

# **APPENDIX B**

## **SIDRA ANALYSIS - GOLFLINKS ROAD SITE ACCESS**



# MOVEMENT SUMMARY

Site: 101 [WED AM Existing (Site Folder: Site Access)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] |           |                     |                  |             |
| East: Golflinks Road [E]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 5                            | T1   | 29              | 2.0      | 31              | 2.0      | 0.016     | 0.0         | LOS A            | 0.0               | 0.0        | 0.01      | 0.02                | 0.01             | 59.8        |
| 6                            | R2   | 1               | 2.0      | 1               | 2.0      | 0.016     | 5.5         | LOS A            | 0.0               | 0.0        | 0.01      | 0.02                | 0.01             | 57.4        |
| Approach                     |      | 30              | 2.0      | 32              | 2.0      | 0.016     | 0.2         | NA               | 0.0               | 0.0        | 0.01      | 0.02                | 0.01             | 59.7        |
| North: Site Access [N]       |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 1               | 2.0      | 1               | 2.0      | 0.003     | 5.6         | LOS A            | 0.0               | 0.1        | 0.01      | 0.59                | 0.01             | 53.5        |
| 9                            | R2   | 3               | 2.0      | 3               | 2.0      | 0.003     | 5.6         | LOS A            | 0.0               | 0.1        | 0.01      | 0.59                | 0.01             | 53.0        |
| Approach                     |      | 4               | 2.0      | 4               | 2.0      | 0.003     | 5.6         | LOS A            | 0.0               | 0.1        | 0.01      | 0.59                | 0.01             | 53.1        |
| West: Golflinks Road [W]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 17              | 2.0      | 18              | 2.0      | 0.010     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 53.8        |
| 11                           | T1   | 1               | 2.0      | 1               | 2.0      | 0.010     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 55.2        |
| Approach                     |      | 18              | 2.0      | 19              | 2.0      | 0.010     | 5.3         | NA               | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 53.9        |
| All Vehicles                 |      | 52              | 2.0      | 55              | 2.0      | 0.016     | 2.4         | NA               | 0.0               | 0.1        | 0.00      | 0.25                | 0.00             | 57.0        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED PM Existing (Site Folder: Site Access)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] |           |                     |                  |             |
| East: Golflinks Road [E]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 5                            | T1   | 17              | 2.0      | 18              | 2.0      | 0.010     | 0.0         | LOS A            | 0.0               | 0.0        | 0.01      | 0.03                | 0.01             | 59.7        |
| 6                            | R2   | 1               | 2.0      | 1               | 2.0      | 0.010     | 5.5         | LOS A            | 0.0               | 0.0        | 0.01      | 0.03                | 0.01             | 57.3        |
| Approach                     |      | 18              | 2.0      | 19              | 2.0      | 0.010     | 0.3         | NA               | 0.0               | 0.0        | 0.01      | 0.03                | 0.01             | 59.5        |
| North: Site Access [N]       |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 1               | 2.0      | 1               | 2.0      | 0.006     | 5.6         | LOS A            | 0.0               | 0.1        | 0.09      | 0.57                | 0.09             | 53.3        |
| 9                            | R2   | 6               | 2.0      | 6               | 2.0      | 0.006     | 5.6         | LOS A            | 0.0               | 0.1        | 0.09      | 0.57                | 0.09             | 52.8        |
| Approach                     |      | 7               | 2.0      | 7               | 2.0      | 0.006     | 5.6         | LOS A            | 0.0               | 0.1        | 0.09      | 0.57                | 0.09             | 52.9        |
| West: Golflinks Road [W]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 5               | 2.0      | 5               | 2.0      | 0.014     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.12                | 0.00             | 57.2        |
| 11                           | T1   | 20              | 2.0      | 21              | 2.0      | 0.014     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.12                | 0.00             | 58.9        |
| Approach                     |      | 25              | 2.0      | 26              | 2.0      | 0.014     | 1.1         | NA               | 0.0               | 0.0        | 0.00      | 0.12                | 0.00             | 58.6        |
| All Vehicles                 |      | 50              | 2.0      | 53              | 2.0      | 0.014     | 1.5         | NA               | 0.0               | 0.1        | 0.02      | 0.15                | 0.02             | 58.0        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

▼ Site: 101 [SAT Existing (Site Folder: Site Access)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] |           |                     |                  |             |
| East: Golflinks Road [E]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 5                            | T1   | 1               | 2.0      | 1               | 2.0      | 0.001     | 0.0         | LOS A            | 0.0               | 0.0        | 0.07      | 0.29                | 0.07             | 57.2        |
| 6                            | R2   | 1               | 2.0      | 1               | 2.0      | 0.001     | 5.5         | LOS A            | 0.0               | 0.0        | 0.07      | 0.29                | 0.07             | 55.0        |
| Approach                     |      | 2               | 2.0      | 2               | 2.0      | 0.001     | 2.8         | NA               | 0.0               | 0.0        | 0.07      | 0.29                | 0.07             | 56.1        |
| North: Site Access [N]       |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 1               | 2.0      | 1               | 2.0      | 0.007     | 5.6         | LOS A            | 0.0               | 0.2        | 0.03      | 0.58                | 0.03             | 53.5        |
| 9                            | R2   | 8               | 2.0      | 8               | 2.0      | 0.007     | 5.5         | LOS A            | 0.0               | 0.2        | 0.03      | 0.58                | 0.03             | 52.9        |
| Approach                     |      | 9               | 2.0      | 9               | 2.0      | 0.007     | 5.5         | LOS A            | 0.0               | 0.2        | 0.03      | 0.58                | 0.03             | 53.0        |
| West: Golflinks Road [W]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 18              | 2.0      | 19              | 2.0      | 0.011     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.52                | 0.00             | 54.0        |
| 11                           | T1   | 2               | 2.0      | 2               | 2.0      | 0.011     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.52                | 0.00             | 55.5        |
| Approach                     |      | 20              | 2.0      | 21              | 2.0      | 0.011     | 5.0         | NA               | 0.0               | 0.0        | 0.00      | 0.52                | 0.00             | 54.1        |
| All Vehicles                 |      | 31              | 2.0      | 33              | 2.0      | 0.011     | 5.0         | NA               | 0.0               | 0.2        | 0.01      | 0.52                | 0.01             | 53.9        |

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.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED AM Future (Site Folder: Site Access)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] |           |                     |                  |             |
| East: Golflinks Road [E]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 5                            | T1   | 29              | 2.0      | 31              | 2.0      | 0.017     | 0.0         | LOS A            | 0.0               | 0.0        | 0.01      | 0.02                | 0.01             | 59.8        |
| 6                            | R2   | 1               | 2.0      | 1               | 2.0      | 0.017     | 5.6         | LOS A            | 0.0               | 0.0        | 0.01      | 0.02                | 0.01             | 57.4        |
| Approach                     |      | 30              | 2.0      | 32              | 2.0      | 0.017     | 0.2         | NA               | 0.0               | 0.0        | 0.01      | 0.02                | 0.01             | 59.7        |
| North: Site Access [N]       |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 1               | 2.0      | 1               | 2.0      | 0.036     | 5.6         | LOS A            | 0.1               | 0.8        | 0.06      | 0.59                | 0.06             | 53.4        |
| 9                            | R2   | 41              | 2.0      | 43              | 2.0      | 0.036     | 5.7         | LOS A            | 0.1               | 0.8        | 0.06      | 0.59                | 0.06             | 52.9        |
| Approach                     |      | 42              | 2.0      | 44              | 2.0      | 0.036     | 5.7         | LOS A            | 0.1               | 0.8        | 0.06      | 0.59                | 0.06             | 52.9        |
| West: Golflinks Road [W]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 55              | 2.0      | 58              | 2.0      | 0.032     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.57                | 0.00             | 53.6        |
| 11                           | T1   | 1               | 2.0      | 1               | 2.0      | 0.032     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.57                | 0.00             | 55.1        |
| Approach                     |      | 56              | 2.0      | 59              | 2.0      | 0.032     | 5.5         | NA               | 0.0               | 0.0        | 0.00      | 0.57                | 0.00             | 53.6        |
| All Vehicles                 |      | 128             | 2.0      | 135             | 2.0      | 0.036     | 4.3         | NA               | 0.1               | 0.8        | 0.02      | 0.44                | 0.02             | 54.7        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED PM Future (Site Folder: Site Access)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] |           |                     |                  |             |
| East: Golflinks Road [E]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 5                            | T1   | 17              | 2.0      | 18              | 2.0      | 0.010     | 0.0         | LOS A            | 0.0               | 0.0        | 0.02      | 0.03                | 0.02             | 59.6        |
| 6                            | R2   | 1               | 2.0      | 1               | 2.0      | 0.010     | 5.6         | LOS A            | 0.0               | 0.0        | 0.02      | 0.03                | 0.02             | 57.3        |
| Approach                     |      | 18              | 2.0      | 19              | 2.0      | 0.010     | 0.3         | NA               | 0.0               | 0.0        | 0.02      | 0.03                | 0.02             | 59.5        |
| North: Site Access [N]       |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 1               | 2.0      | 1               | 2.0      | 0.039     | 5.6         | LOS A            | 0.1               | 0.9        | 0.13      | 0.57                | 0.13             | 53.2        |
| 9                            | R2   | 44              | 2.0      | 46              | 2.0      | 0.039     | 5.7         | LOS A            | 0.1               | 0.9        | 0.13      | 0.57                | 0.13             | 52.7        |
| Approach                     |      | 45              | 2.0      | 47              | 2.0      | 0.039     | 5.7         | LOS A            | 0.1               | 0.9        | 0.13      | 0.57                | 0.13             | 52.7        |
| West: Golflinks Road [W]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 43              | 2.0      | 45              | 2.0      | 0.036     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.40                | 0.00             | 54.9        |
| 11                           | T1   | 20              | 2.0      | 21              | 2.0      | 0.036     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.40                | 0.00             | 56.5        |
| Approach                     |      | 63              | 2.0      | 66              | 2.0      | 0.036     | 3.8         | NA               | 0.0               | 0.0        | 0.00      | 0.40                | 0.00             | 55.4        |
| All Vehicles                 |      | 126             | 2.0      | 133             | 2.0      | 0.039     | 4.0         | NA               | 0.1               | 0.9        | 0.05      | 0.41                | 0.05             | 54.9        |

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.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [SAT Future (Site Folder: Site Access)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] |           |                     |                  |             |
| East: Golflinks Road [E]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 5                            | T1   | 1               | 2.0      | 1               | 2.0      | 0.001     | 0.1         | LOS A            | 0.0               | 0.0        | 0.13      | 0.28                | 0.13             | 57.0        |
| 6                            | R2   | 1               | 2.0      | 1               | 2.0      | 0.001     | 5.6         | LOS A            | 0.0               | 0.0        | 0.13      | 0.28                | 0.13             | 54.8        |
| Approach                     |      | 2               | 2.0      | 2               | 2.0      | 0.001     | 2.9         | NA               | 0.0               | 0.0        | 0.13      | 0.28                | 0.13             | 55.9        |
| North: Site Access [N]       |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 1               | 2.0      | 1               | 2.0      | 0.040     | 5.6         | LOS A            | 0.1               | 0.9        | 0.07      | 0.58                | 0.07             | 53.4        |
| 9                            | R2   | 46              | 2.0      | 48              | 2.0      | 0.040     | 5.6         | LOS A            | 0.1               | 0.9        | 0.07      | 0.58                | 0.07             | 52.9        |
| Approach                     |      | 47              | 2.0      | 49              | 2.0      | 0.040     | 5.6         | LOS A            | 0.1               | 0.9        | 0.07      | 0.58                | 0.07             | 52.9        |
| West: Golflinks Road [W]     |      |                 |          |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 56              | 2.0      | 59              | 2.0      | 0.033     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.56                | 0.00             | 53.7        |
| 11                           | T1   | 2               | 2.0      | 2               | 2.0      | 0.033     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.56                | 0.00             | 55.1        |
| Approach                     |      | 58              | 2.0      | 61              | 2.0      | 0.033     | 5.4         | NA               | 0.0               | 0.0        | 0.00      | 0.56                | 0.00             | 53.7        |
| All Vehicles                 |      | 107             | 2.0      | 113             | 2.0      | 0.040     | 5.4         | NA               | 0.1               | 0.9        | 0.03      | 0.56                | 0.03             | 53.4        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# **APPENDIX C**

## **SIDRA ANALYSIS - GOLFLINKS ROAD/OLD CAREY GULLY ROAD INTERSECTION**

# MOVEMENT SUMMARY

Site: 101 [WED AM Existing (Site Folder: Golflinks Road - Old Carey Gully Road)]

Existing Intersection  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h | [ HV ] % |           |             |                  | [ Veh. veh        | [ Dist ] m |           |                     |                  |             |
| South: Old Carey Gully Road [S] |      |               |              |               |          |           |             |                  |                   |            |           |                     |                  |             |
| 2                               | T1   | 51            | 1            | 54            | 2.0      | 0.035     | 0.1         | LOS A            | 0.1               | 0.5        | 0.07      | 0.11                | 0.07             | 58.8        |
| 3                               | R2   | 11            | 0            | 12            | 0.0      | 0.035     | 5.7         | LOS A            | 0.1               | 0.5        | 0.07      | 0.11                | 0.07             | 56.6        |
| Approach                        |      | 62            | 1            | 65            | 1.6      | 0.035     | 1.1         | NA               | 0.1               | 0.5        | 0.07      | 0.11                | 0.07             | 58.4        |
| East: Golflinks Road [E]        |      |               |              |               |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 25            | 0            | 26            | 0.0      | 0.024     | 5.7         | LOS A            | 0.1               | 0.6        | 0.16      | 0.55                | 0.16             | 53.1        |
| 6                               | R2   | 7             | 0            | 7             | 0.0      | 0.024     | 5.9         | LOS A            | 0.1               | 0.6        | 0.16      | 0.55                | 0.16             | 52.6        |
| Approach                        |      | 32            | 0            | 34            | 0.0      | 0.024     | 5.8         | LOS A            | 0.1               | 0.6        | 0.16      | 0.55                | 0.16             | 53.0        |
| North: Old Carey Gully Road [N] |      |               |              |               |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                               | L2   | 4             | 0            | 4             | 0.0      | 0.041     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.03                | 0.00             | 58.1        |
| 8                               | T1   | 71            | 0            | 75            | 0.0      | 0.041     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.03                | 0.00             | 59.7        |
| Approach                        |      | 75            | 0            | 79            | 0.0      | 0.041     | 0.3         | NA               | 0.0               | 0.0        | 0.00      | 0.03                | 0.00             | 59.6        |
| All Vehicles                    |      | 169           | 1            | 178           | 0.6      | 0.041     | 1.6         | NA               | 0.1               | 0.6        | 0.06      | 0.16                | 0.06             | 57.8        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED PM Existing (Site Folder: Golflinks Road - Old Carey Gully Road)]

Existing Intersection  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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. ]          | [ Dist ] m |           |                     |                  |             |
| South: Old Carey Gully Road [S] |      |                 |        |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 2                               | T1   | 66              | 3      | 69              | 4.5      | 0.050     | 0.1         | LOS A            | 0.1               | 0.9        | 0.09      | 0.14                | 0.09             | 58.3        |
| 3                               | R2   | 21              | 0      | 22              | 0.0      | 0.050     | 5.7         | LOS A            | 0.1               | 0.9        | 0.09      | 0.14                | 0.09             | 56.2        |
| Approach                        |      | 87              | 3      | 92              | 3.4      | 0.050     | 1.4         | NA               | 0.1               | 0.9        | 0.09      | 0.14                | 0.09             | 57.8        |
| East: Golflinks Road [E]        |      |                 |        |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 18              | 0      | 19              | 0.0      | 0.017     | 5.7         | LOS A            | 0.1               | 0.4        | 0.15      | 0.55                | 0.15             | 53.2        |
| 6                               | R2   | 5               | 0      | 5               | 0.0      | 0.017     | 6.0         | LOS A            | 0.1               | 0.4        | 0.15      | 0.55                | 0.15             | 52.7        |
| Approach                        |      | 23              | 0      | 24              | 0.0      | 0.017     | 5.8         | LOS A            | 0.1               | 0.4        | 0.15      | 0.55                | 0.15             | 53.1        |
| North: Old Carey Gully Road [N] |      |                 |        |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                               | L2   | 4               | 0      | 4               | 0.0      | 0.037     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.04                | 0.00             | 58.0        |
| 8                               | T1   | 62              | 5      | 65              | 8.1      | 0.037     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.04                | 0.00             | 59.6        |
| Approach                        |      | 66              | 5      | 69              | 7.6      | 0.037     | 0.3         | NA               | 0.0               | 0.0        | 0.00      | 0.04                | 0.00             | 59.5        |
| All Vehicles                    |      | 176             | 8      | 185             | 4.5      | 0.050     | 1.6         | NA               | 0.1               | 0.9        | 0.06      | 0.16                | 0.06             | 57.8        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [SAT Existing (Site Folder: Golflinks Road - Old Carey Gully Road)]

Existing Intersection  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| South: Old Carey Gully Road [S] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 2                               | T1   | 59            | 1          | 62            | 1.7    | 0.042     | 0.1         | LOS A            | 0.1               | 0.6      | 0.07      | 0.12                | 0.07             | 58.6        |
| 3                               | R2   | 15            | 0          | 16            | 0.0    | 0.042     | 5.6         | LOS A            | 0.1               | 0.6      | 0.07      | 0.12                | 0.07             | 56.5        |
| Approach                        |      | 74            | 1          | 78            | 1.4    | 0.042     | 1.2         | NA               | 0.1               | 0.6      | 0.07      | 0.12                | 0.07             | 58.2        |
| East: Golflinks Road [E]        |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 4                               | L2   | 24            | 0          | 25            | 0.0    | 0.020     | 5.7         | LOS A            | 0.1               | 0.5      | 0.14      | 0.54                | 0.14             | 53.2        |
| 6                               | R2   | 4             | 0          | 4             | 0.0    | 0.020     | 5.9         | LOS A            | 0.1               | 0.5      | 0.14      | 0.54                | 0.14             | 52.7        |
| Approach                        |      | 28            | 0          | 29            | 0.0    | 0.020     | 5.7         | LOS A            | 0.1               | 0.5      | 0.14      | 0.54                | 0.14             | 53.1        |
| North: Old Carey Gully Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                               | L2   | 2             | 0          | 2             | 0.0    | 0.032     | 5.5         | LOS A            | 0.0               | 0.0      | 0.00      | 0.02                | 0.00             | 58.2        |
| 8                               | T1   | 58            | 0          | 61            | 0.0    | 0.032     | 0.0         | LOS A            | 0.0               | 0.0      | 0.00      | 0.02                | 0.00             | 59.8        |
| Approach                        |      | 60            | 0          | 63            | 0.0    | 0.032     | 0.2         | NA               | 0.0               | 0.0      | 0.00      | 0.02                | 0.00             | 59.7        |
| All Vehicles                    |      | 162           | 1          | 171           | 0.6    | 0.042     | 1.6         | NA               | 0.1               | 0.6      | 0.05      | 0.16                | 0.05             | 57.8        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED AM Future (Site Folder: Golflinks Road - Old Carey Gully Road)]

Existing Intersection  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| South: Old Carey Gully Road [S] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 2                               | T1   | 57              | 1            | 60              | 1.8      | 0.058     | 0.2         | LOS A            | 0.2               | 1.6        | 0.15      | 0.24                | 0.15             | 57.2        |
| 3                               | R2   | 41              | 0            | 43              | 0.0      | 0.058     | 5.7         | LOS A            | 0.2               | 1.6        | 0.15      | 0.24                | 0.15             | 55.2        |
| Approach                        |      | 98              | 1            | 103             | 1.0      | 0.058     | 2.5         | NA               | 0.2               | 1.6        | 0.15      | 0.24                | 0.15             | 56.4        |
| East: Golflinks Road [E]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 55              | 0            | 58              | 0.0      | 0.052     | 5.8         | LOS A            | 0.2               | 1.4        | 0.17      | 0.55                | 0.17             | 53.1        |
| 6                               | R2   | 15              | 0            | 16              | 0.0      | 0.052     | 6.1         | LOS A            | 0.2               | 1.4        | 0.17      | 0.55                | 0.17             | 52.6        |
| Approach                        |      | 70              | 0            | 74              | 0.0      | 0.052     | 5.8         | LOS A            | 0.2               | 1.4        | 0.17      | 0.55                | 0.17             | 53.0        |
| North: Old Carey Gully Road [N] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                               | L2   | 12              | 0            | 13              | 0.0      | 0.048     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.08                | 0.00             | 57.7        |
| 8                               | T1   | 77              | 0            | 81              | 0.0      | 0.048     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.08                | 0.00             | 59.2        |
| Approach                        |      | 89              | 0            | 94              | 0.0      | 0.048     | 0.8         | NA               | 0.0               | 0.0        | 0.00      | 0.08                | 0.00             | 59.0        |
| All Vehicles                    |      | 257             | 1            | 271             | 0.4      | 0.058     | 2.8         | NA               | 0.2               | 1.6        | 0.11      | 0.27                | 0.11             | 56.3        |

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.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED PM Future (Site Folder: Golflinks Road - Old Carey Gully Road)]

Existing Intersection  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| South: Old Carey Gully Road [S] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 2                               | T1   | 72            | 3          | 76            | 4.2    | 0.072     | 0.2         | LOS A            | 0.3               | 2.0      | 0.15      | 0.24                | 0.15             | 57.2        |
| 3                               | R2   | 51            | 0          | 54            | 0.0    | 0.072     | 5.7         | LOS A            | 0.3               | 2.0      | 0.15      | 0.24                | 0.15             | 55.2        |
| Approach                        |      | 123           | 3          | 129           | 2.4    | 0.072     | 2.5         | NA               | 0.3               | 2.0      | 0.15      | 0.24                | 0.15             | 56.4        |
| East: Golflinks Road [E]        |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 4                               | L2   | 49            | 0          | 52            | 0.0    | 0.046     | 5.8         | LOS A            | 0.2               | 1.2      | 0.16      | 0.55                | 0.16             | 53.1        |
| 6                               | R2   | 13            | 0          | 14            | 0.0    | 0.046     | 6.2         | LOS A            | 0.2               | 1.2      | 0.16      | 0.55                | 0.16             | 52.6        |
| Approach                        |      | 62            | 0          | 65            | 0.0    | 0.046     | 5.8         | LOS A            | 0.2               | 1.2      | 0.16      | 0.55                | 0.16             | 53.0        |
| North: Old Carey Gully Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                               | L2   | 12            | 0          | 13            | 0.0    | 0.045     | 5.6         | LOS A            | 0.0               | 0.0      | 0.00      | 0.09                | 0.00             | 57.5        |
| 8                               | T1   | 68            | 5          | 72            | 7.4    | 0.045     | 0.0         | LOS A            | 0.0               | 0.0      | 0.00      | 0.09                | 0.00             | 59.1        |
| Approach                        |      | 80            | 5          | 84            | 6.3    | 0.045     | 0.8         | NA               | 0.0               | 0.0      | 0.00      | 0.09                | 0.00             | 58.9        |
| All Vehicles                    |      | 265           | 8          | 279           | 3.0    | 0.072     | 2.8         | NA               | 0.3               | 2.0      | 0.11      | 0.27                | 0.11             | 56.3        |

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.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [SAT Future (Site Folder: Golflinks Road - Old Carey Gully Road)]

Existing Intersection  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h | [ HV ] % |           |             |                  | [ Veh. veh        | [ Dist ] m |           |                     |                  |             |
| South: Old Carey Gully Road [S] |      |               |              |               |          |           |             |                  |                   |            |           |                     |                  |             |
| 2                               | T1   | 65            | 1            | 68            | 1.5      | 0.064     | 0.1         | LOS A            | 0.2               | 1.7        | 0.14      | 0.24                | 0.14             | 57.3        |
| 3                               | R2   | 45            | 0            | 47            | 0.0      | 0.064     | 5.7         | LOS A            | 0.2               | 1.7        | 0.14      | 0.24                | 0.14             | 55.3        |
| Approach                        |      | 110           | 1            | 116           | 0.9      | 0.064     | 2.4         | NA               | 0.2               | 1.7        | 0.14      | 0.24                | 0.14             | 56.5        |
| East: Golflinks Road [E]        |      |               |              |               |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 54            | 0            | 57            | 0.0      | 0.048     | 5.7         | LOS A            | 0.2               | 1.3        | 0.15      | 0.55                | 0.15             | 53.2        |
| 6                               | R2   | 12            | 0            | 13            | 0.0      | 0.048     | 6.1         | LOS A            | 0.2               | 1.3        | 0.15      | 0.55                | 0.15             | 52.6        |
| Approach                        |      | 66            | 0            | 69            | 0.0      | 0.048     | 5.8         | LOS A            | 0.2               | 1.3        | 0.15      | 0.55                | 0.15             | 53.1        |
| North: Old Carey Gully Road [N] |      |               |              |               |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                               | L2   | 10            | 0            | 11            | 0.0      | 0.040     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.08                | 0.00             | 57.7        |
| 8                               | T1   | 64            | 0            | 67            | 0.0      | 0.040     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.08                | 0.00             | 59.3        |
| Approach                        |      | 74            | 0            | 78            | 0.0      | 0.040     | 0.8         | NA               | 0.0               | 0.0        | 0.00      | 0.08                | 0.00             | 59.0        |
| All Vehicles                    |      | 250           | 1            | 263           | 0.4      | 0.064     | 2.8         | NA               | 0.2               | 1.7        | 0.10      | 0.27                | 0.10             | 56.2        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# **APPENDIX D**

## **SIDRA ANALYSIS - OLD CAREY GULLY ROAD/ OLD MOUNT BARKER ROAD INTERSECTION**

# MOVEMENT SUMMARY

Site: 101 [WED AM Existing (Site Folder: Old Mt Barker Road - Old Carey Gully Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| East: Old Mount Barker Road [E] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 5                               | T1   | 170           | 2          | 179           | 1.2    | 0.115     | 0.0         | LOS A            | 0.2               | 1.7      | 0.06      | 0.10                | 0.06             | 58.9        |
| 6                               | R2   | 35            | 1          | 37            | 2.9    | 0.115     | 5.7         | LOS A            | 0.2               | 1.7      | 0.06      | 0.10                | 0.06             | 56.5        |
| Approach                        |      | 205           | 3          | 216           | 1.5    | 0.115     | 1.0         | NA               | 0.2               | 1.7      | 0.06      | 0.10                | 0.06             | 58.5        |
| North: Old Carey Gully Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                               | L2   | 43            | 0          | 45            | 0.0    | 0.092     | 5.8         | LOS A            | 0.3               | 2.3      | 0.16      | 0.57                | 0.16             | 53.7        |
| 9                               | R2   | 60            | 0          | 63            | 0.0    | 0.092     | 6.6         | LOS A            | 0.3               | 2.3      | 0.16      | 0.57                | 0.16             | 52.6        |
| Approach                        |      | 103           | 0          | 108           | 0.0    | 0.092     | 6.2         | LOS A            | 0.3               | 2.3      | 0.16      | 0.57                | 0.16             | 53.0        |
| West: Old Mount Barker Road [W] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                              | L2   | 35            | 1          | 37            | 2.9    | 0.052     | 5.7         | LOS A            | 0.2               | 1.3      | 0.08      | 0.22                | 0.08             | 56.6        |
| 11                              | T1   | 50            | 2          | 53            | 4.0    | 0.052     | 0.1         | LOS A            | 0.2               | 1.3      | 0.08      | 0.22                | 0.08             | 57.5        |
| Approach                        |      | 85            | 3          | 89            | 3.5    | 0.052     | 2.4         | NA               | 0.2               | 1.3      | 0.08      | 0.22                | 0.08             | 57.1        |
| All Vehicles                    |      | 393           | 6          | 414           | 1.5    | 0.115     | 2.7         | NA               | 0.3               | 2.3      | 0.09      | 0.25                | 0.09             | 56.6        |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
 Vehicle movement LOS values are based on average delay per movement.  
 Minor Road Approach LOS values are based on average delay for all vehicle movements.  
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 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.

# MOVEMENT SUMMARY

Site: 101 [WED PM Existing (Site Folder: Old Mt Barker Road - Old Carey Gully Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| East: Old Mount Barker Road [E] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 5                               | T1   | 100           | 2          | 105           | 2.0    | 0.082     | 0.1         | LOS A            | 0.3               | 1.8      | 0.09      | 0.18                | 0.09             | 58.1        |
| 6                               | R2   | 43            | 1          | 45            | 2.3    | 0.082     | 5.7         | LOS A            | 0.3               | 1.8      | 0.09      | 0.18                | 0.09             | 55.8        |
| Approach                        |      | 143           | 3          | 151           | 2.1    | 0.082     | 1.8         | NA               | 0.3               | 1.8      | 0.09      | 0.18                | 0.09             | 57.4        |
| North: Old Carey Gully Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                               | L2   | 24            | 0          | 25            | 0.0    | 0.076     | 5.8         | LOS A            | 0.3               | 1.9      | 0.19      | 0.58                | 0.19             | 53.7        |
| 9                               | R2   | 56            | 5          | 59            | 8.9    | 0.076     | 6.5         | LOS A            | 0.3               | 1.9      | 0.19      | 0.58                | 0.19             | 52.1        |
| Approach                        |      | 80            | 5          | 84            | 6.3    | 0.076     | 6.3         | LOS A            | 0.3               | 1.9      | 0.19      | 0.58                | 0.19             | 52.6        |
| West: Old Mount Barker Road [W] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                              | L2   | 53            | 2          | 56            | 3.8    | 0.067     | 5.8         | LOS A            | 0.3               | 1.9      | 0.11      | 0.26                | 0.11             | 56.1        |
| 11                              | T1   | 55            | 1          | 58            | 1.8    | 0.067     | 0.1         | LOS A            | 0.3               | 1.9      | 0.11      | 0.26                | 0.11             | 57.0        |
| Approach                        |      | 108           | 3          | 114           | 2.8    | 0.067     | 2.9         | NA               | 0.3               | 1.9      | 0.11      | 0.26                | 0.11             | 56.6        |
| All Vehicles                    |      | 331           | 11         | 348           | 3.3    | 0.082     | 3.2         | NA               | 0.3               | 1.9      | 0.12      | 0.30                | 0.12             | 55.9        |

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.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [SAT Existing (Site Folder: Old Mt Barker Road - Old Carey Gully Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| East: Old Mount Barker Road [E] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 5                               | T1   | 36              | 0            | 38              | 0.0      | 0.030     | 0.1         | LOS A            | 0.1               | 0.7        | 0.08      | 0.19                | 0.08             | 58.0        |
| 6                               | R2   | 17              | 0            | 18              | 0.0      | 0.030     | 5.6         | LOS A            | 0.1               | 0.7        | 0.08      | 0.19                | 0.08             | 55.9        |
| Approach                        |      | 53              | 0            | 56              | 0.0      | 0.030     | 1.8         | NA               | 0.1               | 0.7        | 0.08      | 0.19                | 0.08             | 57.3        |
| North: Old Carey Gully Road [N] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                               | L2   | 25              | 0            | 26              | 0.0      | 0.059     | 5.7         | LOS A            | 0.2               | 1.4        | 0.14      | 0.56                | 0.14             | 53.9        |
| 9                               | R2   | 46              | 0            | 48              | 0.0      | 0.059     | 5.9         | LOS A            | 0.2               | 1.4        | 0.14      | 0.56                | 0.14             | 52.7        |
| Approach                        |      | 71              | 0            | 75              | 0.0      | 0.059     | 5.8         | LOS A            | 0.2               | 1.4        | 0.14      | 0.56                | 0.14             | 53.1        |
| West: Old Mount Barker Road [W] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                              | L2   | 54              | 1            | 57              | 1.9      | 0.059     | 5.7         | LOS A            | 0.2               | 1.7        | 0.06      | 0.31                | 0.06             | 56.0        |
| 11                              | T1   | 42              | 1            | 44              | 2.4      | 0.059     | 0.0         | LOS A            | 0.2               | 1.7        | 0.06      | 0.31                | 0.06             | 56.8        |
| Approach                        |      | 96              | 2            | 101             | 2.1      | 0.059     | 3.2         | NA               | 0.2               | 1.7        | 0.06      | 0.31                | 0.06             | 56.3        |
| All Vehicles                    |      | 220             | 2            | 232             | 0.9      | 0.059     | 3.7         | NA               | 0.2               | 1.7        | 0.09      | 0.36                | 0.09             | 55.5        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED AM Future (Site Folder: Old Mt Barker Road - Old Carey Gully Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| East: Old Mount Barker Road [E] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 5                               | T1   | 170           | 2          | 179           | 1.2    | 0.118     | 0.0         | LOS A            | 0.3               | 1.8      | 0.06      | 0.11                | 0.06             | 58.8        |
| 6                               | R2   | 39            | 1          | 41            | 2.6    | 0.118     | 5.6         | LOS A            | 0.3               | 1.8      | 0.06      | 0.11                | 0.06             | 56.5        |
| Approach                        |      | 209           | 3          | 220           | 1.4    | 0.118     | 1.1         | NA               | 0.3               | 1.8      | 0.06      | 0.11                | 0.06             | 58.3        |
| North: Old Carey Gully Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                               | L2   | 47            | 0          | 49            | 0.0    | 0.131     | 5.8         | LOS A            | 0.5               | 3.3      | 0.18      | 0.59                | 0.18             | 53.6        |
| 9                               | R2   | 92            | 0          | 97            | 0.0    | 0.131     | 6.8         | LOS A            | 0.5               | 3.3      | 0.18      | 0.59                | 0.18             | 52.4        |
| Approach                        |      | 139           | 0          | 146           | 0.0    | 0.131     | 6.4         | LOS A            | 0.5               | 3.3      | 0.18      | 0.59                | 0.18             | 52.8        |
| West: Old Mount Barker Road [W] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                              | L2   | 67            | 1          | 71            | 1.5    | 0.073     | 5.7         | LOS A            | 0.3               | 2.1      | 0.11      | 0.31                | 0.11             | 55.8        |
| 11                              | T1   | 50            | 2          | 53            | 4.0    | 0.073     | 0.1         | LOS A            | 0.3               | 2.1      | 0.11      | 0.31                | 0.11             | 56.6        |
| Approach                        |      | 117           | 3          | 123           | 2.6    | 0.073     | 3.3         | NA               | 0.3               | 2.1      | 0.11      | 0.31                | 0.11             | 56.1        |
| All Vehicles                    |      | 465           | 6          | 489           | 1.3    | 0.131     | 3.2         | NA               | 0.5               | 3.3      | 0.11      | 0.30                | 0.11             | 56.0        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED PM Future (Site Folder: Old Mt Barker Road - Old Carey Gully Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| East: Old Mount Barker Road [E] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 5                               | T1   | 100           | 2          | 105           | 2.0    | 0.085     | 0.1         | LOS A            | 0.3               | 2.0      | 0.10      | 0.19                | 0.10             | 57.9        |
| 6                               | R2   | 47            | 1          | 49            | 2.1    | 0.085     | 5.6         | LOS A            | 0.3               | 2.0      | 0.10      | 0.19                | 0.10             | 55.7        |
| Approach                        |      | 147           | 3          | 155           | 2.0    | 0.085     | 1.9         | NA               | 0.3               | 2.0      | 0.10      | 0.19                | 0.10             | 57.2        |
| North: Old Carey Gully Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                               | L2   | 28            | 0          | 29            | 0.0    | 0.112     | 5.8         | LOS A            | 0.4               | 2.9      | 0.21      | 0.59                | 0.21             | 53.6        |
| 9                               | R2   | 88            | 5          | 93            | 5.7    | 0.112     | 6.6         | LOS A            | 0.4               | 2.9      | 0.21      | 0.59                | 0.21             | 52.2        |
| Approach                        |      | 116           | 5          | 122           | 4.3    | 0.112     | 6.4         | LOS A            | 0.4               | 2.9      | 0.21      | 0.59                | 0.21             | 52.5        |
| West: Old Mount Barker Road [W] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                              | L2   | 85            | 2          | 89            | 2.4    | 0.089     | 5.8         | LOS A            | 0.4               | 2.7      | 0.12      | 0.32                | 0.12             | 55.5        |
| 11                              | T1   | 55            | 1          | 58            | 1.8    | 0.089     | 0.1         | LOS A            | 0.4               | 2.7      | 0.12      | 0.32                | 0.12             | 56.4        |
| Approach                        |      | 140           | 3          | 147           | 2.1    | 0.089     | 3.6         | NA               | 0.4               | 2.7      | 0.12      | 0.32                | 0.12             | 55.9        |
| All Vehicles                    |      | 403           | 11         | 424           | 2.7    | 0.112     | 3.8         | NA               | 0.4               | 2.9      | 0.14      | 0.35                | 0.14             | 55.3        |

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

# MOVEMENT SUMMARY

Site: 101 [SAT Future (Site Folder: Old Mt Barker Road - Old Carey Gully Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| East: Old Mount Barker Road [E] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 5                               | T1   | 36              | 0            | 38              | 0.0      | 0.033     | 0.1         | LOS A            | 0.1               | 0.8        | 0.09      | 0.21                | 0.09             | 57.7        |
| 6                               | R2   | 21              | 0            | 22              | 0.0      | 0.033     | 5.6         | LOS A            | 0.1               | 0.8        | 0.09      | 0.21                | 0.09             | 55.6        |
| Approach                        |      | 57              | 0            | 60              | 0.0      | 0.033     | 2.1         | NA               | 0.1               | 0.8        | 0.09      | 0.21                | 0.09             | 56.9        |
| North: Old Carey Gully Road [N] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                               | L2   | 29              | 0            | 31              | 0.0      | 0.092     | 5.7         | LOS A            | 0.3               | 2.3        | 0.16      | 0.57                | 0.16             | 53.8        |
| 9                               | R2   | 78              | 0            | 82              | 0.0      | 0.092     | 6.0         | LOS A            | 0.3               | 2.3        | 0.16      | 0.57                | 0.16             | 52.7        |
| Approach                        |      | 107             | 0            | 113             | 0.0      | 0.092     | 5.9         | LOS A            | 0.3               | 2.3        | 0.16      | 0.57                | 0.16             | 53.0        |
| West: Old Mount Barker Road [W] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                              | L2   | 86              | 1            | 91              | 1.2      | 0.080     | 5.7         | LOS A            | 0.3               | 2.4        | 0.08      | 0.36                | 0.08             | 55.4        |
| 11                              | T1   | 42              | 1            | 44              | 2.4      | 0.080     | 0.1         | LOS A            | 0.3               | 2.4        | 0.08      | 0.36                | 0.08             | 56.2        |
| Approach                        |      | 128             | 2            | 135             | 1.6      | 0.080     | 3.8         | NA               | 0.3               | 2.4        | 0.08      | 0.36                | 0.08             | 55.7        |
| All Vehicles                    |      | 292             | 2            | 307             | 0.7      | 0.092     | 4.3         | NA               | 0.3               | 2.4        | 0.11      | 0.41                | 0.11             | 54.9        |

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

# **APPENDIX E**

## **SIDRA ANALYSIS - OLD MOUNT BARKER ROAD/ GOULD ROAD INTERSECTION**

# MOVEMENT SUMMARY

 Site: 101v [WED AM Existing (Site Folder: Old Mt Barker Road - Gould Road)]

New Site  
 Site Category: (None)  
 Stop (Two-Way)

| 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 ] veh/h | [ Total veh/h ] | [ HV ] % |           |             |                  | [ Veh. veh ]      | [ Dist ] m |           |                     |                  |             |
| South: Gould Road [S]           |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                               | L2   | 115             | 3            | 121             | 2.6      | 0.116     | 5.9         | LOS A            | 0.5               | 3.3        | 0.23      | 0.50                | 0.23             | 52.8        |
| 3                               | R2   | 70              | 3            | 74              | 4.3      | 0.116     | 6.1         | LOS A            | 0.5               | 3.3        | 0.23      | 0.50                | 0.23             | 52.3        |
| Approach                        |      | 185             | 6            | 195             | 3.2      | 0.116     | 6.0         | NA               | 0.5               | 3.3        | 0.23      | 0.50                | 0.23             | 52.6        |
| East: Old Mount Barker Road [E] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 202             | 3            | 213             | 1.5      | 0.204     | 8.8         | LOS A            | 0.9               | 6.4        | 0.31      | 0.89                | 0.31             | 51.5        |
| 5                               | T1   | 23              | 1            | 24              | 4.3      | 0.204     | 10.4        | LOS B            | 0.9               | 6.4        | 0.31      | 0.89                | 0.31             | 51.1        |
| Approach                        |      | 225             | 4            | 237             | 1.8      | 0.204     | 9.0         | LOS A            | 0.9               | 6.4        | 0.31      | 0.89                | 0.31             | 51.5        |
| West: Old Mount Barker Road [W] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 11                              | T1   | 19              | 1            | 20              | 5.3      | 0.097     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.54                | 0.00             | 55.5        |
| 12                              | R2   | 148             | 6            | 156             | 4.1      | 0.097     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.54                | 0.00             | 53.4        |
| Approach                        |      | 167             | 7            | 176             | 4.2      | 0.097     | 4.9         | NA               | 0.0               | 0.0        | 0.00      | 0.54                | 0.00             | 53.6        |
| All Vehicles                    |      | 577             | 17           | 607             | 2.9      | 0.204     | 6.8         | NA               | 0.9               | 6.4        | 0.19      | 0.66                | 0.19             | 52.5        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

**Site: 101v [WED PM Existing (Site Folder: Old Mt Barker Road - Gould Road)]**

New Site  
 Site Category: (None)  
 Stop (Two-Way)

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| South: Gould Road [S]           |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                               | L2   | 153             | 3            | 161             | 2.0      | 0.159     | 5.9         | LOS A            | 0.7               | 4.8        | 0.23      | 0.50                | 0.23             | 52.9        |
| 3                               | R2   | 105             | 1            | 111             | 1.0      | 0.159     | 6.1         | LOS A            | 0.7               | 4.8        | 0.23      | 0.50                | 0.23             | 52.4        |
| Approach                        |      | 258             | 4            | 272             | 1.6      | 0.159     | 6.0         | NA               | 0.7               | 4.8        | 0.23      | 0.50                | 0.23             | 52.7        |
| East: Old Mount Barker Road [E] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 127             | 2            | 134             | 1.6      | 0.151     | 8.7         | LOS A            | 0.6               | 4.5        | 0.29      | 0.90                | 0.29             | 51.4        |
| 5                               | T1   | 28              | 3            | 29              | 10.7     | 0.151     | 11.4        | LOS B            | 0.6               | 4.5        | 0.29      | 0.90                | 0.29             | 50.8        |
| Approach                        |      | 155             | 5            | 163             | 3.2      | 0.151     | 9.2         | LOS A            | 0.6               | 4.5        | 0.29      | 0.90                | 0.29             | 51.3        |
| West: Old Mount Barker Road [W] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 11                              | T1   | 14              | 2            | 15              | 14.3     | 0.091     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 55.4        |
| 12                              | R2   | 141             | 6            | 148             | 4.3      | 0.091     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 53.3        |
| Approach                        |      | 155             | 8            | 163             | 5.2      | 0.091     | 5.0         | NA               | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 53.4        |
| All Vehicles                    |      | 568             | 17           | 598             | 3.0      | 0.159     | 6.6         | NA               | 0.7               | 4.8        | 0.19      | 0.62                | 0.19             | 52.5        |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
 Vehicle movement LOS values are based on average delay per movement.  
 Minor Road Approach LOS values are based on average delay for all vehicle movements.  
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 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.



# MOVEMENT SUMMARY

**Site: 101v [SAT Existing (Site Folder: Old Mt Barker Road - Gould Road)]**

New Site  
 Site Category: (None)  
 Stop (Two-Way)

| 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 ] veh/h | [ Total veh/h ] | [ HV ] % |           |             |                  | [ Veh. veh ]      | [ Dist ] m |           |                     |                  |             |
| South: Gould Road [S]           |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                               | L2   | 163             | 0            | 172             | 0.0      | 0.147     | 5.9         | LOS A            | 0.5               | 3.8        | 0.22      | 0.49                | 0.22             | 53.0        |
| 3                               | R2   | 75              | 2            | 79              | 2.7      | 0.147     | 6.3         | LOS A            | 0.5               | 3.8        | 0.22      | 0.49                | 0.22             | 52.3        |
| Approach                        |      | 238             | 2            | 251             | 0.8      | 0.147     | 6.0         | NA               | 0.5               | 3.8        | 0.22      | 0.49                | 0.22             | 52.8        |
| East: Old Mount Barker Road [E] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 87              | 2            | 92              | 2.3      | 0.099     | 8.9         | LOS A            | 0.4               | 2.8        | 0.32      | 0.89                | 0.32             | 51.4        |
| 5                               | T1   | 15              | 0            | 16              | 0.0      | 0.099     | 10.5        | LOS B            | 0.4               | 2.8        | 0.32      | 0.89                | 0.32             | 51.2        |
| Approach                        |      | 102             | 2            | 107             | 2.0      | 0.099     | 9.2         | LOS A            | 0.4               | 2.8        | 0.32      | 0.89                | 0.32             | 51.4        |
| West: Old Mount Barker Road [W] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 11                              | T1   | 17              | 1            | 18              | 5.9      | 0.113     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 55.4        |
| 12                              | R2   | 182             | 1            | 192             | 0.5      | 0.113     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 53.4        |
| Approach                        |      | 199             | 2            | 209             | 1.0      | 0.113     | 5.0         | NA               | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 53.6        |
| All Vehicles                    |      | 539             | 6            | 567             | 1.1      | 0.147     | 6.2         | NA               | 0.5               | 3.8        | 0.16      | 0.59                | 0.16             | 52.8        |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
 Vehicle movement LOS values are based on average delay per movement.  
 Minor Road Approach LOS values are based on average delay for all vehicle movements.  
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 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.

# MOVEMENT SUMMARY

 Site: 101v [WED AM Future (Site Folder: Old Mt Barker Road - Gould Road)]

New Site  
 Site Category: (None)  
 Stop (Two-Way)

| 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 ] veh/h | [ Total veh/h ] | [ HV ] % |           |             |                  | [ Veh. veh ]      | [ Dist ] m |           |                     |                  |             |
| South: Gould Road [S]           |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                               | L2   | 115             | 3            | 121             | 2.6      | 0.137     | 6.0         | LOS A            | 0.6               | 4.4        | 0.26      | 0.50                | 0.26             | 52.7        |
| 3                               | R2   | 101             | 3            | 106             | 3.0      | 0.137     | 6.1         | LOS A            | 0.6               | 4.4        | 0.26      | 0.50                | 0.26             | 52.2        |
| Approach                        |      | 216             | 6            | 227             | 2.8      | 0.137     | 6.1         | NA               | 0.6               | 4.4        | 0.26      | 0.50                | 0.26             | 52.5        |
| East: Old Mount Barker Road [E] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 233             | 3            | 245             | 1.3      | 0.235     | 8.8         | LOS A            | 1.1               | 7.5        | 0.32      | 0.89                | 0.32             | 51.5        |
| 5                               | T1   | 25              | 1            | 26              | 4.0      | 0.235     | 10.8        | LOS B            | 1.1               | 7.5        | 0.32      | 0.89                | 0.32             | 51.1        |
| Approach                        |      | 258             | 4            | 272             | 1.6      | 0.235     | 9.0         | LOS A            | 1.1               | 7.5        | 0.32      | 0.89                | 0.32             | 51.5        |
| West: Old Mount Barker Road [W] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 11                              | T1   | 21              | 1            | 22              | 4.8      | 0.098     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.53                | 0.00             | 55.6        |
| 12                              | R2   | 148             | 6            | 156             | 4.1      | 0.098     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.53                | 0.00             | 53.4        |
| Approach                        |      | 169             | 7            | 178             | 4.1      | 0.098     | 4.8         | NA               | 0.0               | 0.0        | 0.00      | 0.53                | 0.00             | 53.7        |
| All Vehicles                    |      | 643             | 17           | 677             | 2.6      | 0.235     | 6.9         | NA               | 1.1               | 7.5        | 0.21      | 0.66                | 0.21             | 52.4        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

**Site: 101v [WED PM Future (Site Folder: Old Mt Barker Road - Gould Road)]**

New Site  
 Site Category: (None)  
 Stop (Two-Way)

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| South: Gould Road [S]           |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 1                               | L2   | 153           | 3          | 161           | 2.0    | 0.180     | 6.0         | LOS A            | 0.8               | 5.9      | 0.26      | 0.50                | 0.26             | 52.8        |
| 3                               | R2   | 136           | 1          | 143           | 0.7    | 0.180     | 6.1         | LOS A            | 0.8               | 5.9      | 0.26      | 0.50                | 0.26             | 52.3        |
| Approach                        |      | 289           | 4          | 304           | 1.4    | 0.180     | 6.0         | NA               | 0.8               | 5.9      | 0.26      | 0.50                | 0.26             | 52.6        |
| East: Old Mount Barker Road [E] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 4                               | L2   | 158           | 2          | 166           | 1.3    | 0.183     | 8.7         | LOS A            | 0.8               | 5.5      | 0.30      | 0.90                | 0.30             | 51.4        |
| 5                               | T1   | 30            | 3          | 32            | 10.0   | 0.183     | 11.8        | LOS B            | 0.8               | 5.5      | 0.30      | 0.90                | 0.30             | 50.8        |
| Approach                        |      | 188           | 5          | 198           | 2.7    | 0.183     | 9.2         | LOS A            | 0.8               | 5.5      | 0.30      | 0.90                | 0.30             | 51.3        |
| West: Old Mount Barker Road [W] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 11                              | T1   | 16            | 2          | 17            | 12.5   | 0.092     | 0.0         | LOS A            | 0.0               | 0.0      | 0.00      | 0.54                | 0.00             | 55.4        |
| 12                              | R2   | 141           | 6          | 148           | 4.3    | 0.092     | 5.5         | LOS A            | 0.0               | 0.0      | 0.00      | 0.54                | 0.00             | 53.3        |
| Approach                        |      | 157           | 8          | 165           | 5.1    | 0.092     | 5.0         | NA               | 0.0               | 0.0      | 0.00      | 0.54                | 0.00             | 53.5        |
| All Vehicles                    |      | 634           | 17         | 667           | 2.7    | 0.183     | 6.7         | NA               | 0.8               | 5.9      | 0.21      | 0.63                | 0.21             | 52.4        |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
 Vehicle movement LOS values are based on average delay per movement.  
 Minor Road Approach LOS values are based on average delay for all vehicle movements.  
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 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.

# MOVEMENT SUMMARY

**Site: 101v [SAT Future (Site Folder: Old Mt Barker Road - Gould Road)]**

New Site  
 Site Category: (None)  
 Stop (Two-Way)

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| South: Gould Road [S]           |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                               | L2   | 163             | 0            | 172             | 0.0      | 0.169     | 6.0         | LOS A            | 0.7               | 5.1        | 0.27      | 0.49                | 0.27             | 52.8        |
| 3                               | R2   | 106             | 2            | 112             | 1.9      | 0.169     | 6.3         | LOS A            | 0.7               | 5.1        | 0.27      | 0.49                | 0.27             | 52.2        |
| Approach                        |      | 269             | 2            | 283             | 0.7      | 0.169     | 6.1         | NA               | 0.7               | 5.1        | 0.27      | 0.49                | 0.27             | 52.6        |
| East: Old Mount Barker Road [E] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                               | L2   | 118             | 2            | 124             | 1.7      | 0.131     | 8.9         | LOS A            | 0.5               | 3.8        | 0.33      | 0.89                | 0.33             | 51.4        |
| 5                               | T1   | 17              | 0            | 18              | 0.0      | 0.131     | 10.9        | LOS B            | 0.5               | 3.8        | 0.33      | 0.89                | 0.33             | 51.2        |
| Approach                        |      | 135             | 2            | 142             | 1.5      | 0.131     | 9.2         | LOS A            | 0.5               | 3.8        | 0.33      | 0.89                | 0.33             | 51.4        |
| West: Old Mount Barker Road [W] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 11                              | T1   | 19              | 1            | 20              | 5.3      | 0.114     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 55.4        |
| 12                              | R2   | 182             | 1            | 192             | 0.5      | 0.114     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 53.5        |
| Approach                        |      | 201             | 2            | 212             | 1.0      | 0.114     | 5.0         | NA               | 0.0               | 0.0        | 0.00      | 0.55                | 0.00             | 53.6        |
| All Vehicles                    |      | 605             | 6            | 637             | 1.0      | 0.169     | 6.4         | NA               | 0.7               | 5.1        | 0.19      | 0.60                | 0.19             | 52.7        |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
 Vehicle movement LOS values are based on average delay per movement.  
 Minor Road Approach LOS values are based on average delay for all vehicle movements.  
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 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.

# **APPENDIX F**

## **SIDRA ANALYSIS - GOULD ROAD/POMONA ROAD INTERSECTION**

# MOVEMENT SUMMARY

Site: 101 [WED AM Existing (Site Folder: Gould Road - Pomona Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h ] | [ HV ] % |           |             |                  | [ Veh. veh ]      | [ Dist ] m |           |                     |                  |             |
| South: Gould Road [S]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 56              | 3            | 59              | 5.4      | 0.069     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.27                | 0.00             | 55.9        |
| 2                            | T1   | 66              | 0            | 69              | 0.0      | 0.069     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.27                | 0.00             | 57.6        |
| Approach                     |      | 122             | 3            | 128             | 2.5      | 0.069     | 2.6         | NA               | 0.0               | 0.0        | 0.00      | 0.27                | 0.00             | 56.8        |
| North: Gould Road [N]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 8                            | T1   | 81              | 4            | 85              | 4.9      | 0.045     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.00                | 0.00             | 60.0        |
| 9                            | R2   | 267             | 3            | 281             | 1.1      | 0.176     | 5.9         | LOS A            | 0.9               | 6.3        | 0.26      | 0.57                | 0.26             | 52.4        |
| Approach                     |      | 348             | 7            | 366             | 2.0      | 0.176     | 4.5         | NA               | 0.9               | 6.3        | 0.20      | 0.44                | 0.20             | 54.0        |
| West: Pomona Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 103             | 2            | 108             | 1.9      | 0.162     | 5.8         | LOS A            | 0.7               | 4.9        | 0.19      | 0.58                | 0.19             | 52.4        |
| 12                           | R2   | 58              | 2            | 61              | 3.4      | 0.162     | 9.2         | LOS A            | 0.7               | 4.9        | 0.19      | 0.58                | 0.19             | 51.9        |
| Approach                     |      | 161             | 4            | 169             | 2.5      | 0.162     | 7.0         | LOS A            | 0.7               | 4.9        | 0.19      | 0.58                | 0.19             | 52.2        |
| All Vehicles                 |      | 631             | 14           | 664             | 2.2      | 0.176     | 4.8         | NA               | 0.9               | 6.3        | 0.16      | 0.44                | 0.16             | 54.0        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# MOVEMENT SUMMARY

Site: 101 [WED PM Existing (Site Folder: Gould Road - Pomona Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h ] | [ HV ] % |           |             |                  | [ Veh. veh ]      | [ Dist ] m |           |                     |                  |             |
| South: Gould Road [S]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 33              | 2            | 35              | 6.1      | 0.060     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 56.5        |
| 2                            | T1   | 74              | 2            | 78              | 2.7      | 0.060     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 58.4        |
| Approach                     |      | 107             | 4            | 113             | 3.7      | 0.060     | 1.7         | NA               | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 57.8        |
| North: Gould Road [N]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 8                            | T1   | 80              | 2            | 84              | 2.5      | 0.044     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.00                | 0.00             | 60.0        |
| 9                            | R2   | 188             | 6            | 198             | 3.2      | 0.124     | 5.9         | LOS A            | 0.6               | 4.3        | 0.24      | 0.57                | 0.24             | 52.3        |
| Approach                     |      | 268             | 8            | 282             | 3.0      | 0.124     | 4.1         | NA               | 0.6               | 4.3        | 0.17      | 0.40                | 0.17             | 54.4        |
| West: Pomona Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 184             | 2            | 194             | 1.1      | 0.207     | 5.8         | LOS A            | 0.9               | 6.6        | 0.20      | 0.57                | 0.20             | 52.9        |
| 12                           | R2   | 57              | 2            | 60              | 3.5      | 0.207     | 8.5         | LOS A            | 0.9               | 6.6        | 0.20      | 0.57                | 0.20             | 52.3        |
| Approach                     |      | 241             | 4            | 254             | 1.7      | 0.207     | 6.4         | LOS A            | 0.9               | 6.6        | 0.20      | 0.57                | 0.20             | 52.7        |
| All Vehicles                 |      | 616             | 16           | 648             | 2.6      | 0.207     | 4.6         | NA               | 0.9               | 6.6        | 0.15      | 0.43                | 0.15             | 54.3        |

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



# MOVEMENT SUMMARY

Site: 101 [SAT Existing (Site Folder: Gould Road - Pomona Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| South: Gould Road [S]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 19              | 0            | 20              | 0.0      | 0.035     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 56.8        |
| 2                            | T1   | 44              | 0            | 46              | 0.0      | 0.035     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 58.4        |
| Approach                     |      | 63              | 0            | 66              | 0.0      | 0.035     | 1.7         | NA               | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 57.9        |
| North: Gould Road [N]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 8                            | T1   | 78              | 2            | 82              | 2.6      | 0.043     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.00                | 0.00             | 60.0        |
| 9                            | R2   | 191             | 1            | 201             | 0.5      | 0.119     | 5.7         | LOS A            | 0.6               | 4.1        | 0.17      | 0.56                | 0.17             | 52.6        |
| Approach                     |      | 269             | 3            | 283             | 1.1      | 0.119     | 4.0         | NA               | 0.6               | 4.1        | 0.12      | 0.40                | 0.12             | 54.6        |
| West: Pomona Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 194             | 2            | 204             | 1.0      | 0.164     | 5.7         | LOS A            | 0.7               | 5.1        | 0.12      | 0.56                | 0.12             | 53.2        |
| 12                           | R2   | 26              | 0            | 27              | 0.0      | 0.164     | 7.8         | LOS A            | 0.7               | 5.1        | 0.12      | 0.56                | 0.12             | 52.7        |
| Approach                     |      | 220             | 2            | 232             | 0.9      | 0.164     | 6.0         | LOS A            | 0.7               | 5.1        | 0.12      | 0.56                | 0.12             | 53.1        |
| All Vehicles                 |      | 552             | 5            | 581             | 0.9      | 0.164     | 4.5         | NA               | 0.7               | 5.1        | 0.11      | 0.44                | 0.11             | 54.4        |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
 Vehicle movement LOS values are based on average delay per movement.  
 Minor Road Approach LOS values are based on average delay for all vehicle movements.  
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 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.

# MOVEMENT SUMMARY

Site: 101 [WED AM Future (Site Folder: Gould Road - Pomona Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h ] | [ HV ] % |           |             |                  | [ Veh. veh ]      | [ Dist ] m |           |                     |                  |             |
| South: Gould Road [S]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 56              | 3            | 59              | 5.4      | 0.070     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.27                | 0.00             | 55.9        |
| 2                            | T1   | 68              | 0            | 72              | 0.0      | 0.070     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.27                | 0.00             | 57.7        |
| Approach                     |      | 124             | 3            | 131             | 2.4      | 0.070     | 2.5         | NA               | 0.0               | 0.0        | 0.00      | 0.27                | 0.00             | 56.9        |
| North: Gould Road [N]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 8                            | T1   | 83              | 4            | 87              | 4.8      | 0.046     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.00                | 0.00             | 60.0        |
| 9                            | R2   | 296             | 3            | 312             | 1.0      | 0.195     | 5.9         | LOS A            | 1.0               | 7.1        | 0.27      | 0.57                | 0.27             | 52.3        |
| Approach                     |      | 379             | 7            | 399             | 1.8      | 0.195     | 4.6         | NA               | 1.0               | 7.1        | 0.21      | 0.45                | 0.21             | 53.8        |
| West: Pomona Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 132             | 2            | 139             | 1.5      | 0.187     | 5.8         | LOS A            | 0.8               | 5.7        | 0.19      | 0.58                | 0.19             | 52.5        |
| 12                           | R2   | 58              | 2            | 61              | 3.4      | 0.187     | 9.7         | LOS A            | 0.8               | 5.7        | 0.19      | 0.58                | 0.19             | 51.9        |
| Approach                     |      | 190             | 4            | 200             | 2.1      | 0.187     | 7.0         | LOS A            | 0.8               | 5.7        | 0.19      | 0.58                | 0.19             | 52.3        |
| All Vehicles                 |      | 693             | 14           | 729             | 2.0      | 0.195     | 4.9         | NA               | 1.0               | 7.1        | 0.17      | 0.45                | 0.17             | 53.9        |

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

# MOVEMENT SUMMARY

Site: 101 [WED PM Future (Site Folder: Gould Road - Pomona Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 ] veh/h | [ Total veh/h ] | [ HV ] % |           |             |                  | [ Veh. veh ]      | [ Dist ] m |           |                     |                  |             |
| South: Gould Road [S]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 33              | 2            | 35              | 6.1      | 0.061     | 5.6         | LOS A            | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 56.6        |
| 2                            | T1   | 76              | 2            | 80              | 2.6      | 0.061     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 58.4        |
| Approach                     |      | 109             | 4            | 115             | 3.7      | 0.061     | 1.7         | NA               | 0.0               | 0.0        | 0.00      | 0.18                | 0.00             | 57.8        |
| North: Gould Road [N]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 8                            | T1   | 82              | 2            | 86              | 2.4      | 0.045     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.00                | 0.00             | 60.0        |
| 9                            | R2   | 217             | 6            | 228             | 2.8      | 0.143     | 5.9         | LOS A            | 0.7               | 5.0        | 0.24      | 0.57                | 0.24             | 52.3        |
| Approach                     |      | 299             | 8            | 315             | 2.7      | 0.143     | 4.3         | NA               | 0.7               | 5.0        | 0.18      | 0.41                | 0.18             | 54.2        |
| West: Pomona Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 213             | 2            | 224             | 0.9      | 0.231     | 5.8         | LOS A            | 1.1               | 7.5        | 0.20      | 0.57                | 0.20             | 52.9        |
| 12                           | R2   | 57              | 2            | 60              | 3.5      | 0.231     | 8.9         | LOS A            | 1.1               | 7.5        | 0.20      | 0.57                | 0.20             | 52.2        |
| Approach                     |      | 270             | 4            | 284             | 1.5      | 0.231     | 6.5         | LOS A            | 1.1               | 7.5        | 0.20      | 0.57                | 0.20             | 52.7        |
| All Vehicles                 |      | 678             | 16           | 714             | 2.4      | 0.231     | 4.7         | NA               | 1.1               | 7.5        | 0.16      | 0.44                | 0.16             | 54.2        |

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).  
 Vehicle movement LOS values are based on average delay per movement.  
 Minor Road Approach LOS values are based on average delay for all vehicle movements.  
 NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.  
 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.

# MOVEMENT SUMMARY

Site: 101 [SAT Existing Future (Site Folder: Gould Road - Pomona Road)]

New Site  
 Site Category: (None)  
 Give-Way (Two-Way)

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| South: Gould Road [S]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 19              | 0            | 20              | 0.0      | 0.036     | 5.5         | LOS A            | 0.0               | 0.0        | 0.00      | 0.17                | 0.00             | 56.9        |
| 2                            | T1   | 46              | 0            | 48              | 0.0      | 0.036     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.17                | 0.00             | 58.4        |
| Approach                     |      | 65              | 0            | 68              | 0.0      | 0.036     | 1.6         | NA               | 0.0               | 0.0        | 0.00      | 0.17                | 0.00             | 58.0        |
| North: Gould Road [N]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 8                            | T1   | 80              | 2            | 84              | 2.5      | 0.044     | 0.0         | LOS A            | 0.0               | 0.0        | 0.00      | 0.00                | 0.00             | 60.0        |
| 9                            | R2   | 220             | 1            | 232             | 0.5      | 0.137     | 5.7         | LOS A            | 0.7               | 4.8        | 0.18      | 0.56                | 0.18             | 52.6        |
| Approach                     |      | 300             | 3            | 316             | 1.0      | 0.137     | 4.2         | NA               | 0.7               | 4.8        | 0.13      | 0.41                | 0.13             | 54.4        |
| West: Pomona Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 223             | 2            | 235             | 0.9      | 0.185     | 5.7         | LOS A            | 0.8               | 5.9        | 0.13      | 0.55                | 0.13             | 53.2        |
| 12                           | R2   | 26              | 0            | 27              | 0.0      | 0.185     | 8.2         | LOS A            | 0.8               | 5.9        | 0.13      | 0.55                | 0.13             | 52.7        |
| Approach                     |      | 249             | 2            | 262             | 0.8      | 0.185     | 6.0         | LOS A            | 0.8               | 5.9        | 0.13      | 0.55                | 0.13             | 53.1        |
| All Vehicles                 |      | 614             | 5            | 646             | 0.8      | 0.185     | 4.6         | NA               | 0.8               | 5.9        | 0.12      | 0.44                | 0.12             | 54.2        |

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

Vehicle movement LOS values are based on average delay per movement.

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

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

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.

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# **APPENDIX G**

## **SIDRA ANALYSIS - POMONA ROAD/MOUNT BARKER ROAD/AVENUE ROAD INTERSECTION**

# MOVEMENT SUMMARY

**Site: 101 [WED AM Existing (Site Folder: Mt Barker Road - Pomona Road - Avenue Road)]**

New Site  
 Site Category: (None)  
 Roundabout

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| South: Mount Barker Road [S] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 1                            | L2   | 103           | 6          | 108           | 5.8    | 0.293     | 6.6         | LOS A            | 1.8               | 13.2     | 0.58      | 0.65                | 0.58             | 52.2        |
| 2                            | T1   | 415           | 19         | 437           | 4.6    | 0.293     | 6.6         | LOS A            | 1.8               | 13.2     | 0.58      | 0.65                | 0.58             | 53.4        |
| 3                            | R2   | 28            | 1          | 29            | 3.6    | 0.293     | 10.8        | LOS B            | 1.8               | 13.0     | 0.59      | 0.66                | 0.59             | 53.0        |
| Approach                     |      | 546           | 26         | 575           | 4.8    | 0.293     | 6.8         | LOS A            | 1.8               | 13.2     | 0.58      | 0.65                | 0.58             | 53.2        |
| East: Pomona Road [E]        |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 4                            | L2   | 51            | 1          | 54            | 2.0    | 0.366     | 9.9         | LOS A            | 2.1               | 15.1     | 0.74      | 0.88                | 0.75             | 49.9        |
| 5                            | T1   | 54            | 2          | 57            | 3.7    | 0.366     | 9.2         | LOS A            | 2.1               | 15.1     | 0.74      | 0.88                | 0.75             | 50.7        |
| 6                            | R2   | 112           | 3          | 118           | 2.7    | 0.366     | 13.4        | LOS B            | 2.1               | 15.1     | 0.74      | 0.88                | 0.75             | 50.6        |
| Approach                     |      | 217           | 6          | 228           | 2.8    | 0.366     | 11.5        | LOS B            | 2.1               | 15.1     | 0.74      | 0.88                | 0.75             | 50.5        |
| North: Mount Barker Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                            | L2   | 107           | 4          | 113           | 3.7    | 0.183     | 7.3         | LOS A            | 1.0               | 7.0      | 0.52      | 0.65                | 0.52             | 52.2        |
| 8                            | T1   | 330           | 24         | 347           | 7.3    | 0.491     | 6.1         | LOS A            | 3.9               | 28.5     | 0.59      | 0.64                | 0.59             | 52.7        |
| 9                            | R2   | 177           | 6          | 186           | 3.4    | 0.491     | 10.1        | LOS B            | 3.9               | 28.5     | 0.59      | 0.64                | 0.59             | 52.5        |
| Approach                     |      | 614           | 34         | 646           | 5.5    | 0.491     | 7.4         | LOS A            | 3.9               | 28.5     | 0.58      | 0.64                | 0.58             | 52.6        |
| West: Avenue Road [W]        |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                           | L2   | 210           | 4          | 221           | 1.9    | 0.562     | 9.0         | LOS A            | 3.6               | 26.0     | 0.72      | 0.93                | 0.87             | 50.5        |
| 11                           | T1   | 62            | 3          | 65            | 4.8    | 0.562     | 9.3         | LOS A            | 3.6               | 26.0     | 0.72      | 0.93                | 0.87             | 51.3        |
| 12                           | R2   | 116           | 2          | 122           | 1.7    | 0.562     | 13.4        | LOS B            | 3.6               | 26.0     | 0.72      | 0.93                | 0.87             | 51.3        |
| Approach                     |      | 388           | 9          | 408           | 2.3    | 0.562     | 10.4        | LOS B            | 3.6               | 26.0     | 0.72      | 0.93                | 0.87             | 50.9        |
| All Vehicles                 |      | 1765          | 75         | 1858          | 4.2    | 0.562     | 8.4         | LOS A            | 3.9               | 28.5     | 0.63      | 0.74                | 0.67             | 52.1        |

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

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

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.

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# MOVEMENT SUMMARY

**Site: 101 [WED PM Existing (Site Folder: Mt Barker Road - Pomona Road - Avenue Road)]**

New Site  
 Site Category: (None)  
 Roundabout

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| South: Mount Barker Road [S] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 132             | 6            | 139             | 4.5      | 0.275     | 7.1         | LOS A            | 1.7               | 12.7       | 0.64      | 0.70                | 0.64             | 52.1        |
| 2                            | T1   | 295             | 19           | 311             | 6.4      | 0.275     | 7.2         | LOS A            | 1.7               | 12.7       | 0.65      | 0.71                | 0.65             | 53.0        |
| 3                            | R2   | 35              | 1            | 37              | 2.9      | 0.275     | 11.3        | LOS B            | 1.7               | 12.4       | 0.65      | 0.71                | 0.65             | 52.6        |
| Approach                     |      | 462             | 26           | 486             | 5.6      | 0.275     | 7.5         | LOS A            | 1.7               | 12.7       | 0.65      | 0.70                | 0.65             | 52.7        |
| East: Pomona Road [E]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                            | L2   | 47              | 4            | 49              | 8.5      | 0.336     | 12.3        | LOS B            | 1.8               | 13.4       | 0.80      | 0.92                | 0.82             | 48.9        |
| 5                            | T1   | 52              | 1            | 55              | 1.9      | 0.336     | 10.9        | LOS B            | 1.8               | 13.4       | 0.80      | 0.92                | 0.82             | 50.0        |
| 6                            | R2   | 57              | 1            | 60              | 1.8      | 0.336     | 15.0        | LOS B            | 1.8               | 13.4       | 0.80      | 0.92                | 0.82             | 49.9        |
| Approach                     |      | 156             | 6            | 164             | 3.8      | 0.336     | 12.8        | LOS B            | 1.8               | 13.4       | 0.80      | 0.92                | 0.82             | 49.6        |
| North: Mount Barker Road [N] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 87              | 2            | 92              | 2.3      | 0.196     | 6.8         | LOS A            | 1.0               | 7.5        | 0.47      | 0.61                | 0.47             | 52.6        |
| 8                            | T1   | 497             | 19           | 523             | 3.8      | 0.683     | 6.3         | LOS A            | 7.1               | 50.9       | 0.66      | 0.63                | 0.66             | 52.5        |
| 9                            | R2   | 319             | 7            | 336             | 2.2      | 0.683     | 10.2        | LOS B            | 7.1               | 50.9       | 0.68      | 0.63                | 0.68             | 52.2        |
| Approach                     |      | 903             | 28           | 951             | 3.1      | 0.683     | 7.7         | LOS A            | 7.1               | 50.9       | 0.65      | 0.63                | 0.65             | 52.4        |
| West: Avenue Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 123             | 6            | 129             | 4.9      | 0.336     | 6.5         | LOS A            | 1.6               | 12.0       | 0.56      | 0.75                | 0.56             | 52.0        |
| 11                           | T1   | 41              | 2            | 43              | 4.9      | 0.336     | 6.6         | LOS A            | 1.6               | 12.0       | 0.56      | 0.75                | 0.56             | 53.0        |
| 12                           | R2   | 90              | 4            | 95              | 4.4      | 0.336     | 10.8        | LOS B            | 1.6               | 12.0       | 0.56      | 0.75                | 0.56             | 52.8        |
| Approach                     |      | 254             | 12           | 267             | 4.7      | 0.336     | 8.1         | LOS A            | 1.6               | 12.0       | 0.56      | 0.75                | 0.56             | 52.4        |
| All Vehicles                 |      | 1775            | 72           | 1868            | 4.1      | 0.683     | 8.1         | LOS A            | 7.1               | 50.9       | 0.65      | 0.69                | 0.65             | 52.2        |

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

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

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.

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# MOVEMENT SUMMARY

**Site: 101 [SAT Existing (Site Folder: Mt Barker Road - Pomona Road - Avenue Road)]**

New Site  
 Site Category: (None)  
 Roundabout

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| South: Mount Barker Road [S] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 81              | 0            | 85              | 0.0      | 0.294     | 6.7         | LOS A            | 1.9               | 13.2       | 0.61      | 0.66                | 0.61             | 52.3        |
| 2                            | T1   | 381             | 8            | 401             | 2.1      | 0.294     | 6.7         | LOS A            | 1.9               | 13.2       | 0.61      | 0.68                | 0.61             | 53.2        |
| 3                            | R2   | 75              | 0            | 79              | 0.0      | 0.294     | 10.9        | LOS B            | 1.8               | 13.0       | 0.62      | 0.70                | 0.62             | 52.5        |
| Approach                     |      | 537             | 8            | 565             | 1.5      | 0.294     | 7.3         | LOS A            | 1.9               | 13.2       | 0.61      | 0.68                | 0.61             | 53.0        |
| East: Pomona Road [E]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                            | L2   | 83              | 0            | 87              | 0.0      | 0.526     | 12.8        | LOS B            | 3.7               | 26.2       | 0.83      | 0.99                | 1.02             | 48.6        |
| 5                            | T1   | 95              | 0            | 100             | 0.0      | 0.526     | 11.7        | LOS B            | 3.7               | 26.2       | 0.83      | 0.99                | 1.02             | 49.4        |
| 6                            | R2   | 116             | 0            | 122             | 0.0      | 0.526     | 15.9        | LOS B            | 3.7               | 26.2       | 0.83      | 0.99                | 1.02             | 49.4        |
| Approach                     |      | 294             | 0            | 309             | 0.0      | 0.526     | 13.7        | LOS B            | 3.7               | 26.2       | 0.83      | 0.99                | 1.02             | 49.2        |
| North: Mount Barker Road [N] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 84              | 0            | 88              | 0.0      | 0.168     | 7.6         | LOS A            | 0.9               | 6.0        | 0.54      | 0.67                | 0.54             | 52.0        |
| 8                            | T1   | 444             | 7            | 467             | 1.6      | 0.585     | 6.7         | LOS A            | 5.0               | 35.5       | 0.68      | 0.68                | 0.68             | 52.6        |
| 9                            | R2   | 170             | 0            | 179             | 0.0      | 0.585     | 10.7        | LOS B            | 5.0               | 35.5       | 0.68      | 0.68                | 0.69             | 52.4        |
| Approach                     |      | 698             | 7            | 735             | 1.0      | 0.585     | 7.7         | LOS A            | 5.0               | 35.5       | 0.66      | 0.68                | 0.67             | 52.5        |
| West: Avenue Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 170             | 2            | 179             | 1.2      | 0.499     | 8.3         | LOS A            | 2.9               | 20.7       | 0.69      | 0.91                | 0.80             | 50.8        |
| 11                           | T1   | 53              | 1            | 56              | 1.9      | 0.499     | 8.5         | LOS A            | 2.9               | 20.7       | 0.69      | 0.91                | 0.80             | 51.7        |
| 12                           | R2   | 122             | 0            | 128             | 0.0      | 0.499     | 12.7        | LOS B            | 2.9               | 20.7       | 0.69      | 0.91                | 0.80             | 51.7        |
| Approach                     |      | 345             | 3            | 363             | 0.9      | 0.499     | 9.9         | LOS A            | 2.9               | 20.7       | 0.69      | 0.91                | 0.80             | 51.3        |
| All Vehicles                 |      | 1874            | 18           | 1973            | 1.0      | 0.585     | 8.9         | LOS A            | 5.0               | 35.5       | 0.68      | 0.77                | 0.73             | 51.9        |

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

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

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.

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# MOVEMENT SUMMARY

**Site: 101 [WED AM Future (Site Folder: Mt Barker Road - Pomona Road - Avenue Road)]**

New Site  
 Site Category: (None)  
 Roundabout

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| South: Mount Barker Road [S] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 1                            | L2   | 103           | 6          | 108           | 5.8    | 0.303     | 6.8         | LOS A            | 1.9               | 13.9     | 0.60      | 0.66                | 0.60             | 52.1        |
| 2                            | T1   | 415           | 19         | 437           | 4.6    | 0.303     | 6.8         | LOS A            | 1.9               | 13.9     | 0.61      | 0.67                | 0.61             | 53.3        |
| 3                            | R2   | 33            | 1          | 35            | 3.0    | 0.303     | 10.9        | LOS B            | 1.9               | 13.6     | 0.61      | 0.68                | 0.61             | 52.8        |
| Approach                     |      | 551           | 26         | 580           | 4.7    | 0.303     | 7.0         | LOS A            | 1.9               | 13.9     | 0.61      | 0.67                | 0.61             | 53.1        |
| East: Pomona Road [E]        |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 4                            | L2   | 56            | 1          | 59            | 1.8    | 0.414     | 10.5        | LOS B            | 2.6               | 18.5     | 0.76      | 0.92                | 0.82             | 49.4        |
| 5                            | T1   | 55            | 2          | 58            | 3.6    | 0.414     | 9.8         | LOS A            | 2.6               | 18.5     | 0.76      | 0.92                | 0.82             | 50.2        |
| 6                            | R2   | 135           | 3          | 142           | 2.2    | 0.414     | 14.0        | LOS B            | 2.6               | 18.5     | 0.76      | 0.92                | 0.82             | 50.2        |
| Approach                     |      | 246           | 6          | 259           | 2.4    | 0.414     | 12.3        | LOS B            | 2.6               | 18.5     | 0.76      | 0.92                | 0.82             | 50.0        |
| North: Mount Barker Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                            | L2   | 130           | 4          | 137           | 3.1    | 0.220     | 7.4         | LOS A            | 1.2               | 8.6      | 0.54      | 0.67                | 0.54             | 52.1        |
| 8                            | T1   | 330           | 24         | 347           | 7.3    | 0.494     | 6.1         | LOS A            | 3.9               | 28.8     | 0.60      | 0.65                | 0.60             | 52.7        |
| 9                            | R2   | 177           | 6          | 186           | 3.4    | 0.494     | 10.2        | LOS B            | 3.9               | 28.8     | 0.60      | 0.65                | 0.60             | 52.5        |
| Approach                     |      | 637           | 34         | 671           | 5.3    | 0.494     | 7.5         | LOS A            | 3.9               | 28.8     | 0.59      | 0.65                | 0.59             | 52.5        |
| West: Avenue Road [W]        |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                           | L2   | 210           | 4          | 221           | 1.9    | 0.575     | 9.4         | LOS A            | 3.8               | 27.1     | 0.74      | 0.95                | 0.91             | 50.3        |
| 11                           | T1   | 63            | 3          | 66            | 4.8    | 0.575     | 9.7         | LOS A            | 3.8               | 27.1     | 0.74      | 0.95                | 0.91             | 51.1        |
| 12                           | R2   | 116           | 2          | 122           | 1.7    | 0.575     | 13.7        | LOS B            | 3.8               | 27.1     | 0.74      | 0.95                | 0.91             | 51.0        |
| Approach                     |      | 389           | 9          | 409           | 2.3    | 0.575     | 10.7        | LOS B            | 3.8               | 27.1     | 0.74      | 0.95                | 0.91             | 50.6        |
| All Vehicles                 |      | 1823          | 75         | 1919          | 4.1    | 0.575     | 8.7         | LOS A            | 3.9               | 28.8     | 0.65      | 0.76                | 0.69             | 51.9        |

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

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

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.

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# MOVEMENT SUMMARY

**Site: 101 [WED PM Future (Site Folder: Mt Barker Road - Pomona Road - Avenue Road)]**

New Site  
 Site Category: (None)  
 Roundabout

| 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 ] veh/h | [ Total veh/h | HV ] % |           |             |                  | [ Veh. veh        | Dist ] m |           |                     |                  |             |
| South: Mount Barker Road [S] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 1                            | L2   | 132           | 6          | 139           | 4.5    | 0.284     | 7.3         | LOS A            | 1.8               | 13.3     | 0.66      | 0.71                | 0.66             | 51.9        |
| 2                            | T1   | 295           | 19         | 311           | 6.4    | 0.284     | 7.4         | LOS A            | 1.8               | 13.3     | 0.67      | 0.72                | 0.67             | 52.9        |
| 3                            | R2   | 40            | 1          | 42            | 2.5    | 0.284     | 11.5        | LOS B            | 1.8               | 12.9     | 0.67      | 0.73                | 0.67             | 52.4        |
| Approach                     |      | 467           | 26         | 492           | 5.6    | 0.284     | 7.7         | LOS A            | 1.8               | 13.3     | 0.67      | 0.72                | 0.67             | 52.6        |
| East: Pomona Road [E]        |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 4                            | L2   | 52            | 4          | 55            | 7.7    | 0.424     | 14.2        | LOS B            | 2.7               | 19.4     | 0.85      | 0.98                | 0.98             | 47.7        |
| 5                            | T1   | 53            | 1          | 56            | 1.9    | 0.424     | 12.7        | LOS B            | 2.7               | 19.4     | 0.85      | 0.98                | 0.98             | 48.6        |
| 6                            | R2   | 80            | 1          | 84            | 1.3    | 0.424     | 16.9        | LOS B            | 2.7               | 19.4     | 0.85      | 0.98                | 0.98             | 48.5        |
| Approach                     |      | 185           | 6          | 195           | 3.2    | 0.424     | 14.9        | LOS B            | 2.7               | 19.4     | 0.85      | 0.98                | 0.98             | 48.3        |
| North: Mount Barker Road [N] |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 7                            | L2   | 110           | 2          | 116           | 1.8    | 0.203     | 6.8         | LOS A            | 1.1               | 7.7      | 0.48      | 0.62                | 0.48             | 52.5        |
| 8                            | T1   | 497           | 19         | 523           | 3.8    | 0.705     | 6.5         | LOS A            | 7.7               | 55.5     | 0.70      | 0.65                | 0.71             | 52.4        |
| 9                            | R2   | 319           | 7          | 336           | 2.2    | 0.705     | 10.5        | LOS B            | 7.7               | 55.5     | 0.71      | 0.65                | 0.72             | 52.1        |
| Approach                     |      | 926           | 28         | 975           | 3.0    | 0.705     | 7.9         | LOS A            | 7.7               | 55.5     | 0.68      | 0.64                | 0.69             | 52.3        |
| West: Avenue Road [W]        |      |               |            |               |        |           |             |                  |                   |          |           |                     |                  |             |
| 10                           | L2   | 123           | 6          | 129           | 4.9    | 0.344     | 6.6         | LOS A            | 1.7               | 12.2     | 0.58      | 0.77                | 0.58             | 51.9        |
| 11                           | T1   | 42            | 2          | 44            | 4.8    | 0.344     | 6.8         | LOS A            | 1.7               | 12.2     | 0.58      | 0.77                | 0.58             | 52.9        |
| 12                           | R2   | 90            | 4          | 95            | 4.4    | 0.344     | 11.0        | LOS B            | 1.7               | 12.2     | 0.58      | 0.77                | 0.58             | 52.7        |
| Approach                     |      | 255           | 12         | 268           | 4.7    | 0.344     | 8.2         | LOS A            | 1.7               | 12.2     | 0.58      | 0.77                | 0.58             | 52.3        |
| All Vehicles                 |      | 1833          | 72         | 1929          | 3.9    | 0.705     | 8.6         | LOS A            | 7.7               | 55.5     | 0.68      | 0.71                | 0.69             | 51.9        |

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

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

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.

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# MOVEMENT SUMMARY

**Site: 101 [SAT Future (Site Folder: Mt Barker Road - Pomona Road - Avenue Road)]**

New Site  
 Site Category: (None)  
 Roundabout

| 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 veh/h ] | [ Total veh/h ] | [ HV % ] |           |             |                  | [ Veh. veh ]      | [ Dist m ] |           |                     |                  |             |
| South: Mount Barker Road [S] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 1                            | L2   | 81              | 0            | 85              | 0.0      | 0.306     | 6.9         | LOS A            | 2.0               | 14.1       | 0.64      | 0.68                | 0.64             | 52.2        |
| 2                            | T1   | 381             | 8            | 401             | 2.1      | 0.306     | 6.9         | LOS A            | 2.0               | 14.1       | 0.64      | 0.70                | 0.64             | 53.0        |
| 3                            | R2   | 80              | 0            | 84              | 0.0      | 0.306     | 11.1        | LOS B            | 1.9               | 13.8       | 0.65      | 0.72                | 0.65             | 52.4        |
| Approach                     |      | 542             | 8            | 571             | 1.5      | 0.306     | 7.5         | LOS A            | 2.0               | 14.1       | 0.64      | 0.70                | 0.64             | 52.8        |
| East: Pomona Road [E]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 4                            | L2   | 88              | 0            | 93              | 0.0      | 0.614     | 15.9        | LOS B            | 5.3               | 37.0       | 0.90      | 1.07                | 1.21             | 46.7        |
| 5                            | T1   | 96              | 0            | 101             | 0.0      | 0.614     | 14.8        | LOS B            | 5.3               | 37.0       | 0.90      | 1.07                | 1.21             | 47.4        |
| 6                            | R2   | 139             | 0            | 146             | 0.0      | 0.614     | 19.0        | LOS B            | 5.3               | 37.0       | 0.90      | 1.07                | 1.21             | 47.3        |
| Approach                     |      | 323             | 0            | 340             | 0.0      | 0.614     | 16.9        | LOS B            | 5.3               | 37.0       | 0.90      | 1.07                | 1.21             | 47.2        |
| North: Mount Barker Road [N] |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 7                            | L2   | 107             | 0            | 113             | 0.0      | 0.188     | 7.7         | LOS A            | 1.0               | 6.8        | 0.55      | 0.68                | 0.55             | 51.9        |
| 8                            | T1   | 444             | 7            | 467             | 1.6      | 0.600     | 6.9         | LOS A            | 5.4               | 38.1       | 0.70      | 0.70                | 0.72             | 52.5        |
| 9                            | R2   | 170             | 0            | 179             | 0.0      | 0.600     | 10.9        | LOS B            | 5.4               | 38.1       | 0.70      | 0.70                | 0.72             | 52.3        |
| Approach                     |      | 721             | 7            | 759             | 1.0      | 0.600     | 7.9         | LOS A            | 5.4               | 38.1       | 0.68      | 0.70                | 0.69             | 52.4        |
| West: Avenue Road [W]        |      |                 |              |                 |          |           |             |                  |                   |            |           |                     |                  |             |
| 10                           | L2   | 170             | 2            | 179             | 1.2      | 0.511     | 8.6         | LOS A            | 3.1               | 21.5       | 0.70      | 0.92                | 0.83             | 50.6        |
| 11                           | T1   | 54              | 1            | 57              | 1.9      | 0.511     | 8.8         | LOS A            | 3.1               | 21.5       | 0.70      | 0.92                | 0.83             | 51.5        |
| 12                           | R2   | 122             | 0            | 128             | 0.0      | 0.511     | 13.0        | LOS B            | 3.1               | 21.5       | 0.70      | 0.92                | 0.83             | 51.5        |
| Approach                     |      | 346             | 3            | 364             | 0.9      | 0.511     | 10.2        | LOS B            | 3.1               | 21.5       | 0.70      | 0.92                | 0.83             | 51.1        |
| All Vehicles                 |      | 1932            | 18           | 2034            | 0.9      | 0.614     | 9.7         | LOS A            | 5.4               | 38.1       | 0.71      | 0.80                | 0.79             | 51.3        |

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

Roundabout LOS Method: SIDRA Roundabout LOS.

Vehicle movement LOS values are based on average delay per movement.

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

Roundabout Capacity Model: SIDRA Standard.

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.

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