

# **Proposed Mixed Use Development – No. 82 Marina Boulevard, Ocean Reef**

## Transport Impact Assessment

Prepared for: Saracen Developments Pty Ltd

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# Revision Schedule

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B	28 Mar 2024	For Issue	DR/JD/EH	PM	-	DH
C	4 Apr 2024	For Issue	DR/JD/EH	PM	-	DH

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# 1. Introduction

## 1.1 Background

Stantec has been commissioned by Saracen Developments Pty Ltd to conduct a Transport Impact Assessment for a proposed mixed-use development at No. 82 Marina Boulevard, Ocean Reef (the “Site”), located within the City of Joondalup.

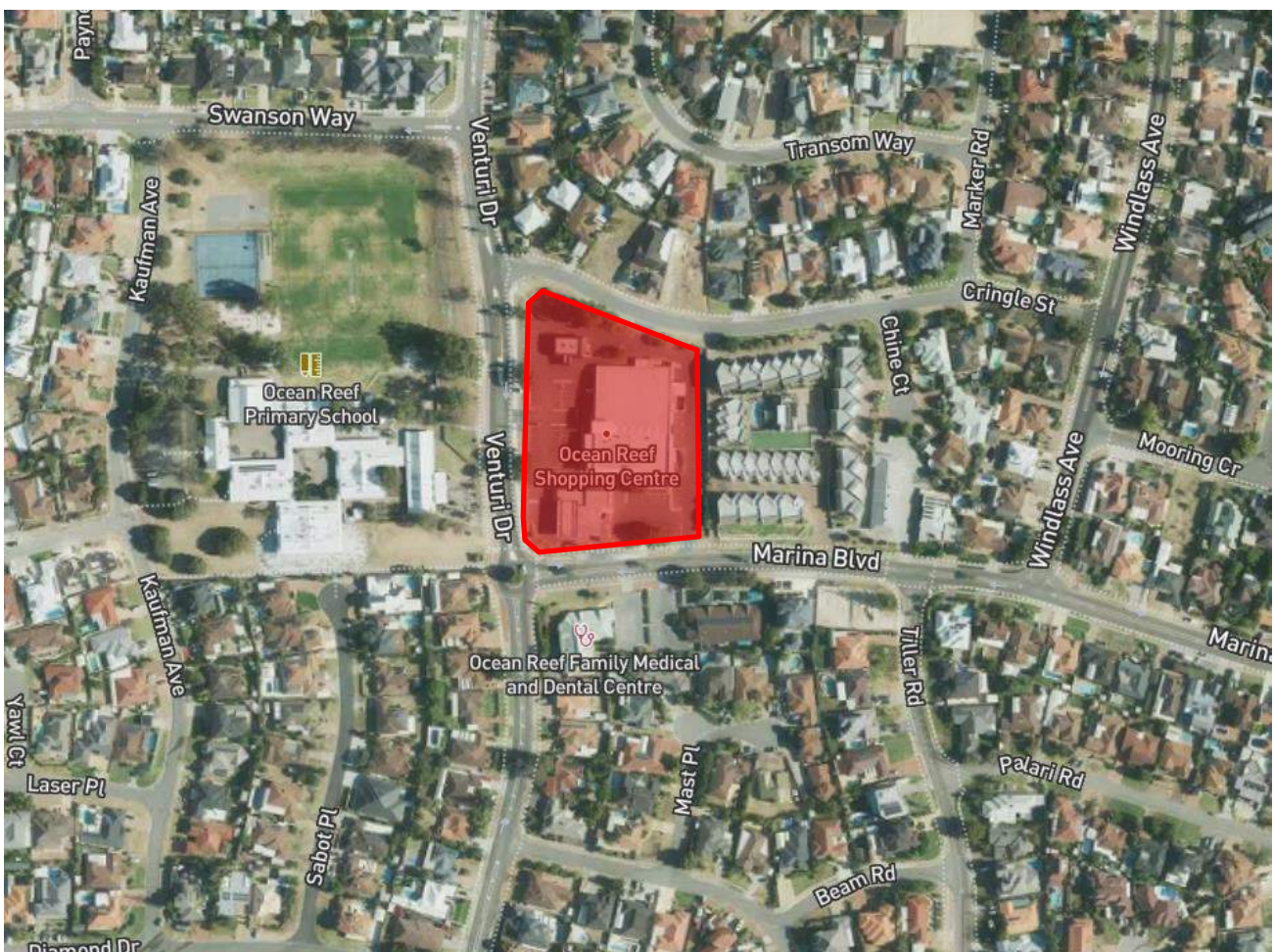
This report aims to assess the impacts of the proposed development upon the adjacent road network, focusing on traffic operations, circulation and car parking requirements.

This TIA has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)* and the checklist is included in **Appendix A**.

## 1.2 Site Context

The Site is located at No. 82 Marina Boulevard, Ocean Reef. **Figure 1-1** shows an aerial image of the Site. The Site consists of an existing shopping centre development.

**Figure 1-1 Aerial Image of Site**



Source: Metromap (2022)

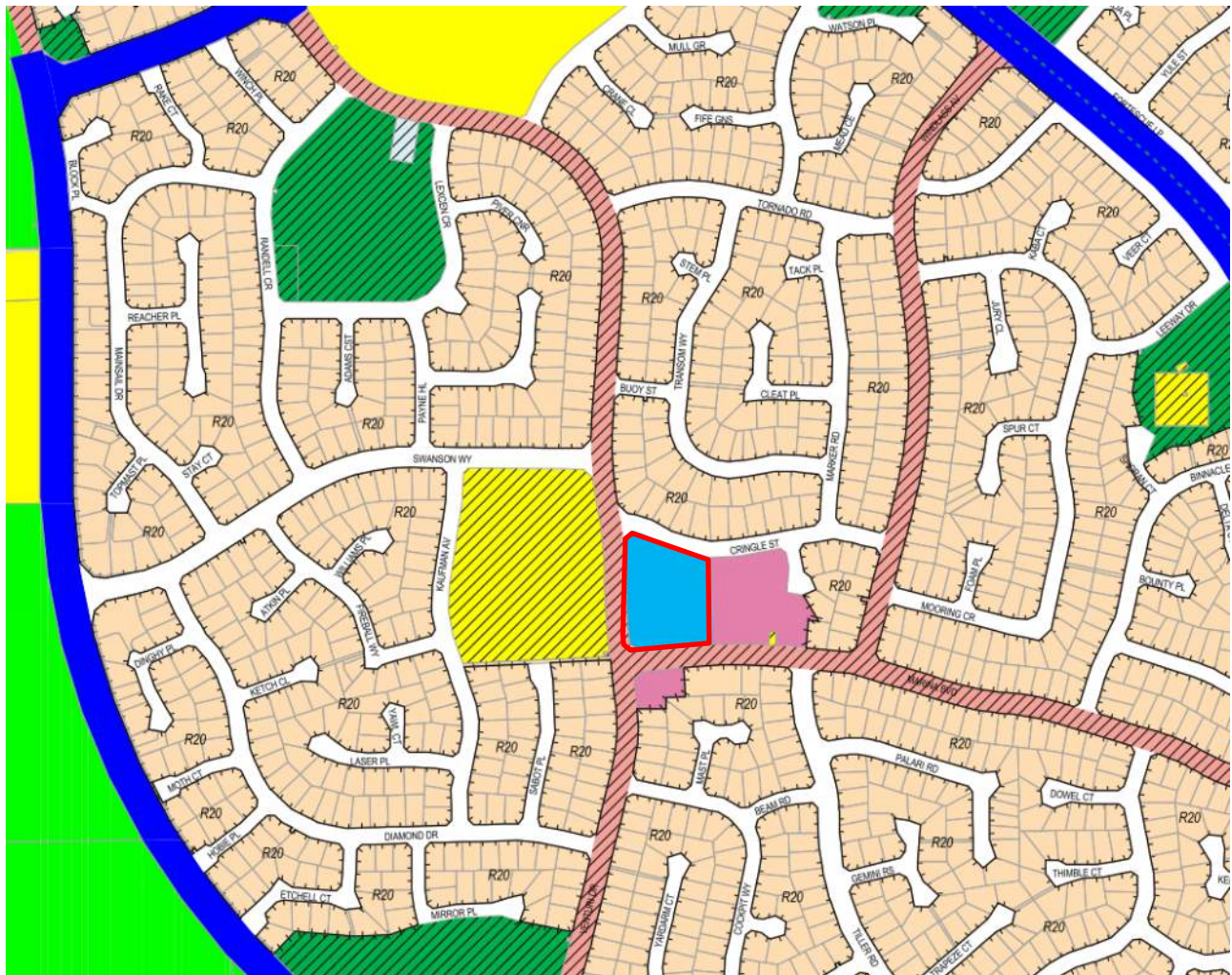


## 2. Existing Situation

### 2.1 Surrounding Land Uses

Pursuant to the provision of the *City of Joondalup Local Planning Scheme No. 3 (LPS3)*, the Site is zoned 'Commercial' as shown in **Figure 2-1**. The Site is surrounded by residential land use to the north, mixed-use land uses to the east and south, with public purpose to the west.

**Figure 2-1 City of Joondalup Zoning**



Zones		
 Residential	 Commercial	 Light Industry
 Urban Development	 Mixed Use	 Private Community Purposes
 Rural	 Service Commercial	
	 Centre	

Source: City of Joondalup Local Planning Scheme No. 3

## 2.2 Existing External Road Network

Road classifications are defined in the Main Roads Functional Hierarchy as follows:

- **Primary Distributors (light blue):** Form the regional and inter-regional grid of Main Roads WA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes and all are National or State Roads WA.
- **Regional Distributors (red):** Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by Local Government
- **District Distributor A (green):** These carry traffic between industrial, commercial and residential areas and connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining properties. They are managed by Local Government.
- **Distributor B (dark blue):** Perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside adjoining property. These are often older roads with traffic demand in excess of that originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- **Local Distributors (orange):** Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local Government.
- **Access Roads (grey):** Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly. They are managed by Local Government.

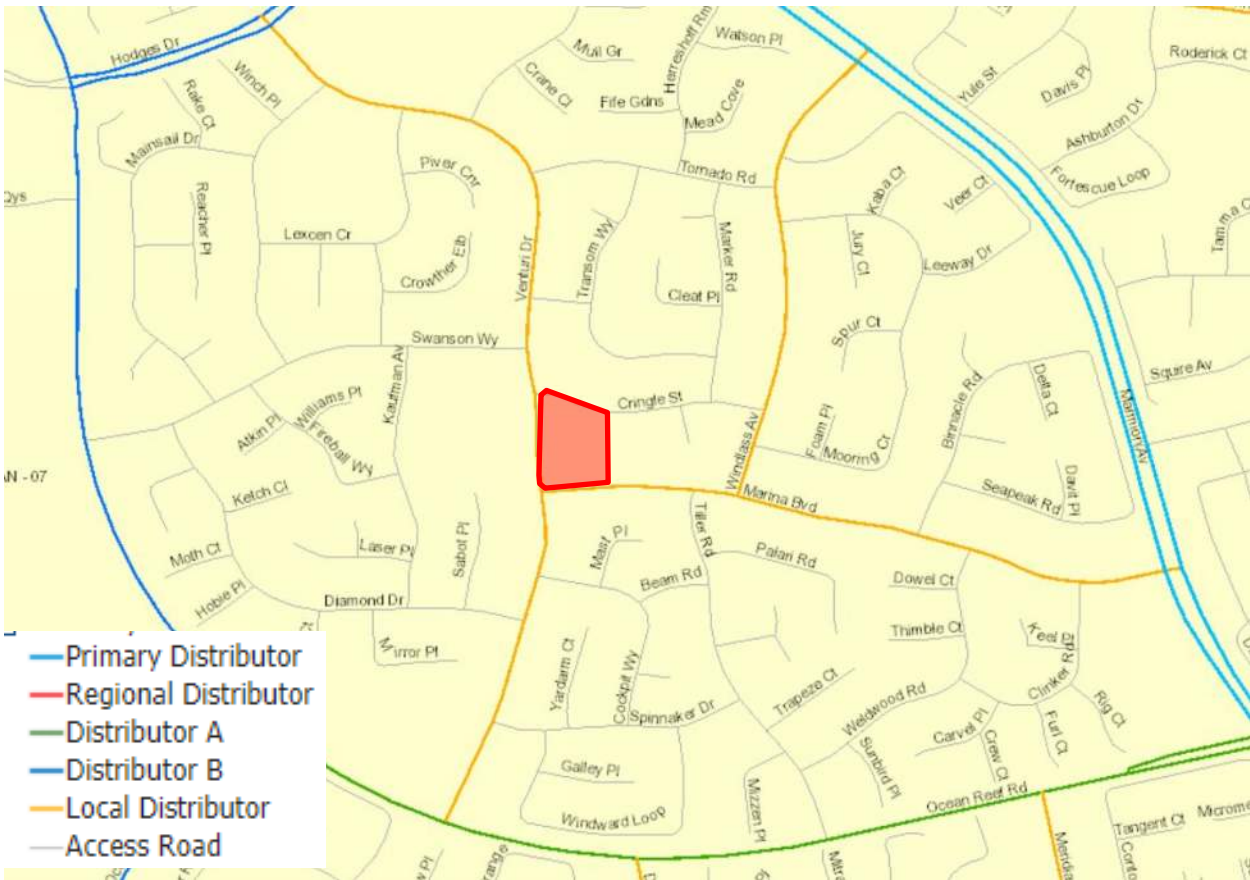
The Site is bounded by Cringle Street to the north, Marina Boulevard to the south and Venturi Drive to the west. The characteristics of the surrounding road network is further summarised in **Table 2-1** and **Figure 2-2** shows the road hierarchy as per the Main Roads WA Road Information Mapping System.

**Table 2-1 Road Network Classification**

Street Names	Road Hierarchy			Road Network		
	Road Hierarchy	Jurisdiction	No. of Lanes	No. of Footpaths	Width (m)	Posted Speed
Marina Boulevard	Local Distributor	Local Government	2	2	9m (2m median)	50 km/h
Cringle Street	Access Road	Local Government	2	1	7m	50km/h
Venturi Drive	Local Distributor	Local Government	2	2	11m (3m median)	50 km/h



**Figure 2-2 Road Hierarchy**



Source: Main Roads Road Information Mapping System (2022)

## 2.3 Existing Traffic Volumes

The City of Joondalup does not have existing traffic volumes near the Site. A traffic count was undertaken on August 11, 2022 and August 13, 2022 for the surrounding road network near the Site as shown in **Figure 2-3** to **Figure 2-5**.

Figure 2-3 Weekday Morning Peak Hour Traffic Volumes

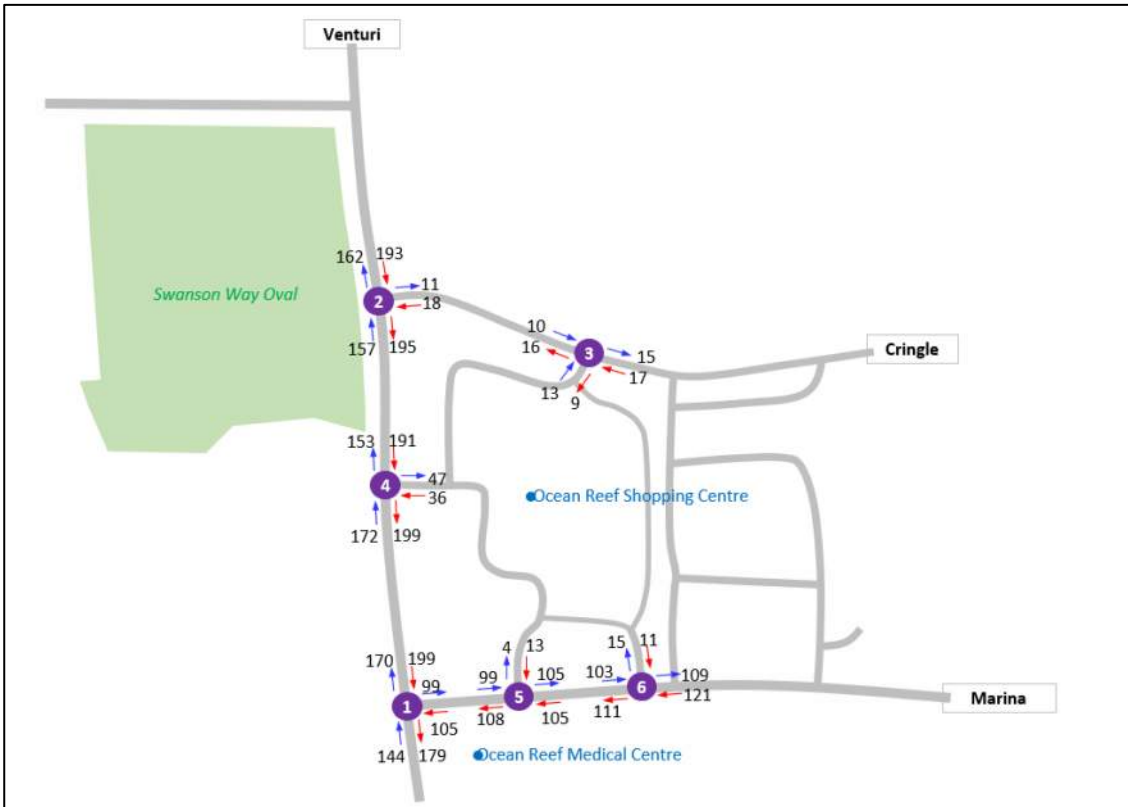


Figure 2-4 Weekday Afternoon Peak Hour Traffic Volumes

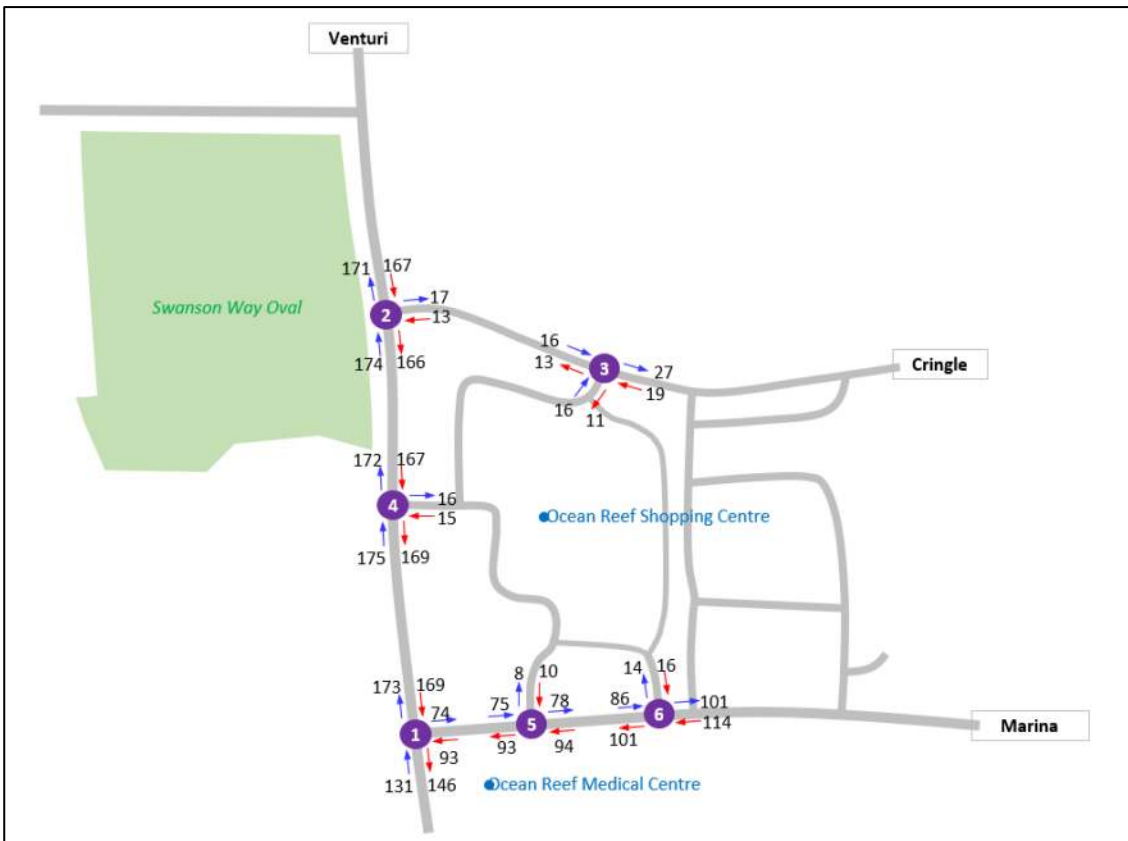
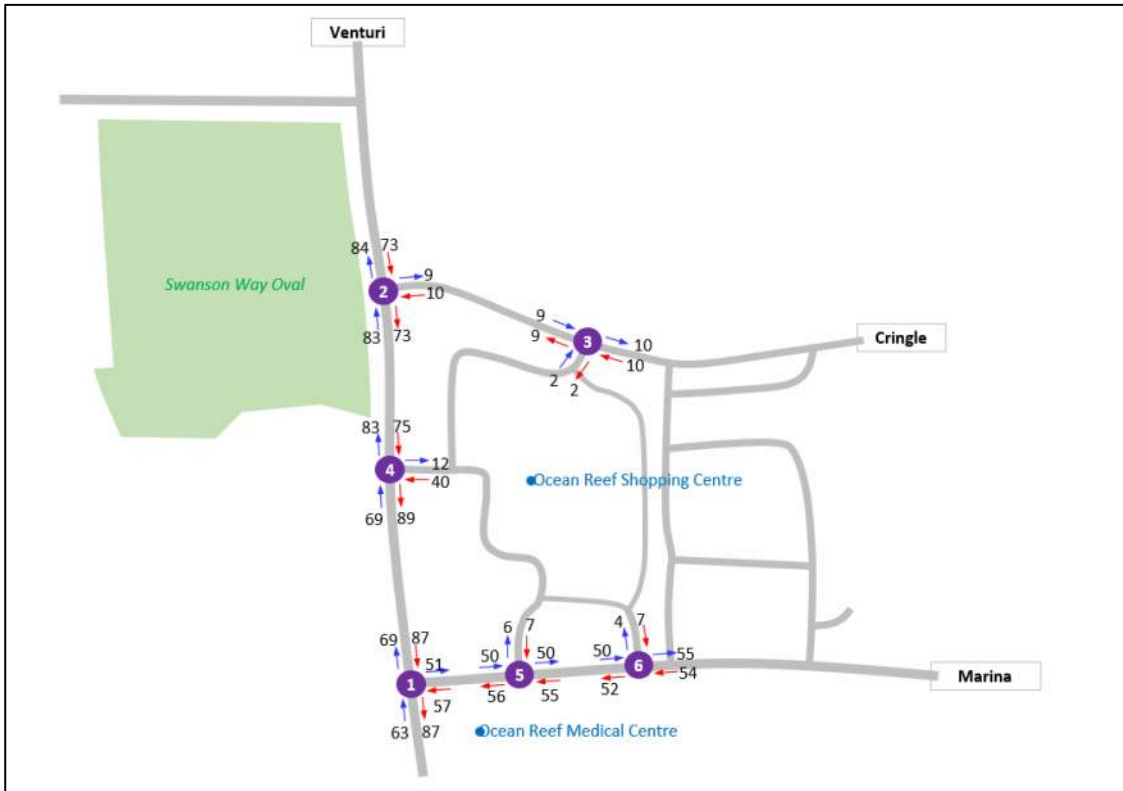


Figure 2-5 Weekend Peak Hour Traffic Volumes



## 2.4 Existing Public Transport Facilities

The nearest bus stops are located approximately 100m from the Site as shown in **Figure 2-6**. Bus route 460 operates from these stops, which services Whitfords Station as illustrated in **Figure 2-7**. The frequency of the bus route available for the Site is tabulated in **Table 2-2**. The Site is surrounded by good public transport facilities.

**Figure 2-6 Nearest Bus Stops**



Source: Metromap (2022)

**Figure 2-7 Existing Bus Routes**



Source: Transperth Network Maps



**Table 2-2 Bus Service Frequency**

Bus Route	Weekday	Saturday	Sunday & Public Holiday
460	20-30 mins	No service	No service

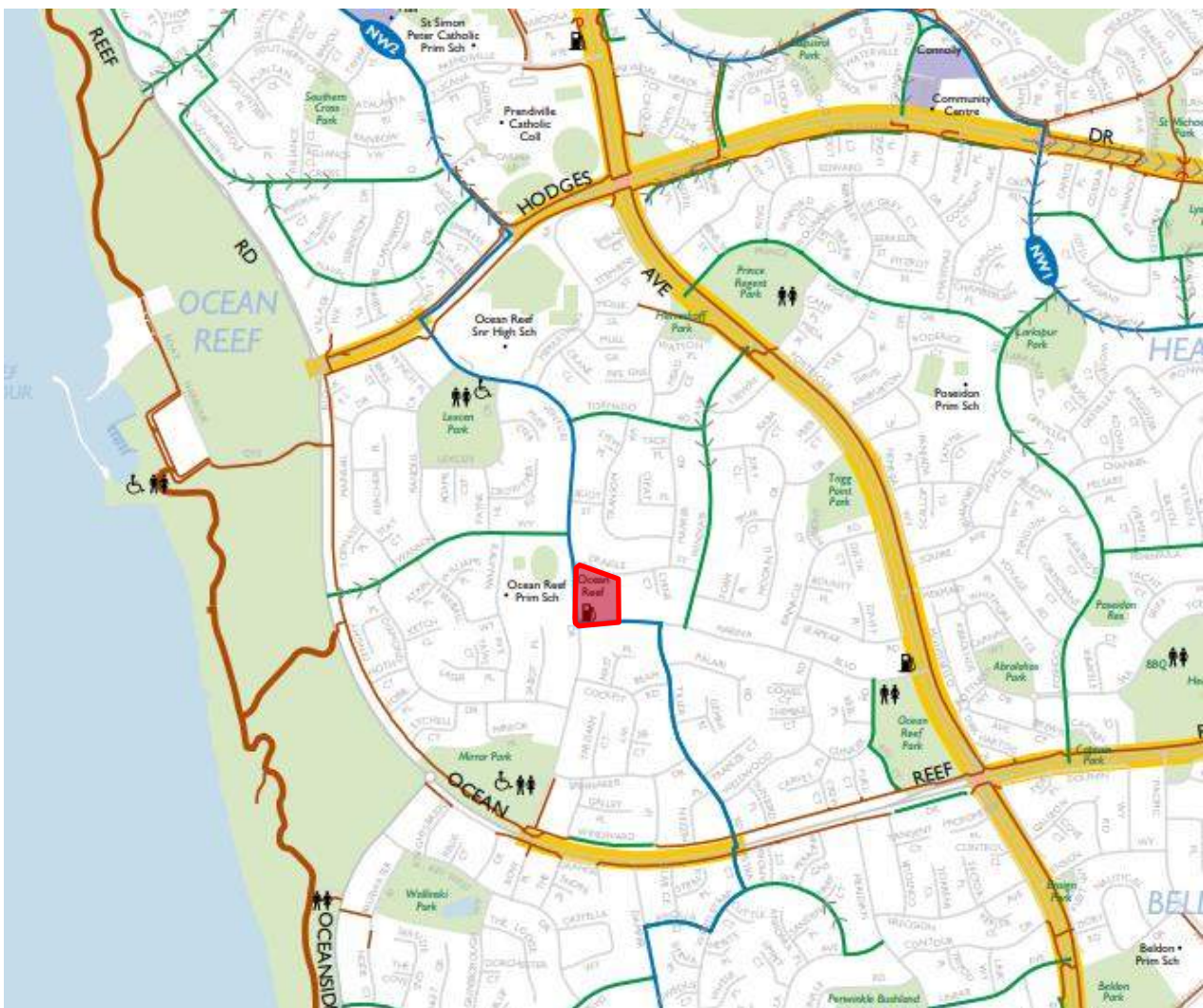
Source: Transperth

## 2.5 Existing Pedestrian/Cycle Network Facilities

A footpath is provided along both sides of Marina Boulevard and along one side of Cringle Street. The Perth Bicycle Networks runs along Venturi Drive, a portion of Marina Boulevard and down Tiller Road. “Good Road Riding Environments” stretch along Swanson Way, Tornado Road and Windlass Avenue, as shown in **Figure 2-8**.

Overall, the Site is surrounded by good pedestrian and cycle network facilities.

**Figure 2-8 Pedestrian and Cycling Network**



Source: Department of Transport



## 2.6 Existing Crash Data

A crash assessment for the surrounding road network of the Site has been completed using the Main Roads WA Reporting Centre. The assessment considered all the recorded accidents between 1 January 2019 and 31 December 2023 for the boundary shown in **Figure 2-9**.

**Figure 2-9** Crash analysis boundary



The results showed that there are no crashes that occurred adjacent to the site. It is unlikely that the proposed development would have any significant impact on road safety in the area.



# 3. Proposed Development

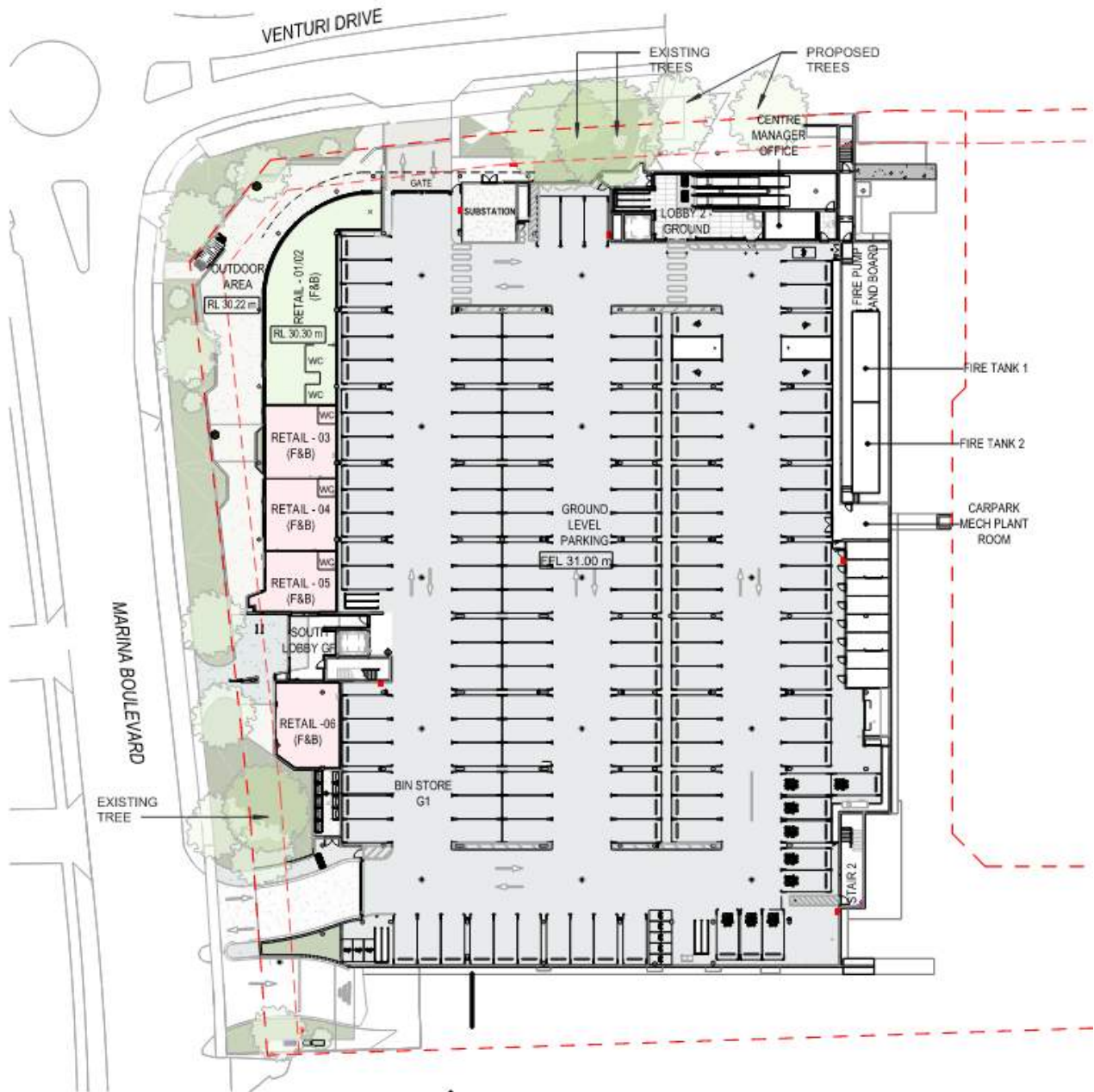
## 3.1 Proposed Development

The proposal is for a mixed-use development, comprising of the following site-specific design components (the retail components of which are provided in a consolidated shopping centre format), spanning three storeys:

- Shopping Centre (5,611m<sup>2</sup>)
  - Retail (1,855m<sup>2</sup>);
  - Supermarket (1,516m<sup>2</sup>);
  - Medical Centre (283m<sup>2</sup>);
  - Gym (1099m<sup>2</sup>).
  - Food and Beverage (301m<sup>2</sup>).
  - Commercial (557m<sup>2</sup>)
- Tavern (863m<sup>2</sup>);
- Fuel Station with a Drive-thru Coffee Shop (6 Fuel Bowsers)
- Fast Food (168m<sup>2</sup>); and
- Child Care (1,044m<sup>2</sup>) – 80 places;
- 265 car parking bays (plus 12 spaces at the service station pump positions, 9 spaces at the fast food drive thru and 11 spaces at the coffee drive thru)

The layout of the proposed development on this Site is shown in **Figure 3-1** through to **Figure 3-4**. Note the higher resolution plans are included in **Appendix B**.

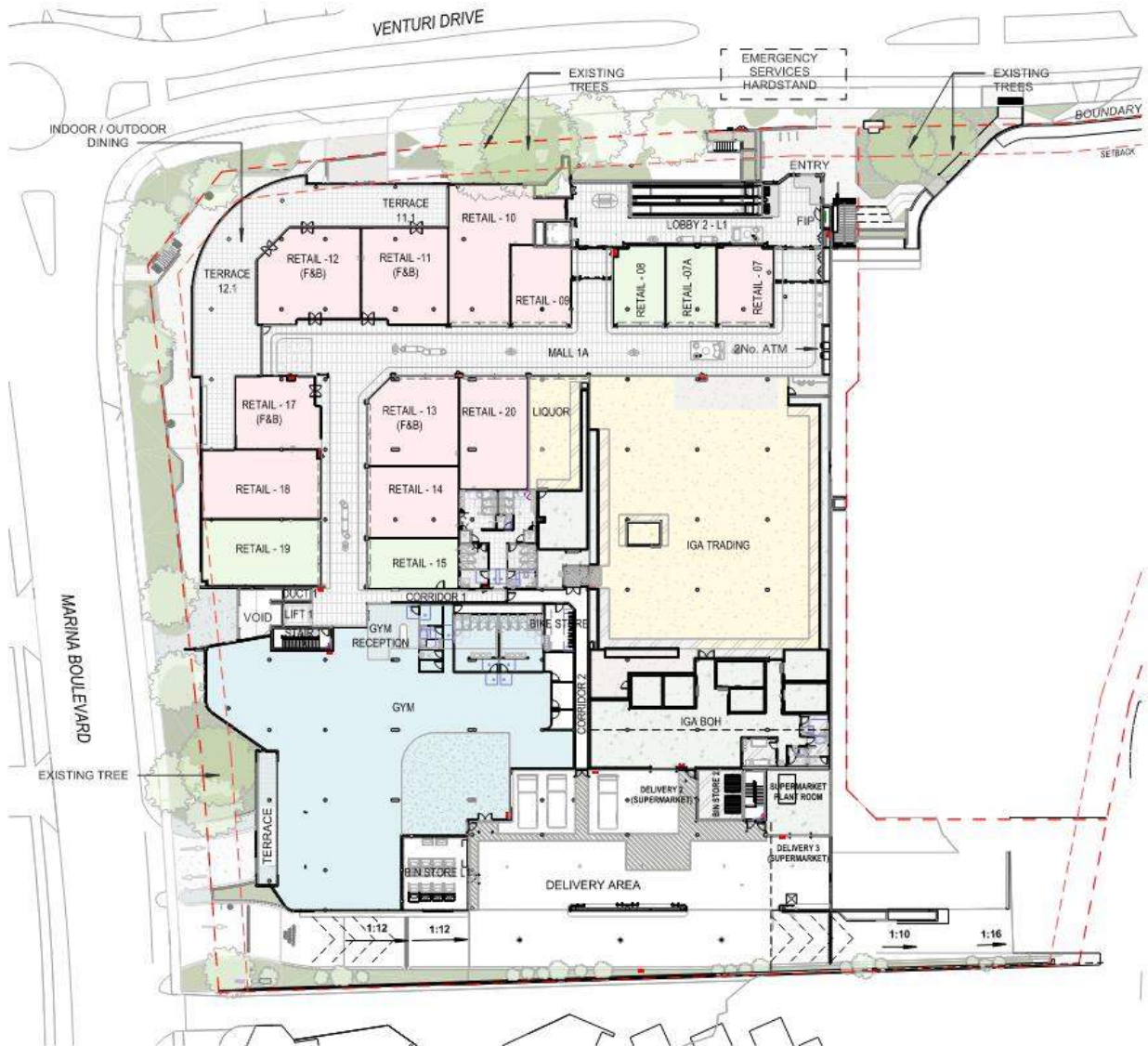
Figure 3-1 Ground Floor Plan



Source: Cameron Chisholm Nicol (2022)

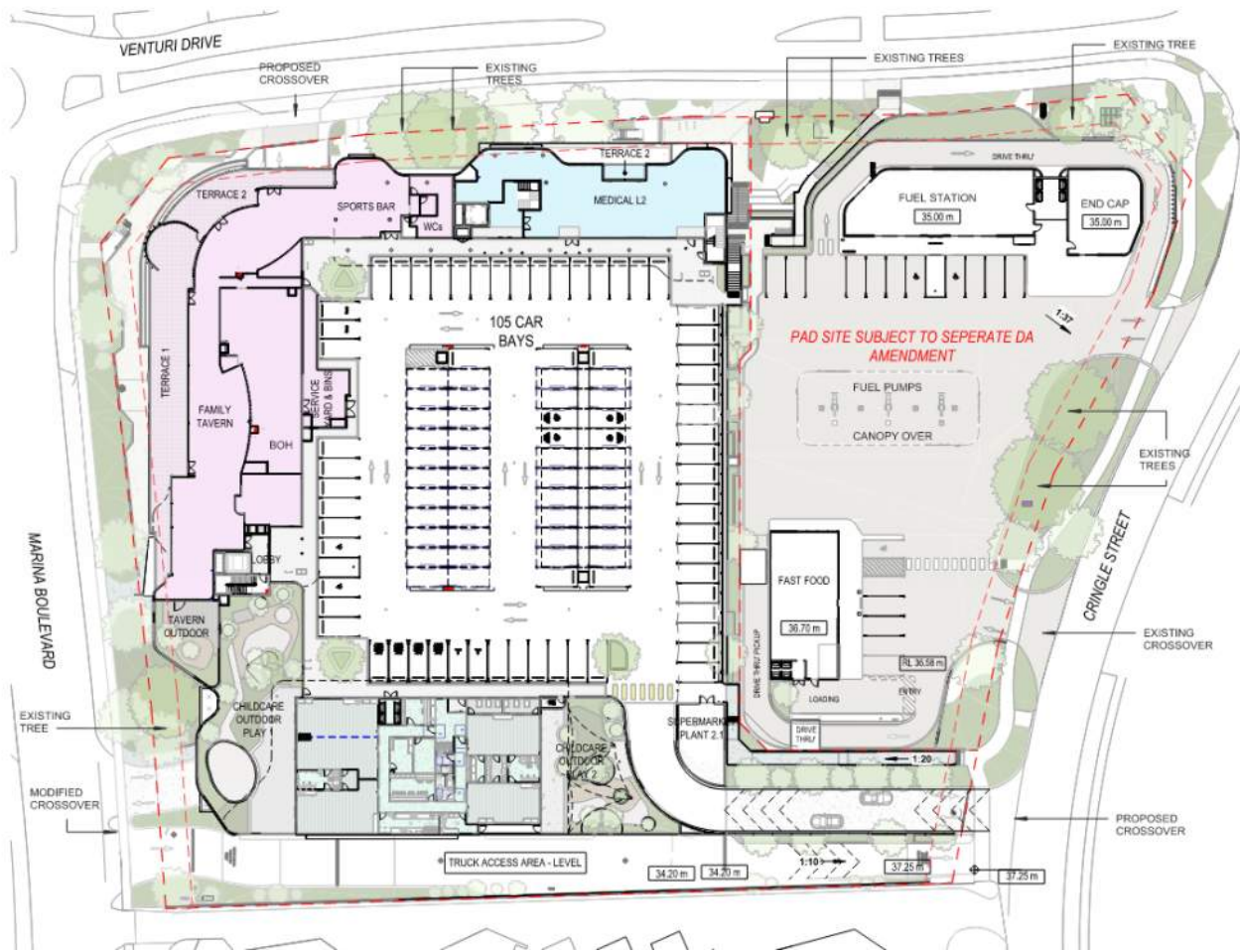


Figure 3-2 Level One Plan



Source: Cameron Chisholm Nicol (2022)

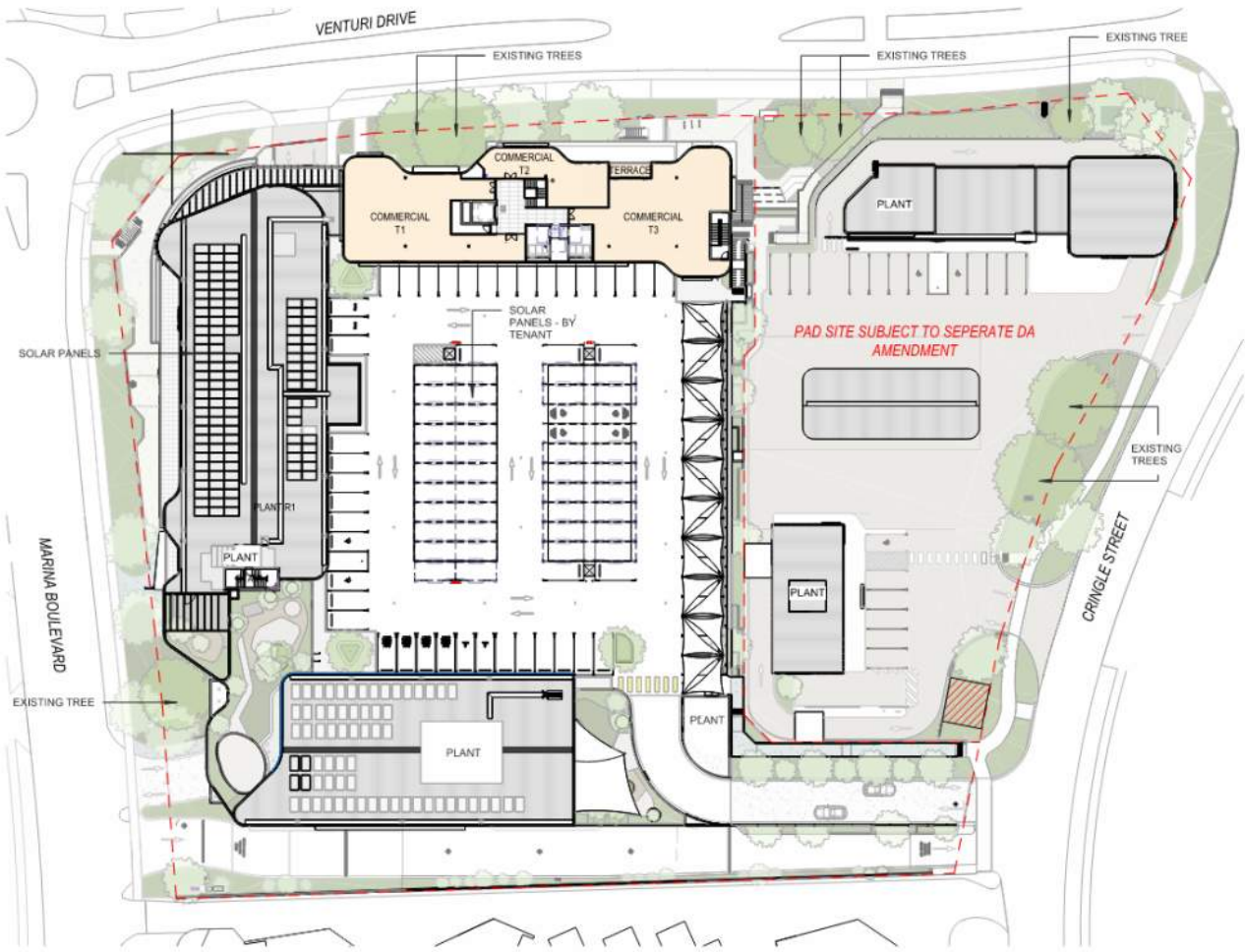
Figure 3-3 Level Two Plan



Source: Cameron Chisholm Nicol (2022)



Figure 3-4 Level Three Plan

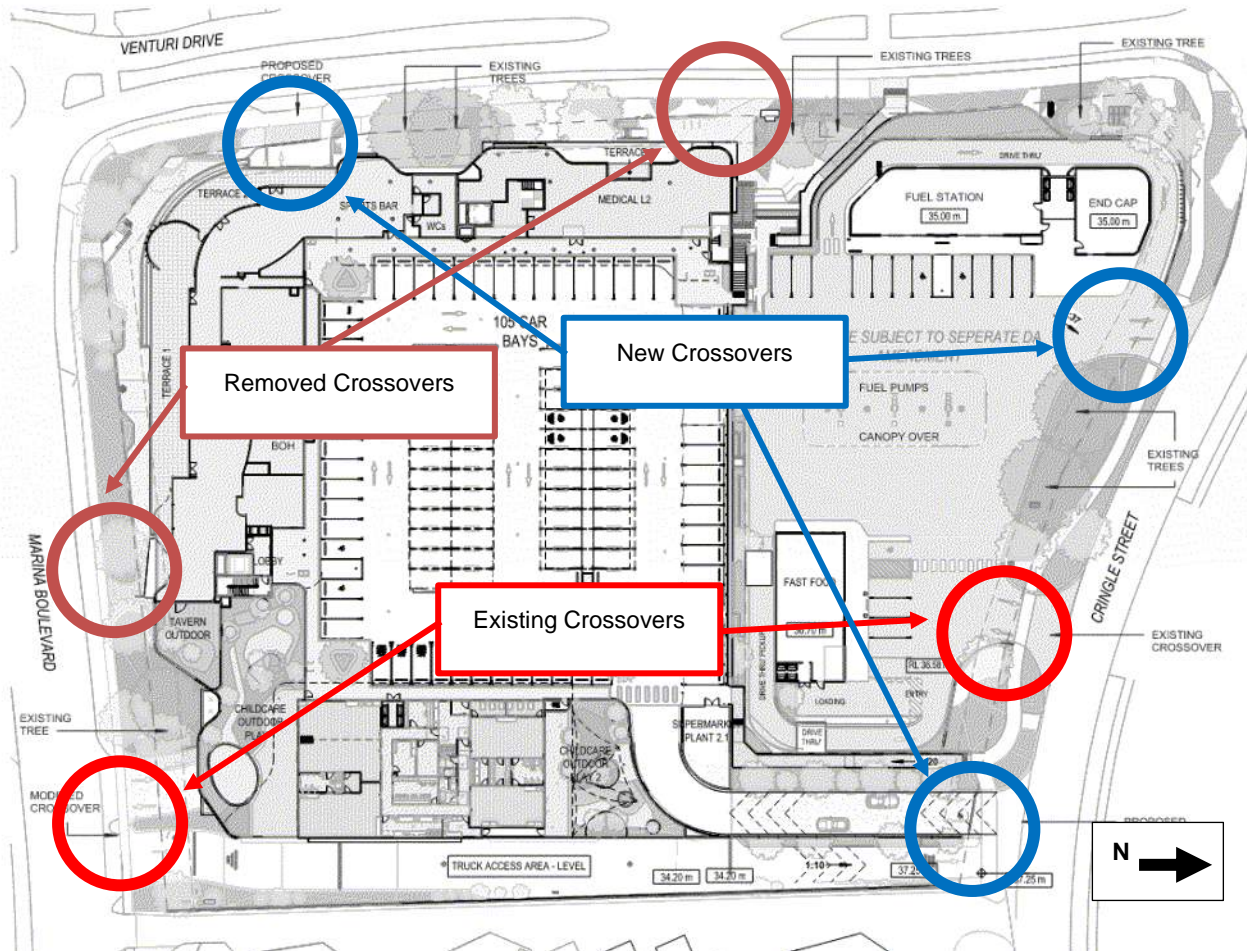


Source: Cameron Chisholm Nicol (2022)

## 3.2 Access Arrangements

Vehicular access to/from the Site is proposed to be via the 5 crossovers shown in **Figure 3-5**.

**Figure 3-5 Access Arrangements**



Source: Cameron Chisholm Nicol (2022)

All access points are proposed to be constructed with full-movement, and have been assessed to identify any potential safety or operational impacts.

The proposed access for the site is described as follows:

- Marina Boulevard: Full movement access to Ground Level car park / inbound service vehicle access  
*Linemarking/hatching at service vehicle entry will be used to reinforce desired function. Visually presenting as a standard access arrangement.*
- Venturi Drive: Full movement access to Ground Level car park
- *Secondary access relocated approximately 45m south of exiting entry due to topographical issues.*
- Cringle Street: Full Movement Service Station Access (existing)  
*Retained full-movements crossover allows for efficient and safe service station movements and direct connection to the TCC express module.*
- Cringle Street: Full Movement Service Station Access (new)



New full full-movements crossover allows for efficient and safe service station movements

- Cringle Street: Full Movement access to Level 1 Car park / outbound service vehicle egress

Linemarking/hatching at service vehicle exit will be used to reinforce desired function. Visually presenting as a standard access arrangement.

### 3.3 Provision for Service Vehicles

A swept path analysis was undertaken for the following design vehicles accessing the Site:

- 19m semi-trailer via Service vehicle driveway to Delivery Area
- 12.5m tanker via Cringle Street Service Station Access (future)
- 8.8m delivery via Cringle Street Service Station Access (existing)

These movements are shown in **Figure 3-6** through **Figure 3-8**. In all cases, the design vehicle is able to access and egress the identified loading areas effectively and safely.

**Figure 3-6 Swept Path for 19m semi-trailer truck (to Delivery Area)**





Figure 3-7 Swept Path for 12.5m tanker to Service Station

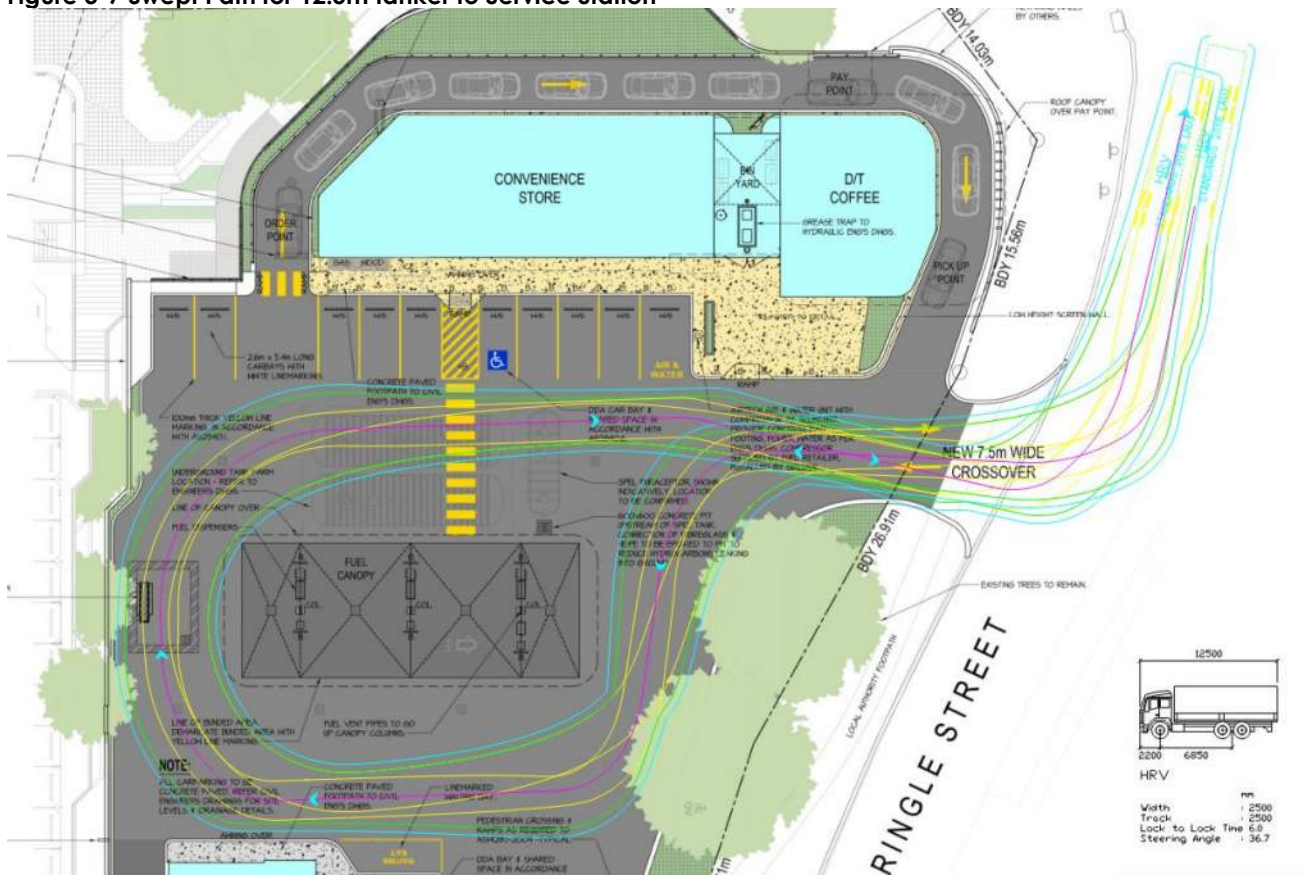
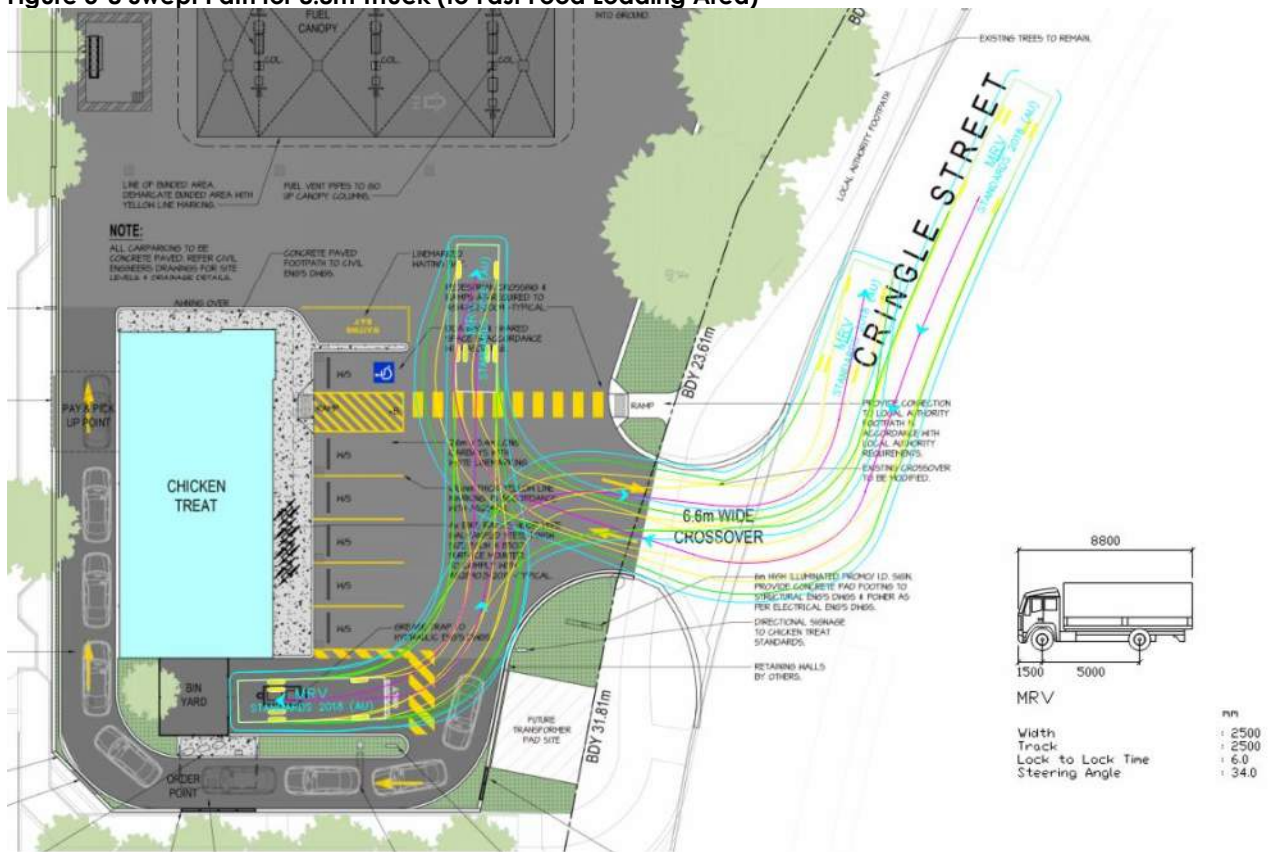


Figure 3-8 Swept Path for 8.8m Trtuck (to Fast Food Loading Area)



## 4. Parking Supply

### 4.1 Car Parking Requirements

The Statutory parking requirements, in accordance with the *City of Joondalup Commercial, Mixed Use and Service Commercial Zone Local Planning Policy* has been considered in the context of the proposed development and are summarised below in **Table 4-1**.

**Table 4-1 Car Parking Provision and Requirements**

Proposed Land Use	Requirements	Yield	Parking Required	Parking Provided
Shopping Centre	1 per 20m <sup>2</sup> NLA (shopping centres under 30,000m <sup>2</sup> )	5,611 sqm	280 bays	249 bays
Office	1 per 50m <sup>2</sup> NLA	557 sqm	11 bays	
Tavern	1 per 5m <sup>2</sup> of bar and dining area	863 sqm	172 bays	
Child Care Centre	1 per staff member plus 1 per 7 children	8 staff & 80 children	20 bays	
Service Station/café	5 per service bay plus 1 bay per 20m <sup>2</sup> NLA of sales/display area	6 fuel bowsers	30 bays	39 bays (16 bays plus space for at least 2 vehicles queued at each bowser (12) and at least 11 vehicles queuing at the café drive thru))
Fast Food	1 per 4 people in seated areas plus 1 per 15m <sup>2</sup> for non seating serving areas	40 seats	10 bays	9 bays (space for at least 9 vehicles queue at the drive thru)
<b>Total</b>			<b>523 bays</b>	<b>297 bays</b>
<b>Shortfall</b>				<b>-226 bays</b>

**Table 4-1** shows that proposed parking provision for the Site is insufficient in accordance with the car parking requirements as described in *the City of Joondalup Commercial, Mixed Use and Service Commercial Zone Local Planning Policy*. A total of 297 car parking bays are proposed on-site which suggests a significant theoretical shortfall. The parking provision, however, will be shared across all of the constituent land uses: shopping centre retail, tavern, gym and child care centre.

These establishments each have different operating hours. Peak childcare parking demand is in the early morning (7am-9am) and in the afternoon (3:30pm-5:30pm). Outside of these times, parking is used only by staff. Retail parking demand is highest around midday, on both weekdays and weekends, while the tavern and restaurant will be busiest in the evening, after the retail centre closes. Office demand is relatively consistent through the weekday period but is almost non-existent after hours and on weekends.

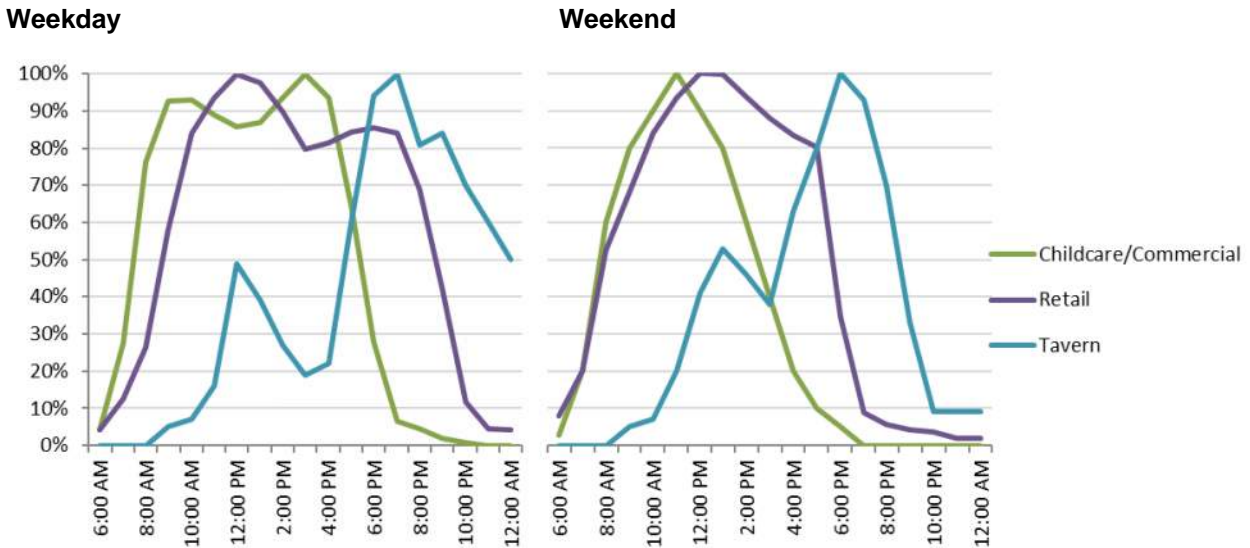
A parking demand assessment has been undertaken to show the impacts of shared and reciprocal parking across the Centre, with the results shown in **Figure 4-1**. A brief methodology of the parking demand assessment is provided, as follows:

- The following assessment is based on best-practice profiles from the Urban Land Institute's Shared Parking and Institute of Transport Engineers ITE Parking Generation parking supply rates for the proposed development land uses.



- This analysis includes a detailed understanding of the effects of mixed-use synergies (trip containment) between the uses on-site, and between the Site and the surrounding development within a reasonable walking catchment (<400m).
- Parking demand varies across the day, with different peak times for each land use. The figure below describes best-practice weekday/weekend parking demand profile for development land uses.

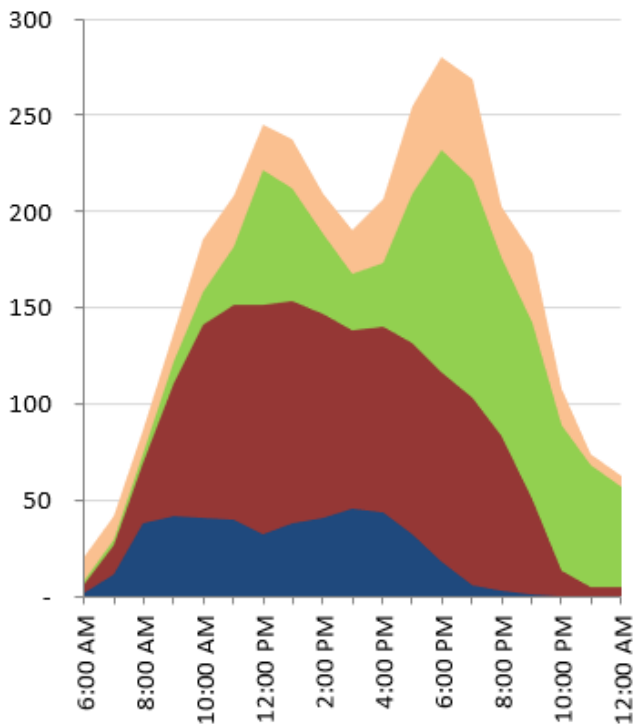
**Figure 4-1 Parking Demand Profiles**



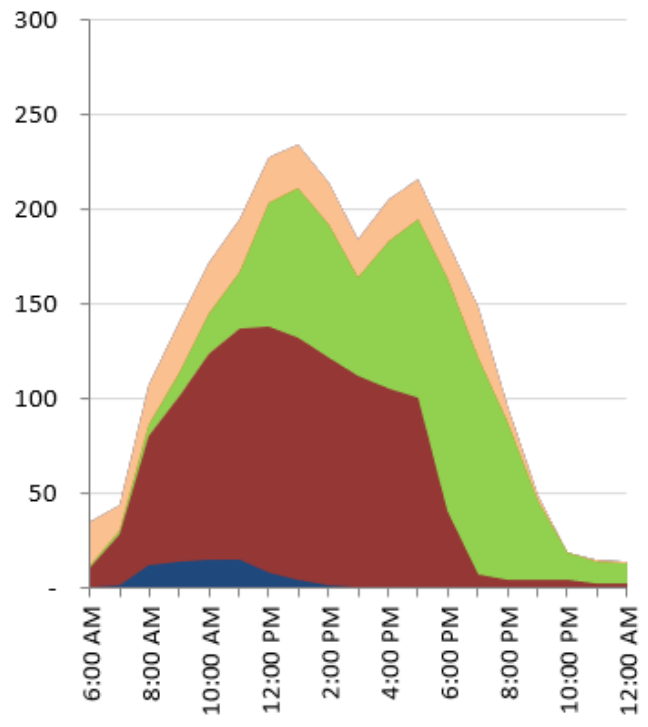
- Applying the development yields to these parking demand profiles results in a projection for parking demand across the day, by land use. These generation rates assume car-as-driver mode share to the development is consistent with an isolated suburban site, for each land use.
- These profiles show the effect of shared parking, with the peak of each land use at a different time of day. There is some consideration in the projection above for the effect of internal trip capture within the 400m walking catchment (e.g. on-site and nearby residents walking to restaurants and retail), resulting in a small decrease in parking demand.
- The combination of all of these parking demands is shown below.

Figure 4-2 Parking assessment – best practice demand rates

Weekday



Weekend



Gym Tavern/Fast Food Retail Office/Childcare

As demonstrated by the results of this assessment, there is a considerable reduction in parking demand as a result of internal trip capture and shared parking, with a projected peak demand of approximately 280 vehicles (approximately 94% of the proposed parking supply).

Note that this assumes that the tavern would be operating at maximum capacity on a Thursday – which is not considered to be reflective of common practice. As such, the supply-based assessment is considered to be overly conservative.



## 4.2 Bicycle Parking Requirements

The Statutory bicycle parking requirements, in accordance with the *City of Joondalup Commercial, Mixed Use and Service Commercial Zone Local Planning Policy* has been considered in the context of the proposed development and are summarised below in **Table 4-2**.

**Table 4-2 Bicycle Parking Provision and Requirements**

Proposed Land Use	Requirements	Yield	Parking Required		Parking Provided
Shopping Centre (shopping centres under 30,000m <sup>2</sup> )	Employee: 1 per 1500m <sup>2</sup> NLA	6,655 sqm NLA	5 spaces	8 spaces	27 spaces
	Visitor: 1 per 3000m <sup>2</sup> NLA		3 spaces		
Tavern	Employee: 1 per 150 sqm of bar and dining area	863 sqm (Assuming only 60% are intended for bar and dining area)	6 spaces	15 spaces	
	Visitors: 1 per 100 sqm of bar and dining area		9 spaces		
Fast Food	Visitors: 1 per 50 people accommodated	168 sqm	4 spaces	4 spaces	
<b>Total</b>				<b>27 spaces</b>	

The proposed development will provide a total of 27 spaces. The bicycle parking provision satisfies the *City of Joondalup's Local Planning Policy* requirements.

## 4.3 AS2890.1 Parking Review

**Table 4-3** shows the assessment of the parking compliance based on the requirements of AS2890.1 guideline.

**Table 4-3 Parking Compliance Review**

Parameter	Subcategory	Required	Provided	Remarks
Width	User Class 3	2.6	2.6	No non-compliance identified.
	ACROD	2.4	2.6	No non-compliance identified.
Length	User Class 3	5.4	5.5	No non-compliance identified.
	ACROD	5.4	5.5	No non-compliance identified.
Aisle Width	User Class 3	5.8	6.5	No non-compliance identified.
	ACROD	5.8	6.5	No non-compliance identified.
Bollard Distance		750-850mm	800mm	No non-compliance identified.
Circulation roadway width	Straight, two-way	5.5	6.5	No non-compliance identified.
Vehicle envelope requirements		Vehicle envelope clear of permanent obstructions		No non-compliance identified.

## 4.4 Swept Paths

Swept path analysis was undertaken using a B85 and B99 design vehicle and shown in **Figure 4-3** and **Figure 4-4**. The swept path analysis shows that the design vehicles is able to adequately manoeuvre through the aisles, ramps and parking bays without encroachments. Full resolution plans are included in **Appendix C**.

**Figure 4-3 Basement Level Swept Path for B85/B99**

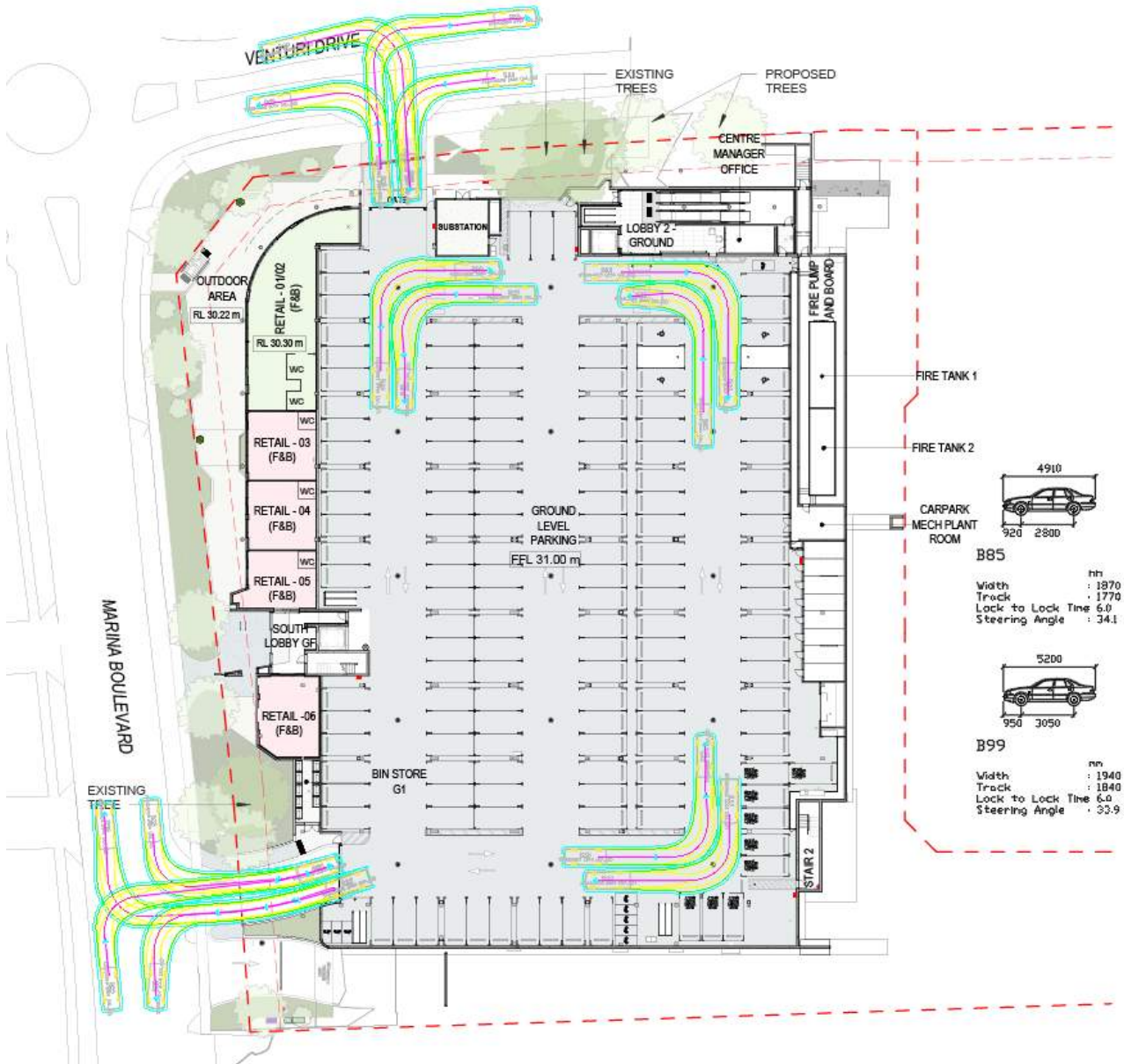
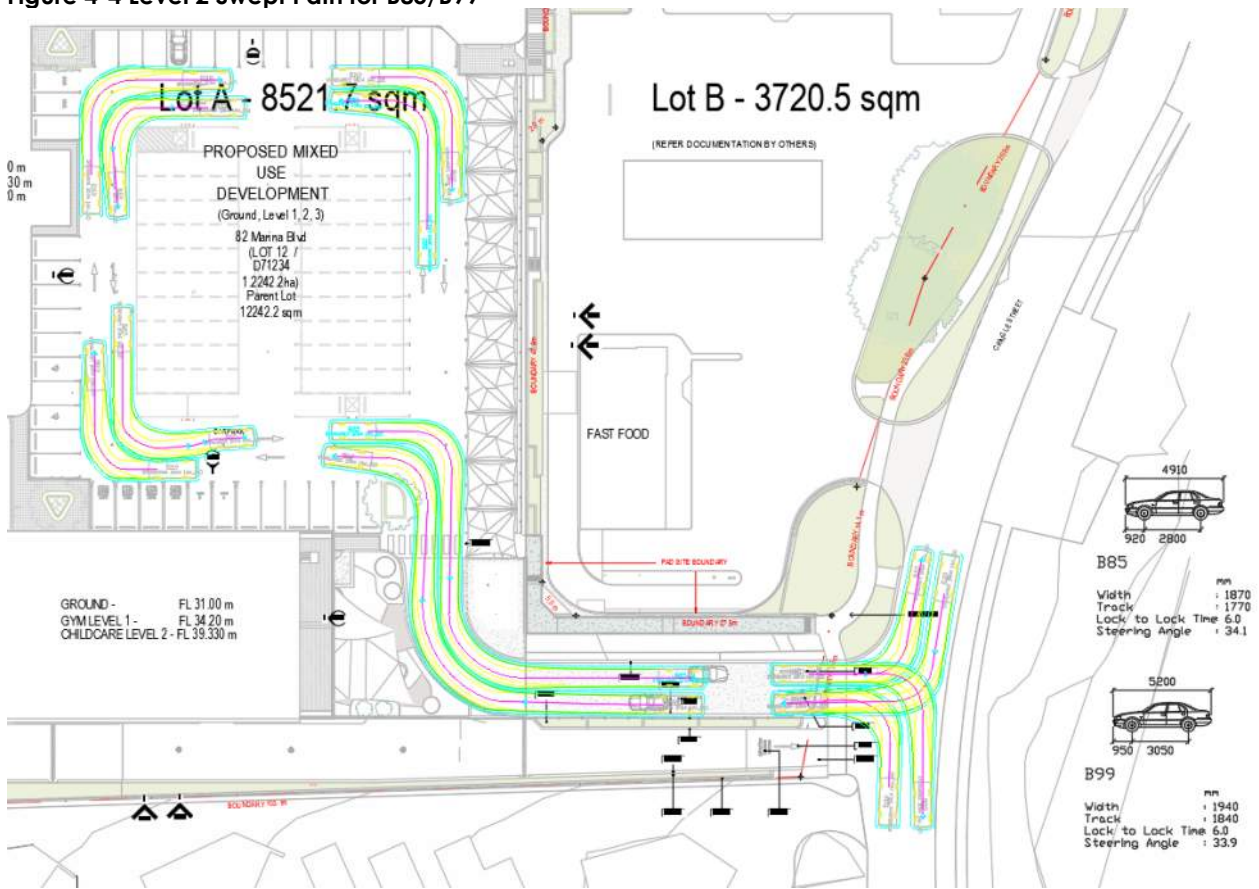


Figure 4-4 Level 2 Swept Path for B85/B99





## 5. Changes to Surrounding Transport Network

### 5.1 Road Network

No changes to the existing road network are proposed as part of this development.

### 5.2 Public Transport Network

Stantec contacted the Public Transport Authority and confirm no changes are proposed to the existing public transport network within the short term.

### 5.3 Pedestrian/Cycle Network

Stantec contacted the City of Joondalup and confirm no changes are proposed to the existing pedestrian/cycle network within the short term.



## 6. Transport Analysis

### 6.1 Assessment Years and Time Period

The peak times selected are 8:00 AM to 9:00 AM and 2:45 PM to 3:45 PM respectively for the morning and afternoon peak periods on weekdays, while the peak hour of 11:00 – 12:00 was selected for the weekend peak period.

The following model scenarios have therefore been analysed as part of this assessment:

- Scenario 1 – Scenario 1 – 2022 Existing Traffic without Development (Weekdays Peaks and Weekend Peak);
- Scenario 2 – 2025 Traffic with Development (Weekdays Peaks and Weekend Peak); and
- Scenario 3 – 2035 Traffic with Development (Weekdays Peaks and Weekend Peak).

### 6.2 Key Intersections

The key intersections analysed are as listed below:

- Marina Boulevard/ Venturi Drive; and
- Cringle Street/ Venturi Drive

### 6.3 Trip Generation

Trip generation has been calculated for the proposed development utilising trip generation rates from the *Institute of Transportation Engineers (ITE) "Trip Generation" 10th Ed.* The following tables summarise the directional distribution and the estimated total trips to be generated by the proposed development.

**Table 6-1** provides the trip generation rates for the AM and PM peak hour periods. **Table 6-2** outlines the directional distribution and **Table 6-3** indicates the total trips expected to be generated by the proposed development.

**Table 6-1 Trip Generation Rate – Peak Hour Generator**

Land Use	Source	Yield	AM Peak Rate	PM Peak Rate	Saturday Peak Rate
Retail	820	1855.15 sqm	3.23 trips per 100 sqm	4.53 trips per 100 sqm	4.84 trips per 100 sqm
Supermarket	850	1516.03 sqm	7.18 trips per 100 sqm	8.18 trips per 100 sqm	11.13 trips per 100 sqm
Gym	492	1099.61 sqm	1.51 trips per 100 sqm	4.22 trips per 100 sqm	3.43 trips per 100 sqm
F&B	899	300.86 sqm	4.9 trips per 100 sqm	18.43 trips per 100 sqm	18.43 trips per 100 sqm
Tavern	932	300 seats	0 trips per seat	0.44 trips per seat	0.28 trips per seat
Child Care	RMS	80 children	0.8 trips per child	0.7 trips per child	0 trips per child
Commercial	820	557.06 sqm	3.23 trips per 100 sqm	4.53 trips per 100 sqm	4.84 trips per 100 sqm
Fuel	RMS	6 Fuel Bowser	11.7 trips per fuel bowser	16.6 trips per fuel bowser	14.9 trips per fuel bowser
Drive Thru Coffee	937	101.53 sqm	105.45 trips per 100 sqm	40.29 trips per 100 sqm	94.4 trips per 100 sqm
Medical	880	283.78 sqm	5.62 trips per 100 sqm	4.99 trips per 100 sqm	5.62 trips per 100 sqm
Fast Food	934	40 seats	1.36 trips per seat	1.63 trips per seat	2.39 trips per seat

**Table 6-2 Directional Distribution**

Land Use	AM		PM		Saturday	
	IN	OUT	IN	OUT	IN	OUT
Retail	54%	46%	50%	50%	52%	48%
Supermarket	52%	48%	52%	48%	51%	49%
Gym	46%	54%	52%	48%	49%	51%
F&B	51%	49%	50%	50%	50%	50%
Tavern	0%	0%	68%	32%	53%	47%
Child Care	53%	47%	47%	53%	0%	0%
Commercial	54%	46%	50%	50%	52%	48%
Fuel	51%	49%	50%	50%	51%	49%
Drive Thru Coffee	49%	51%	51%	49%	50%	50%
Medical	58%	42%	46%	54%	50%	50%
Fast Food	53%	47%	50%	50%	51%	49%

**Table 6-3 Total Trip Generation**

Land Use	AM		PM		Saturday	
	IN	OUT	IN	OUT	IN	OUT
Retail	32	28	42	42	47	43
Supermarket	57	52	64	60	86	83
Gym	8	9	24	22	19	19
F&B	8	7	28	28	28	28
Tavern	0	0	89	42	45	40
Child Care	34	30	26	30	0	0
Commercial	10	8	13	13	14	13
Fuel	36	34	50	50	46	44
Drive Thru Coffee	52	55	21	20	48	48
Medical	8	8	7	7	8	8
Fast Food	29	26	33	33	49	47
<b>Sub Total</b>	<b>273</b>	<b>257</b>	<b>397</b>	<b>345</b>	<b>388</b>	<b>372</b>
<b>Total</b>	<b>530</b>		<b>742</b>		<b>760</b>	

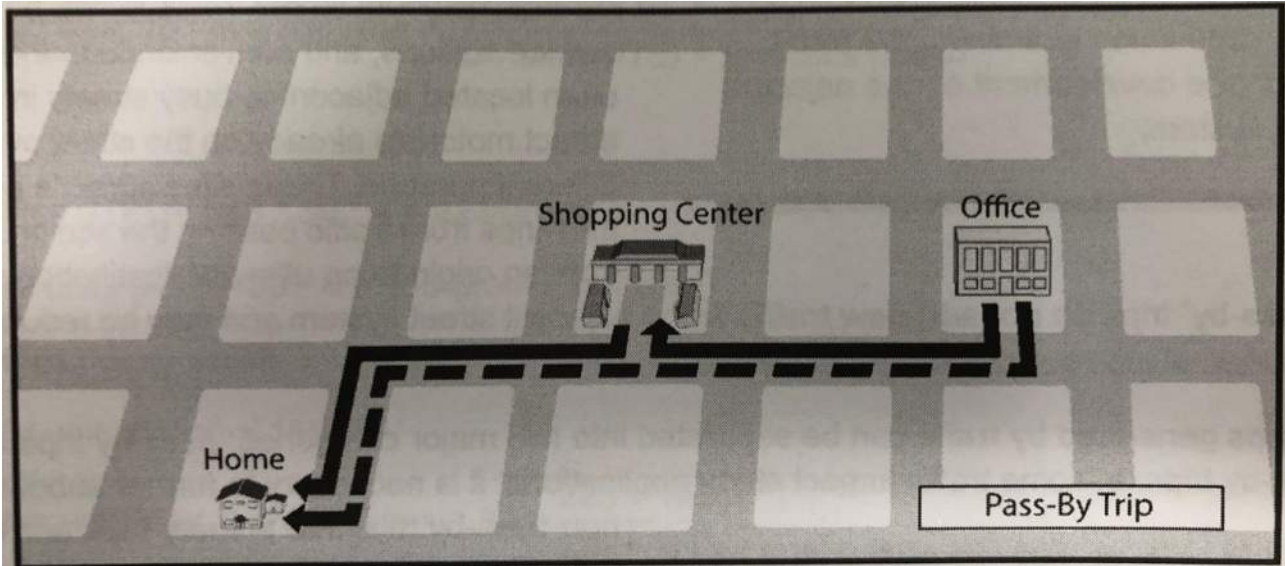
The existing vehicle trip generation for the Site has been accounted for when determining the impact of the proposed development on the network (see **Section 6.7**).



### 6.3.1 Pass-by Trips

The ITE Trip Generation handbook 3<sup>rd</sup> Ed defines pass-by trips as “an immediate stop on the way from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site on an adjacent street or roadway that offers direct access to the generator.” **Figure 6-1** shows an example of a pass-by trip.

**Figure 6-1 Example of a Pass-by Trip**



Source: ITE Trip Generation handbook 3rd Ed

Some of the land uses within the proposed development generate a proportion of ‘pass-by’ trips or passing trade. These are trips which already exist on the surrounding road network but divert into the site, rather than being a new trip added to the network. **Table 6-5** provides a summary of the estimated pass-by trips for the proposed development as sourced from the *ITE Trip Generation Handbook 3<sup>rd</sup> Edition*.

**Table 6-4 Pass-by Trip Percentages**

Land Use	Source	AM Peak Pass-by %	PM Peak Pass-by %	Weekend Peak Pass-by %
Retail	ITE	-	34%	26%
Supermarket	ITE	-	36%	-
F&B	ITE	-	43%	43%
Commercial	ITE	-	34%	26%
Fuel	ITE	58%	42%	42%
Drive Thru Coffee	ITE	89%	89%	89%
Fast Food	ITE	49%	50%	50%

**Table 6-5 Pass-by Trips**

Land Use	AM		PM		Saturday	
	IN	OUT	IN	OUT	IN	OUT
Retail	0	0	14	14	12	11
Supermarket	0	0	23	21	0	0
F&B	0	0	12	12	12	12
Commercial	0	0	4	4	4	3
Fuel	21	20	21	21	19	18
Drive Thru Coffee	47	49	19	18	43	43
Fast Food	14	13	16	16	24	23
<b>Sub Total</b>	<b>82</b>	<b>81</b>	<b>110</b>	<b>107</b>	<b>114</b>	<b>111</b>
<b>Total</b>	<b>163</b>		<b>217</b>		<b>225</b>	

The existing development trips was estimated based on a vehicle traffic count undertaken during the weekday and weekend peak as shown in **Table 6-6** including the overall increase in traffic as a result of the proposed development.

**Table 6-6 Summary of Net Trip Increase**

	AM		PM		Saturday	
	IN	UT	IN	OUT	IN	OUT
Existing Trips	75	73	49	57	24	56
Proposed New Development	274	256	397	346	388	372
Pass-by Trips	82	81	110	107	114	111
<b>Net Trip Increase (sub total)</b>	<b>117</b>	<b>102</b>	<b>238</b>	<b>182</b>	<b>250</b>	<b>205</b>
<b>Net Trip Increase (total)</b>	<b>219</b>		<b>420</b>		<b>455</b>	

## 6.4 Trip Distribution

The overall trip distribution for the inbound and outbound trips respectively are detailed in **Figure 6-2** and **Figure 6-3**. The development distribution considers the following:

- Trip generation was divided among the three access to the Site depending on the number of bays provided for each Site. Trips to the Site was also based on the shortest trips to/from the Site and the proportion of traffic distribution at the intersections so vehicles coming from the East will most likely access the crossover at Marina Boulevard than the access at Venturi Drive. Likewise, vehicles coming from the South which passes through Venturi Drive will more likely access through the Venturi Drive crossover.
- As per the service station, drive-thru coffee and fast-food uses, a separate trip distribution analysis was undertaken as traffic attracted to the premises will only be traffic generated by these 3 land uses. The traffic distribution was based on the existing distribution of traffic at the nearest intersection.



Figure 6-2 Inbound and Outbound Trip Distribution

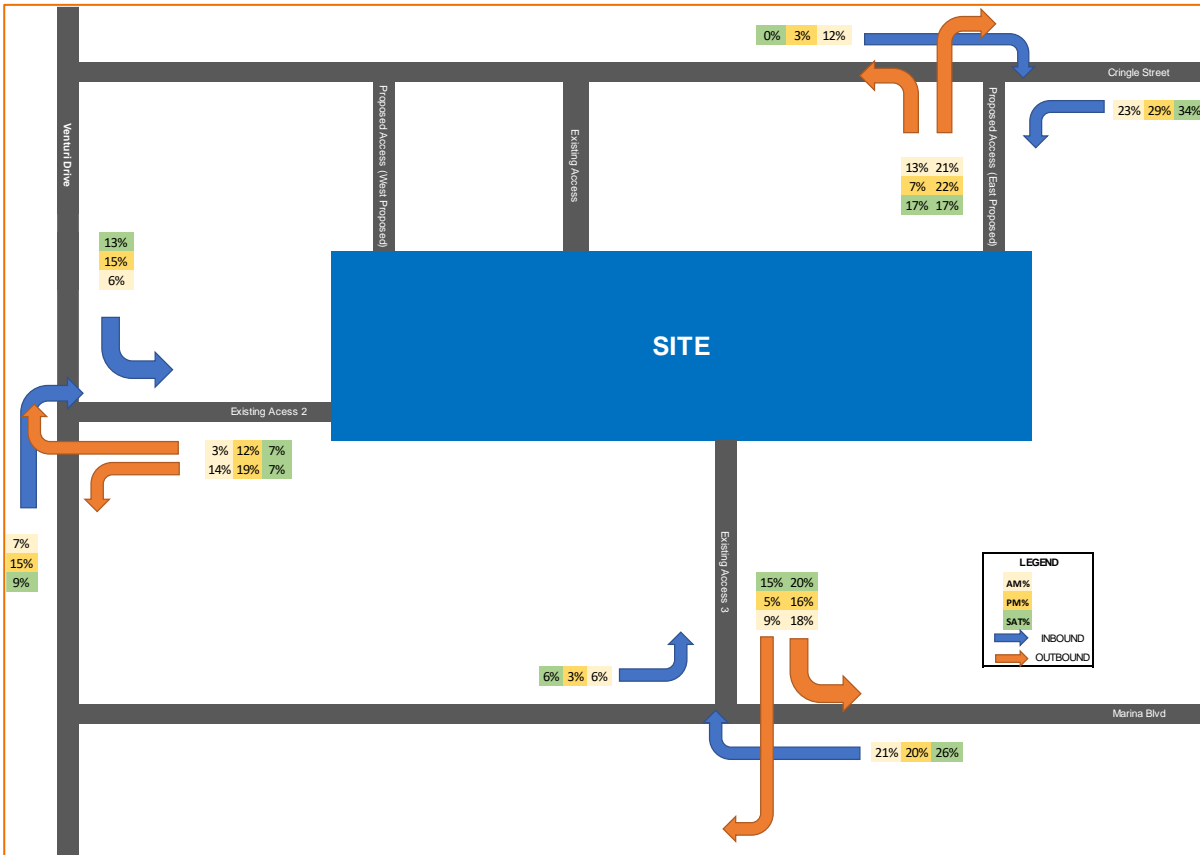
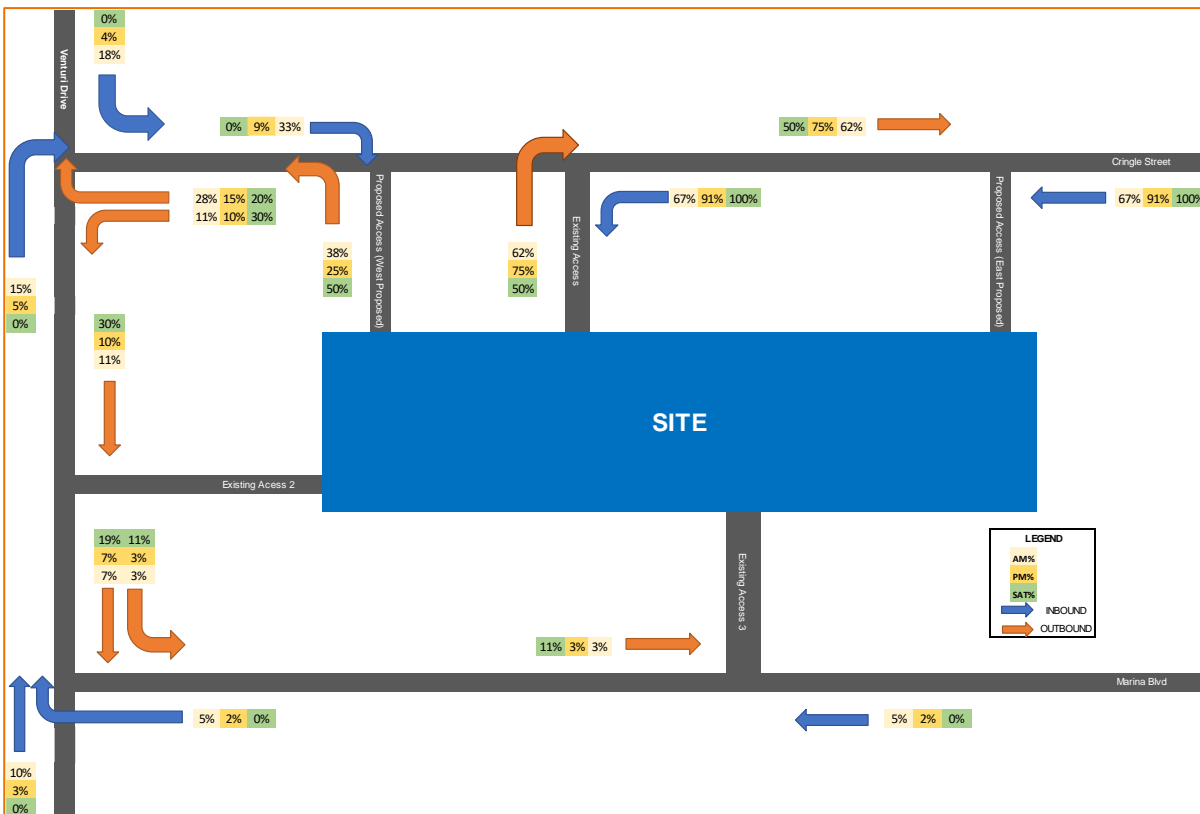


Figure 6-3 Inbound and Outbound Trip Distribution (Service Station, Drive Thru Coffee and Fast Food)



### 6.4.1 Background and Development Traffic Volumes

The traffic volumes used in the assessment of all scenarios are provided in **Appendix D**.

## 6.5 Key Assumptions

The following assumptions were made for the analysis:

- As per traffic data collection, the peak activity period occurs from 8:00 AM to 9:00 AM during the weekday morning peak, 2:45 PM to 3:45 PM on weekday pm peak and 11:00 – 12:00 during the weekend peak.
- It is anticipated that the surrounding area are full developed already so an annual growth rate of 2% per annum was used to estimate the traffic growth within the surrounding road network.
- Trips generated by the development are distributed among the accesses based on the number of car parking bays they serve.
- Turning distributions at intersections are calculated based on existing traffic distributions.
- The network was modelled in accordance with MRWA Operational Modelling Guidelines, as a network model in SIDRA 9.
- Heavy vehicle volumes are based on the percentages provided at the existing traffic count.
- Dimensions of all intersection elements (e.g., lane width, median width, etc.) were measured from the latest Metromap images.
- Approach and exit speeds were based on speed limits from MRWA Road Information Mapping System.
- Intersection controls are anticipated to remain the same for future scenarios.

## 6.6 Intersection Performance

Analysis of the traffic impacts of the proposed development has been carried out for the following intersections:

- Marina Boulevard/ Venturi Drive; and
- Cringle Street/ Venturi Drive

The identified intersections have been analysed using the SIDRA analysis program. This program calculates the performance of intersections based on input parameters, including geometry and traffic volumes. As an output SIDRA provides values for the Degree of Saturation (DOS), queue lengths, delays, level of service, and 95th Percentile Queue. These parameters are defined as follows:

- Degree of Saturation (DOS): is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The theoretical intersection capacity is exceeded for an un-signalized intersection where  $DOS > 0.80$ ;
- 95% Queue: is the statistical estimate of the queue length up to or below which 95% of all observed queues would be expected;
- Average Delay: is the average of all travel time delays for vehicles through the intersection. An unsignalised intersection can be considered to be operating at capacity where the average delay exceeds 40 seconds for any movement; and
- Level of Service (LOS): is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. The different levels of service can generally be described as shown in **Table 6-7**.



**Table 6-7 Level of Service (LoS) Performance Criteria**

LOS	Description	Signalised Intersection	Unsignalised Intersection
A	Free-flow operations (best condition)	≤10 sec	≤10 sec
B	Reasonable free-flow operations	10-20 sec	10-15 sec
C	At or near free-flow operations	20-35 sec	15-25 sec
D	Decreasing free-flow levels	35-55 sec	25-35 sec
E	Operations at capacity	55-80 sec	35-50 sec
F	A breakdown in vehicular flow (worst condition)	≥80 sec	≥50 sec

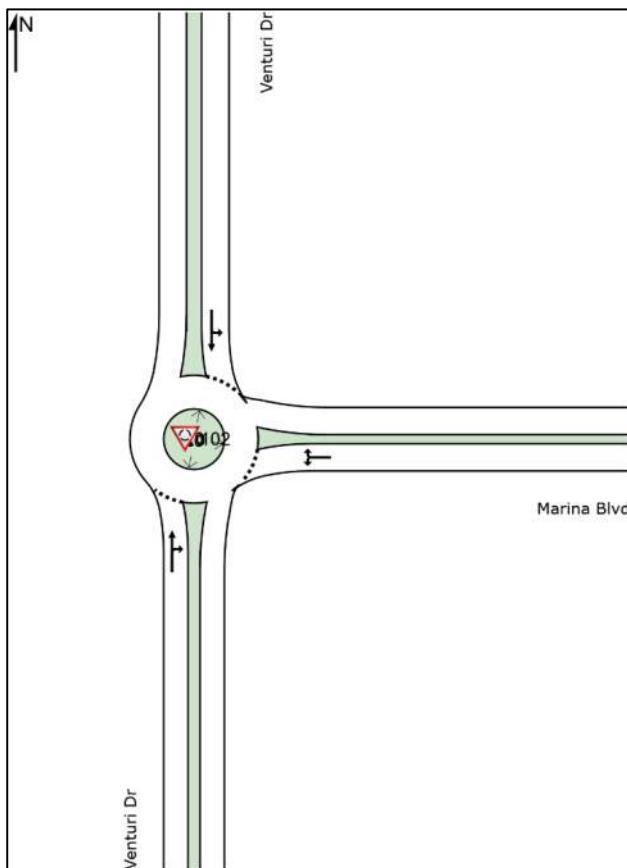
A LOS exceeding these values indicates that the road section is exceeding its practical capacity. Above these values, users of the intersection are likely to experience unsatisfactory queuing and delays during the peak hour periods.

## 6.7 SIDRA Analysis Results

### 6.7.1 Scenario 1 – 2022 Existing Traffic without Development (Weekdays Peaks and Weekend Peak)

The SIDRA layout for the intersections of Marina Boulevard/ Venturi Drive is illustrated in **Figure 6-4**. The result of the analysis is tabulated in **Table 6-8**.

**Figure 6-4 SIDRA Layout of Marina Boulevard/ Venturi Drive**



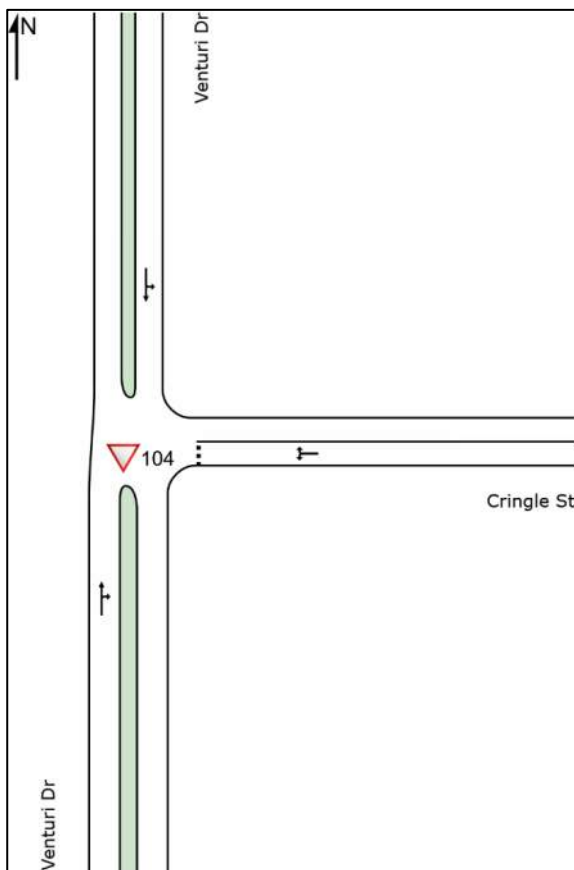


**Table 6-8 Marina Boulevard/ Venturi Drive – Scenario 1**

Intersection Approach	AM peak				PM Peak				SAT Peak				
	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	DOS	5% Queue (m)	
South: Venturi Dr	T	0.136	3.9	A	5.5	0.124	3.9	A	4.9	0.054	3.6	A	1.9
	R	0.136	7.2	A	5.5	0.124	7.2	A	4.9	0.054	6.9	A	1.9
East: Marina Blvd	L	0.103	2.9	A	3.4	0.091	2.8	A	2.9	0.051	2.4	A	1.6
	R	0.103	5.9	A	3.4	0.091	5.7	A	2.9	0.051	5.4	A	1.6
North: Venturi Dr	L	0.155	2.5	A	5.7	0.125	2.4	A	4.4	0.066	2.4	A	2.1
	T	0.155	2.5	A	5.7	0.125	2.4	A	4.4	0.066	2.4	A	2.1
All Vehicles		0.155	3.7	A	5.7	0.125	3.7	A	4.9	0.066	3.4	A	2.1

The SIDRA layout for the intersections of Cringle Street/ Venturi Drive is illustrated in **Figure 6-5**. The result of the analysis is tabulated in **Table 6-9**.

**Figure 6-5 SIDRA Layout of Cringle Street/ Venturi Drive**

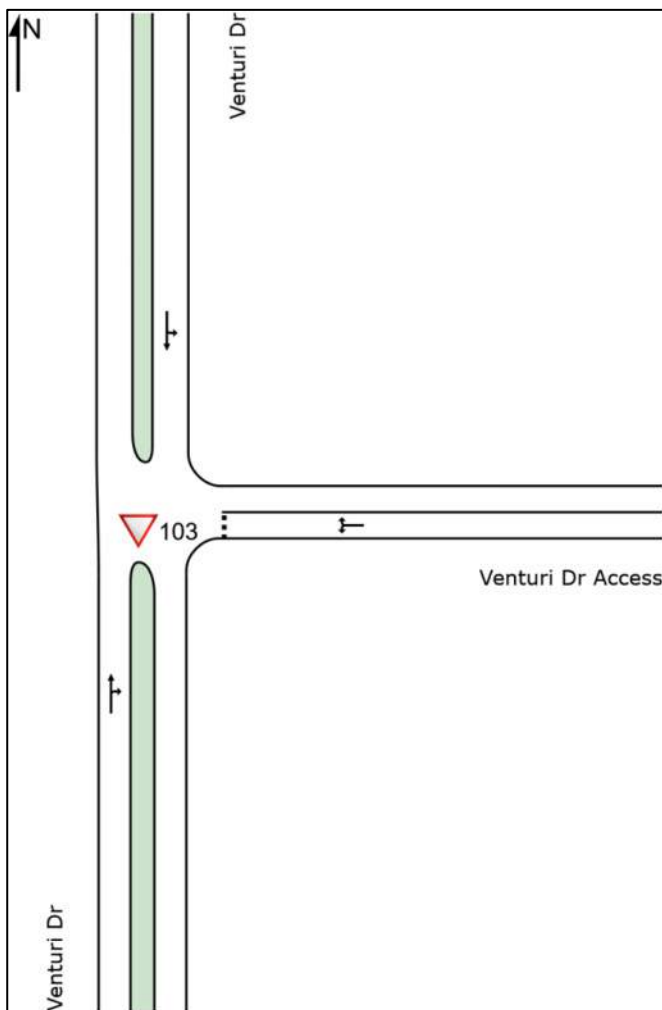


**Table 6-9 Cringle Street/ Venturi Drive – Scenario 1**

Intersection Approach	AM peak				PM Peak				SAT Peak				
	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	
South: Venturi Dr	T	0.082	0	A	0.3	0.091	0.1	A	0.6	0.043	0	A	0.1
	R	0.082	5.2	A	0.3	0.091	5.4	A	0.6	0.043	4.8	A	0.1
East: Cringle St	L	0.019	5.1	A	0.5	0.013	5	A	0.3	0.008	4.7	A	0.2
	R	0.019	5.9	A	0.5	0.013	5.9	A	0.3	0.008	5.1	A	0.2
North: Venturi Dr	L	0.104	4.6	A	0	0.09	4.6	A	0	0.038	4.6	A	0
	T	0.104	0	A	0	0.09	0	A	0	0.038	0	A	0
All Vehicles		0.104	0.4	A	0.5	0.091	0.5	A	0.6	0.043	0.6	A	0.2

The SIDRA layout for the intersections of Venturi drive/ Access Road is illustrated in **Figure 6-6**. The result of the analysis is tabulated in **Table 6-10**.

**Figure 6-6 SIDRA Layout of Venturi drive/ Access Road**

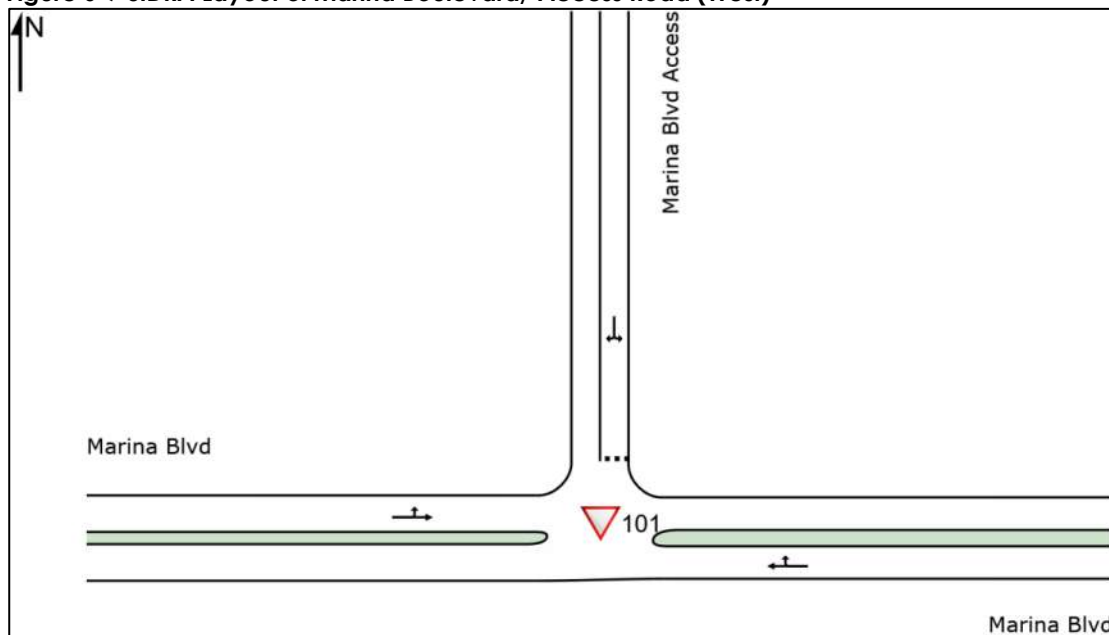


**Table 6-10 Venturi Drive/ Access Road – Scenario 1**

Intersection Approach	AM peak				PM Peak				SAT Peak				
	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	
South: Venturi Dr	T	0.097	0.2	A	1.4	0.094	0	A	0.5	0.037	0	A	0.2
	R	0.097	3.6	A	1.4	0.094	3.5	A	0.5	0.037	3.1	A	0.2
East: Venturi Dr Access	L	0.03	3.1	A	0.8	0.013	3	A	0.3	0.032	2.7	A	0.8
	R	0.03	3.9	A	0.8	0.013	3.8	A	0.3	0.032	2.9	A	0.8
North: Venturi Dr	L	0.102	4.6	A	0	0.086	4.6	A	0	0.037	4.6	A	0
	T	0.102	0	A	0	0.086	0	A	0	0.037	0	A	0
All Vehicles		0.102	0.8	A	1.4	0.094	0.3	A	0.5	0.037	0.9	A	0.8

The SIDRA layout for the intersections of Marina Boulevard/ Access Road is illustrated in **Figure 6-7** and **Figure 6-8**. The result of the analysis is tabulated in **Table 6-11** and **Table 6-12**.

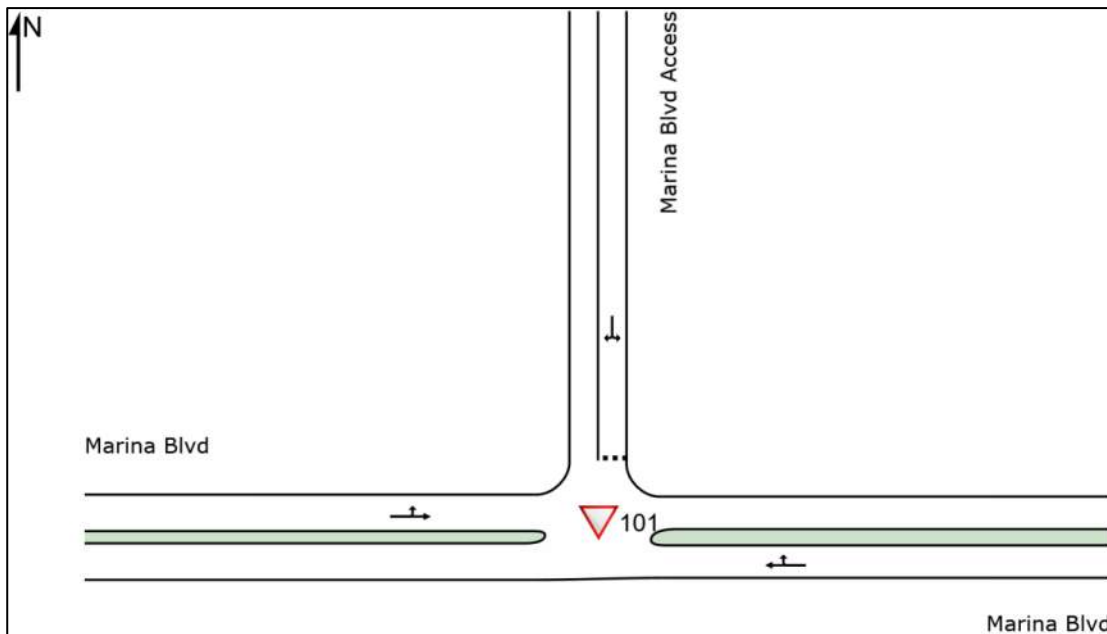
**Figure 6-7 SIDRA Layout of Marina Boulevard/ Access Road (West)**



**Table 6-11 Marina Boulevard/ Access Road (West) – Scenario 1**

Intersection Approach	AM peak				PM Peak				SAT Peak				
	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	
East: Marina Blvd	T	0.052	0	A	0.1	0.049	0	A	0.2	0.029	0	A	0.2
	R	0.052	3.4	A	0.1	0.049	3.3	A	0.2	0.029	3.2	A	0.2
North: Marina Blvd Access	L	0.01	2.8	A	0.3	0.008	2.7	A	0.2	0.006	2.7	A	0.1
	R	0.01	3.1	A	0.3	0.008	3	A	0.2	0.006	2.8	A	0.1
West: Marina Blvd	L	0.05	2.9	A	0	0.038	2.9	A	0	0.025	2.9	A	0
	T	0.05	0	A	0	0.038	0	A	0	0.025	0	A	0
All Vehicles		0.052	0.2	A	0.3	0.049	0.3	A	0.2	0.029	0.3	A	0.2

**Figure 6-8 SIDRA Layout of Marina Boulevard/ Access Road (East)**

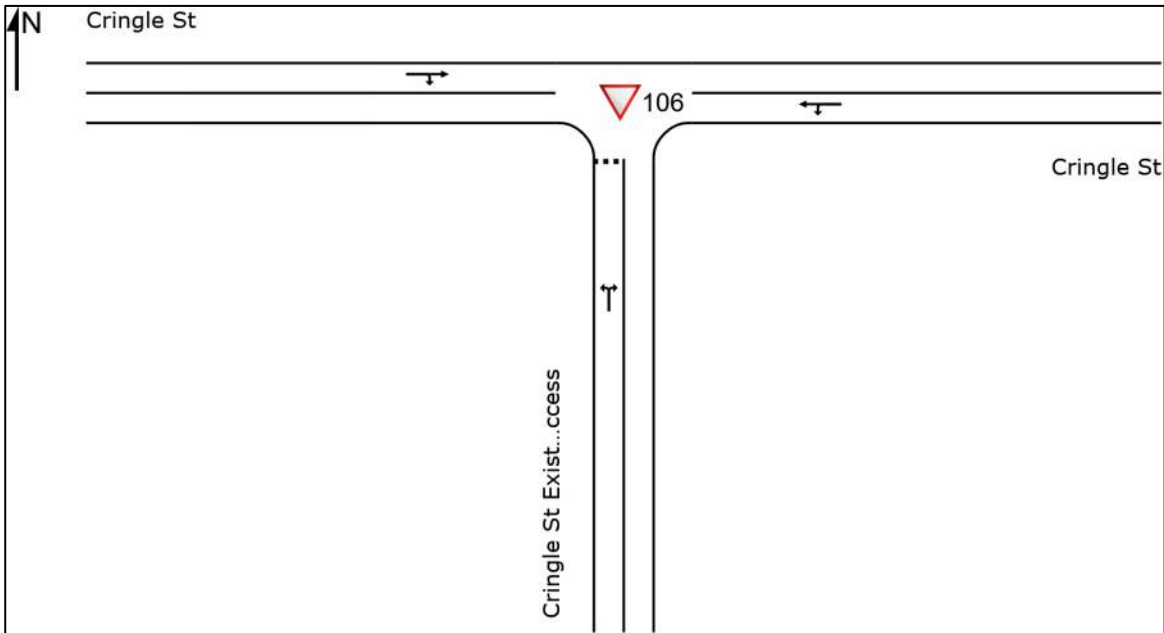


**Table 6-12 Marina Boulevard/ Access Road (East) – Scenario 1**

Intersection Approach	AM peak				PM Peak				SAT Peak				
	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	
East: Marina Blvd	T	0.059	0.1	A	0.6	0.057	0	A	0.7	0.03	0	A	0.2
	R	0.059	4.9	A	0.6	0.057	4.8	A	0.7	0.03	4.7	A	0.2
North: Marina Blvd Access	L	0.009	2.8	A	0.2	0.011	2.8	A	0.3	0.005	2.7	A	0.1
	R	0.009	3.2	A	0.2	0.011	3.1	A	0.3	0.005	2.8	A	0.1
West: Marina Blvd	L	0.053	3.1	A	0	0.039	3.1	A	0	0.026	3.1	A	0
	T	0.053	0	A	0	0.039	0	A	0	0.026	0	A	0
All Vehicles		0.059	0.5	A	0.6	0.057	0.6	A	0.7	0.03	0.4	A	0.2

The SIDRA layout for the intersections of Cringle Street/ Access Road is illustrated in **Figure 6-9**. The result of the analysis is tabulated in **Table 6-13**.

**Figure 6-9 SIDRA Layout of Cringle Street/ Access Road (Existing)**



**Table 6-13 Cringle Street/ Access Road – Scenario 1**

Intersection Approach	AM peak				PM Peak				SAT Peak				
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Cringle St Existing Access	L	0.01	2.6	A	0.2	0.013	2.6	A	0.3	0.001	2.6	A	0
	R	0.01	2.5	A	0.2	0.013	2.5	A	0.3	0.001	2.5	A	0
East: Cringle St	L	0.01	2.8	A	0	0.01	2.8	A	0	0.006	2.8	A	0
	T	0.01	0	A	0	0.01	0	A	0	0.006	0	A	0
West: Cringle St	T	0.006	0	A	0.1	0.01	0	A	0	0.006	0	A	0
	R	0.006	4.6	A	0.1	0.01	4.6	A	0	0.006	4.6	A	0
All Vehicles		0.01	1.5	A	0.2	0.013	1.4	A	0.3	0.006	0.7	A	0

### 6.7.2 Scenario 2 – 2025 Traffic with Development (Weekday and Weekend Peak Periods)

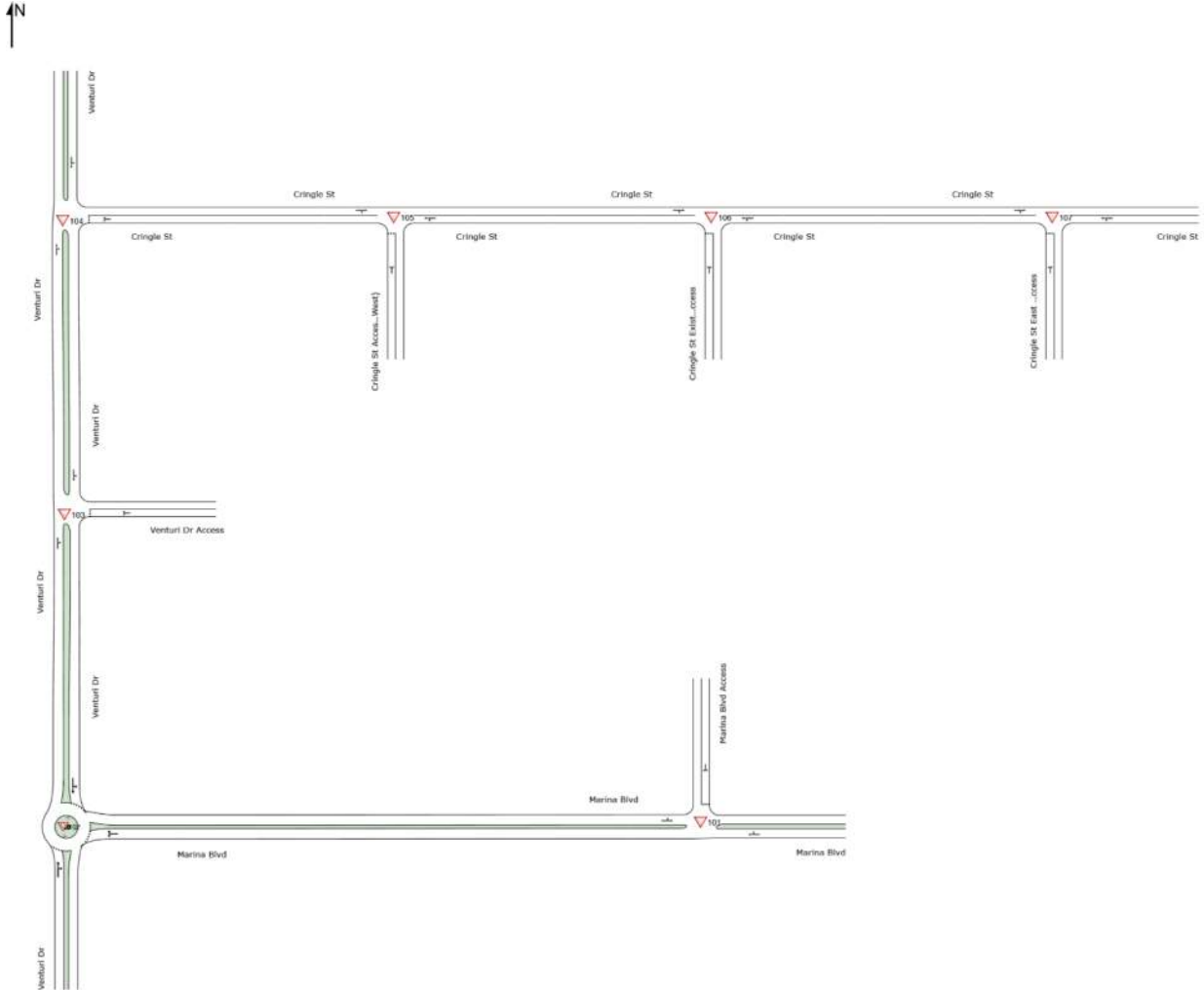
With the proposed development, there are a number of changes with the access arrangements and summarised as follows.

- Two new accesses are proposed along Cringle Street with the existing access to remain
- The removal of the existing access on Venturi Drive and replaced with a new crossover to the south



- The removal of the existing access on Marina Boulevard and replaces with a new crossover to the east. The network layout used for Scenario 2 is illustrated in **Figure 6-10** and the results of the analysis are tabulated from **Table 6-14** to **Table 6-20**.

**Figure 6-10 SIDRA Network Layout**



**Table 6-14 Marina Boulevard/ Venturi Drive – Scenario 2**

Intersection Approach	AM peak				PM Peak				SAT Peak				
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Venturi Dr	T	0.152	3.9	A	6.3	0.162	4.1	A	2.7	0.082	3.8	A	3
	R	0.152	7.2	A	6.3	0.162	7.4	A	2.7	0.082	7.1	A	3
East: Marina Blvd	L	0.122	4.6	A	4.1	0.12	4.6	A	1.6	0.098	4.2	A	3.2
	R	0.122	7.7	A	4.1	0.12	7.7	A	1.6	0.098	7.3	A	3.2
North: Venturi Dr	L	0.177	2.5	A	6.7	0.168	2.4	A	2.6	0.103	2.4	A	3.4
	T	0.177	2.5	A	6.7	0.168	2.4	A	2.6	0.103	2.4	A	3.4
All Vehicles		0.177	4.1	A	6.7	0.168	4.1	A	2.7	0.103	4	A	3.4

**Table 6-15 Cringle Street/ Venturi Drive – Scenario 2**

Intersection Approach		AM peak				PM Peak				SAT Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Venturi Dr	T	0.104	0.3	A	2.2	0.12	0.2	A	0.8	0.055	0.1	A	1.1
	R	0.104	5.4	A	2.2	0.12	5.5	A	0.8	0.055	4.8	A	1.1
East: Cringle St	L	0.088	4.3	A	2.3	0.067	4.2	A	0.7	0.093	3.8	A	2.6
	R	0.088	5.3	A	2.3	0.067	5.3	A	0.7	0.093	4.3	A	2.6
North: Venturi Dr	L	0.122	4.6	A	0	0.1	4.6	A	0	0.045	4.6	A	0
	T	0.122	0	A	0	0.1	0	A	0	0.045	0	A	0
All Vehicles		0.122	1.8	A	2.3	0.12	1.4	A	0.8	0.093	2.4	A	2.6

**Table 6-16 Venturi Drive/ Access Road – Scenario 2**

Intersection Approach		AM peak				PM Peak				SAT Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Venturi Dr	T	0.104	0.1	A	0.9	0.132	0.3	A	1.2	0.063	0.2	A	1.6
	R	0.104	3.7	A	0.9	0.132	3.7	A	1.2	0.063	3.4	A	1.6
East: Venturi Dr Access	L	0.031	3.2	A	0.8	0.096	3.1	A	1	0.041	2.9	A	1.1
	R	0.031	4.1	A	0.8	0.096	4.4	A	1	0.041	3.4	A	1.1
North: Venturi Dr	L	0.111	4.6	A	0	0.116	4.6	A	0	0.079	4.6	A	0
	T	0.111	0	A	0	0.116	0	A	0	0.079	0	A	0
All Vehicles		0.111	0.6	A	0.9	0.132	1.6	A	1.2	0.079	1.6	A	1.6

**Table 6-17 Marina Boulevard/ Access Road – Scenario 2**

Intersection Approach		AM peak				PM Peak				SAT Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
East: Marina Blvd	T	0.091	0.2	A	2.6	0.092	0.2	A	1.1	0.072	0.2	A	2.4
	R	0.091	4.9	A	2.6	0.092	4.9	A	1.1	0.072	4.8	A	2.4
North: Marina Blvd Access	L	0.044	2.9	A	1.2	0.056	2.8	A	0.6	0.09	2.7	A	2.5
	R	0.044	3.5	A	1.2	0.056	3.4	A	0.6	0.09	3.2	A	2.5
West: Marina Blvd	L	0.06	4.6	A	0	0.05	4.6	A	0	0.04	4.6	A	0
	T	0.06	0	A	0	0.05	0	A	0	0.04	0	A	0
All Vehicles		0.091	1.6	A	2.6	0.092	2	A	1.1	0.09	2.5	A	2.5



**Table 6-18 Cringle Street/Existing Access – Scenario 2**

Intersection Approach	AM peak				PM Peak				SAT Peak				
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Cringle St Existing Access	L	0.048	2.7	A	1.2	0.047	2.6	A	0.5	0.05	2.7	A	1.2
	R	0.048	2.8	A	1.2	0.047	2.7	A	0.5	0.05	2.8	A	1.2
East: Cringle St	L	0.051	2.8	A	0	0.047	2.8	A	0	0.071	2.8	A	0
	T	0.051	0	A	0	0.047	0	A	0	0.071	0	A	0
West: Cringle St	T	0.021	0	A	0.1	0.017	0	A	0	0.006	0	A	0.1
	R	0.021	3.6	A	0.1	0.017	3.6	A	0	0.006	3.7	A	0.1
All Vehicles		0.051	1.7	A	1.2	0.047	1.8	A	0.5	0.071	1.8	A	1.2

**Table 6-19 Cringle Street/ Access Road/Proposed New Access (West Proposed) – Scenario 2**

Intersection Approach	AM peak				PM Peak				SAT Peak				
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Cringle St Access (West)	L	0.028	2.7	A	0.8	0.021	2.6	A	0.3	0.038	2.7	A	1.1
	R	0.028	2.9	A	0.8	0.021	2.7	A	0.3	0.038	2.8	A	1.1
East: Cringle St	L	0.025	3.4	A	0	0.02	3.4	A	0	0.034	3.4	A	0
	T	0.025	0	A	0	0.02	0	A	0	0.034	0	A	0
West: Cringle St	T	0.047	0.1	A	1.5	0.035	0.1	A	0.4	0.032	0.2	A	1.1
	R	0.047	3.7	A	1.5	0.035	3.7	A	0.4	0.032	3.8	A	1.1
All Vehicles		0.047	1.7	A	1.5	0.035	1.6	A	0.4	0.038	1.9	A	1.1

**Table 6-20 Cringle Street/ Access Road/Proposed New Access (East Proposed) – Scenario 2**

Intersection Approach	AM peak				PM Peak				SAT Peak				
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Cringle St East Proposed Access	L	0.055	2.6	A	1.4	0.078	2.7	A	0.8	0.08	2.7	A	2.2
	R	0.055	2.7	A	1.4	0.078	2.9	A	0.8	0.08	2.8	A	2.2
East: Cringle St	L	0.042	4.6	A	0	0.076	4.6	A	0	0.079	4.6	A	0
	T	0.042	0	A	0	0.076	0	A	0	0.079	0	A	0
West: Cringle St	T	0.026	0.2	A	0.9	0.03	0.1	A	0.2	0.013	0	A	0.1
	R	0.026	2.9	A	0.9	0.03	3.1	A	0.2	0.013	3.1	A	0.1



All Vehicles | 0.055 | 2.7 | A | 1.4 | 0.078 | 2.7 | A | 0.8 | 0.08 | 2.9 | A | 2.2

As shown in the above SIDRA outputs, all access points and intersections operate at an excellent level of service, with no indication of queue spillback or delays which would impact the network function.

### 6.7.3 Scenario 3 – 2035 Traffic with Development (Weekday peaks and Weekend peak)

The network model remains as shown in 0. The results of the Scenario 3 analysis are tabulated from **Table 6-21** to **Table 6-27**.

**Table 6-21 Marina Boulevard/ Venturi Drive – Scenario 3**

Intersection Approach	AM peak				PM Peak				SAT Peak				
	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	
South: Venturi Dr	T	0.182	4	A	7.8	0.191	4.2	A	3.3	0.094	3.8	A	3.5
	R	0.182	7.3	A	7.8	0.191	7.5	A	3.3	0.094	7.1	A	3.5
East: Marina Blvd	L	0.146	4.8	A	5	0.141	4.8	A	1.9	0.11	4.2	A	3.6
	R	0.146	7.9	A	5	0.141	7.9	A	1.9	0.11	7.3	A	3.6
North: Venturi Dr	L	0.21	2.5	A	8.3	0.194	2.4	A	3	0.117	2.4	A	4
	T	0.21	2.6	A	8.3	0.194	2.5	A	3	0.117	2.4	A	4
All Vehicles		0.21	4.2	A	8.3	0.194	4.2	A	3.3	0.117	4.1	A	4

**Table 6-22 Cringle Street/ Venturi Drive – Scenario 3**

Intersection Approach	AM peak				PM Peak				SAT Peak				
	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	
South: Venturi Dr	T	0.121	0.3	A	2.5	0.139	0.2	A	0.9	0.064	0.1	A	1.2
	R	0.121	5.6	A	2.5	0.139	5.7	A	0.9	0.064	4.9	A	1.2
East: Cringle St	L	0.099	4.4	A	2.5	0.074	4.3	A	0.8	0.096	3.9	A	2.7
	R	0.099	5.8	A	2.5	0.074	5.7	A	0.8	0.096	4.4	A	2.7
North: Venturi Dr	L	0.143	4.6	A	0	0.118	4.6	A	0	0.053	4.6	A	0
	T	0.143	0	A	0	0.118	0	A	0	0.053	0	A	0
All Vehicles		0.143	1.7	A	2.5	0.139	1.3	A	0.9	0.096	2.2	A	2.7



**Table 6-23 Venturi Drive/ Access Road – Scenario 3**

Intersection Approach		AM peak				PM Peak				SAT Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Venturi Dr	T	0.12	0.1	A	1	0.151	0.3	A	1.3	0.07	0.2	A	1.7
	R	0.12	3.8	A	1	0.151	3.9	A	1.3	0.07	3.5	A	1.7
East: Venturi Dr Access	L	0.032	3.3	A	0.9	0.102	3.2	A	1.1	0.042	2.9	A	1.1
	R	0.032	4.5	A	0.9	0.102	4.8	A	1.1	0.042	3.5	A	1.1
North: Venturi Dr	L	0.128	4.6	A	0	0.132	4.6	A	0	0.086	4.6	A	0
	T	0.128	0	A	0	0.132	0	A	0	0.086	0	A	0
All Vehicles		0.128	0.5	A	1	0.151	1.5	A	1.3	0.086	1.5	A	1.7

**Table 6-24 Marina Boulevard/ Access Road – Scenario 3**

Intersection Approach		AM peak				PM Peak				SAT Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
East: Marina Blvd	T	0.102	0.2	A	2.7	0.102	0.2	A	1.2	0.077	0.2	A	2.5
	R	0.102	5	A	2.7	0.102	4.9	A	1.2	0.077	4.8	A	2.5
North: Marina Blvd Access	L	0.045	2.9	A	1.2	0.057	2.8	A	0.6	0.091	2.8	A	2.5
	R	0.045	3.7	A	1.2	0.057	3.6	A	0.6	0.091	3.3	A	2.5
West: Marina Blvd	L	0.069	4.6	A	0	0.057	4.6	A	0	0.045	4.6	A	0
	T	0.069	0	A	0	0.057	0	A	0	0.045	0	A	0
All Vehicles		0.102	1.5	A	2.7	0.102	1.9	A	1.2	0.091	2.4	A	2.5

**Table 6-25 Cringle Street/ Existing Access Road – Scenario 3**

Intersection Approach		AM peak				PM Peak				SAT Peak			
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Cringle St Existing Access	L	0.048	2.7	A	1.2	0.047	2.6	A	0.5	0.05	2.7	A	1.2
	R	0.048	2.8	A	1.2	0.047	2.7	A	0.5	0.05	2.8	A	1.2
East: Cringle St	L	0.052	2.8	A	0	0.048	2.8	A	0	0.072	2.8	A	0
	T	0.052	0	A	0	0.048	0	A	0	0.072	0	A	0
West: Cringle St	T	0.021	0	A	0.1	0.019	0	A	0	0.008	0	A	0.1
	R	0.021	3.6	A	0.1	0.019	3.6	A	0	0.008	3.7	A	0.1
All Vehicles		0.052	1.6	A	1.2	0.048	1.7	A	0.5	0.072	1.8	A	1.2

**Table 6-26 Cringle Street/Proposed New Access (West Proposed) – Scenario 3**

Intersection Approach	AM peak				PM Peak				SAT Peak				
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Cringle St Access (West)	L	0.028	2.7	A	0.8	0.022	2.7	A	0.3	0.038	2.7	A	1.1
	R	0.028	2.9	A	0.8	0.022	2.8	A	0.3	0.038	2.8	A	1.1
East: Cringle St	L	0.027	3.4	A	0	0.021	3.4	A	0	0.035	3.4	A	0
	T	0.027	0	A	0	0.021	0	A	0	0.035	0	A	0
West: Cringle St	T	0.048	0.1	A	1.5	0.037	0.1	A	0.4	0.033	0.2	A	1.1
	R	0.048	3.8	A	1.5	0.037	3.7	A	0.4	0.033	3.8	A	1.1
All Vehicles		0.048	1.6	A	1.5	0.037	1.5	A	0.4	0.038	1.8	A	1.1

**Table 6-27 Cringle Street/Proposed New Access (East Proposed)– Scenario 3**

Intersection Approach	AM peak				PM Peak				SAT Peak				
		DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)	DOS	Delay (s)	LOS	95% Queue (m)
South: Cringle St East Proposed Access	L	0.055	2.6	A	1.4	0.079	2.7	A	0.8	0.08	2.7	A	2.2
	R	0.055	2.8	A	1.4	0.079	3	A	0.8	0.08	2.9	A	2.2
East: Cringle St	L	0.044	4.6	A	0	0.078	4.6	A	0	0.08	4.6	A	0
	T	0.044	0	A	0	0.078	0	A	0	0.08	0	A	0
West: Cringle St	T	0.028	0.2	A	0.9	0.033	0.1	A	0.2	0.014	0	A	0.1
	R	0.028	2.9	A	0.9	0.033	3.1	A	0.2	0.014	3.1	A	0.1
All Vehicles		0.055	2.6	A	1.4	0.079	2.6	A	0.8	0.08	2.8	A	2.2

#### 6.7.4 SIDRA Results Summary

- All existing intersections within the vicinity of the Site currently operate at an excellent level of service for the morning, evening and weekend peak periods.
- With the inclusion of the proposed development traffic, it is anticipated that the surrounding road network will continue to operate at a high level of service with minimal delays and queues.
- For the 10-year horizon assessment, the surrounding road network continues to operate at satisfactory levels.
- The proposed development is therefore considered to have minimal impact on the surrounding road network.



## 7. Summary

This Transport Impact Assessment outlines the transport aspects of the proposed Site focusing on traffic operations, loading vehicle operations, access and the provision of car parking.

This assessment has been prepared in accordance with the *WAPC Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)*.

The following conclusions have been made in regard to the proposed development:

- The proposal is for a mixed-use development, comprising of the following:
  - Retail
  - Supermarket
  - Gym
  - Tavern
  - Child Care
  - Medical centre
  - Commercial
  - Fuel Station with Drive Thru Coffee Shop (6 Fuel Bowsers)
  - Fast Food
- 265 car parking bays plus 12 spaces at the service station pump positions, 9 spaces at the fast food drive thru and 11 spaces at the coffee drive thru which equates to a total of 297 bays.
- The Site has good access to public transport facilities with one high frequency services located within close proximity to the Site
- Walking and cycling facilities within the surrounding area of the Site is near good road riding environments that provide good connectivity with the surrounding area;
- The SIDRA results show that the surrounding intersections operate at an excellent level of service under all scenarios modelled.

Overall, the proposed development is expected to have minimal impact on traffic operations and safety on the surrounding road network.

# Appendices

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Appendix A WAPC Checklist



ITEM	PROVIDED	COMMENTS
<b>Summary</b>		
<b>Introduction/Background</b>	Section 1	
name of applicant and consultant	Section 1	
development location and context	Section 1	
brief description of development proposal	Section 1	
key issues	N/A	
background information	Section 2	
<b>Existing situation</b>	Section 2	
existing site uses (if any)	Section 1	
existing parking and demand (if appropriate)	N/A	
existing access arrangements	Section 2	
existing site traffic	Section 2	
surrounding land uses	Section 2	
surrounding road network	Section 2	
traffic management on frontage roads	N/A	
traffic flows on surrounding roads (usually AM and PM peak hours)	Section 2	
traffic flows at major intersections (usually AM and PM peak hours)	Section 6	
operation of surrounding intersections	Section 6	
existing pedestrian/cycle networks	Section 2	
existing public transport services surrounding the development	Section 2	
crash data	Section 2	
<b>Development proposal</b>	Section 3	
regional context	Section 3	
proposed land uses	Section 3	
table of land uses and quantities	Section 3	
access arrangements	Section 3	
parking provision	Section 4	
end of trip facilities	N/A	
any specific issues	N/A	
road network	N/A	
intersection layouts and controls	N/A	
pedestrian/cycle networks and crossing facilities	Section 5	
public transport services	Section 5	
Integration with surrounding area	Section 5	
surrounding major attractors/ generators	N/A	

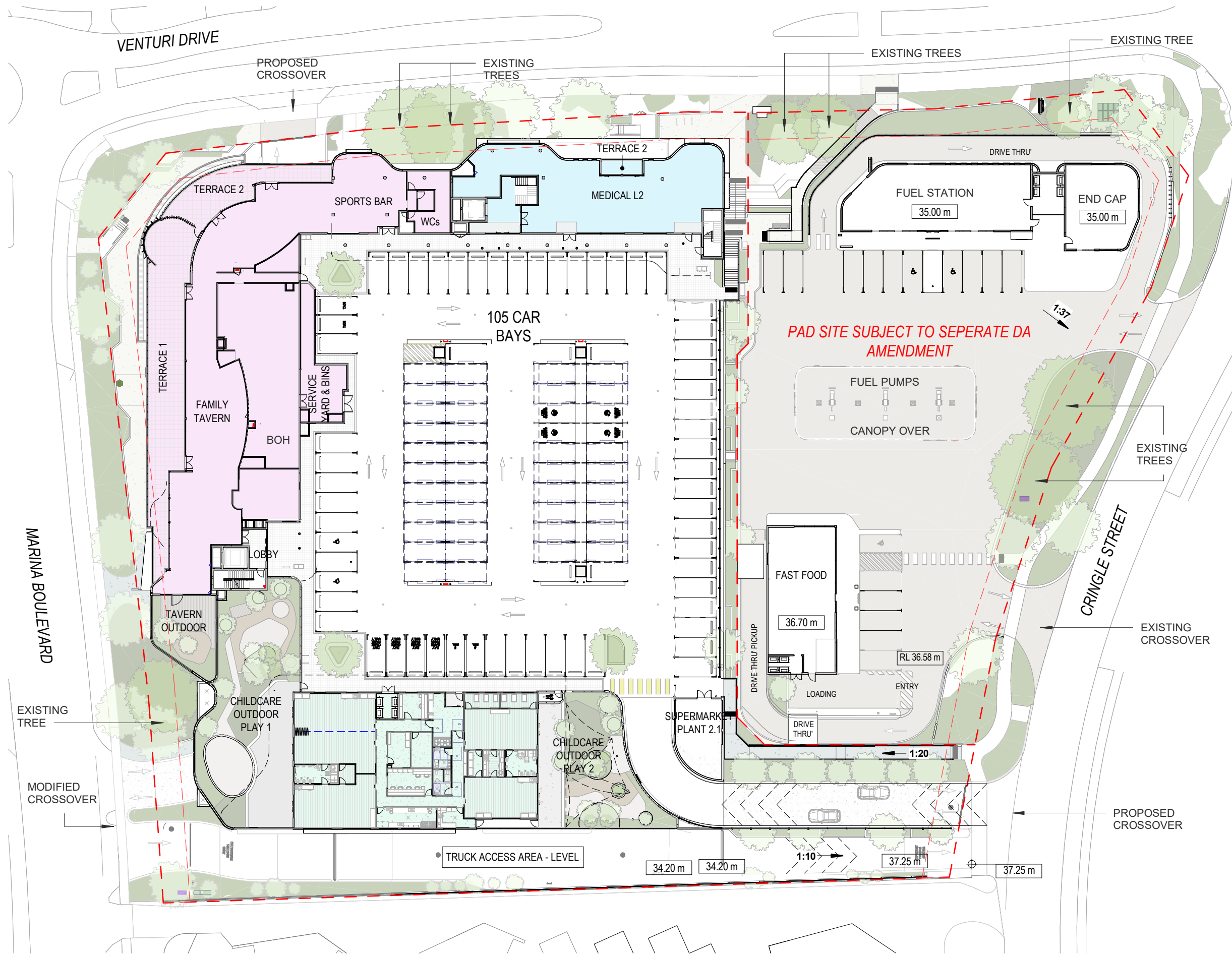


committed developments and transport proposals	N/A	
proposed changes to land uses within 1200 metres	N/A	
travel desire lines from development to these attractors/ generators	N/A	
adequacy of existing transport networks	N/A	
deficiencies in existing transport networks	N/A	
remedial measures to address deficiencies	N/A	
<b>Analysis of internal transport networks</b>	Section 6	
assessment years	Section 6	
time periods	Section 6	
development generated traffic	Section 6	
distribution of generated traffic	Section 6	
parking supply and demand	Section 4	
base and 'with development' traffic flows	Section 6	
analysis of development accesses	Section 6	
impact on surrounding roads	Section 6	
impact on intersections	N/A	
impact on neighbouring areas	N/A	
road safety	Section 6	
public transport access	Section 6	
pedestrian access/amenity	Section 6	
cycle access/amenity	Section 6	
analysis of pedestrian/cycle networks	Section 6	
safe walk/cycle to school (for residential and school site developments only)	N/A	
traffic management plan (where appropriate)	N/A	
<b>Conclusions</b>	Section 7	



Appendix B Site Plans



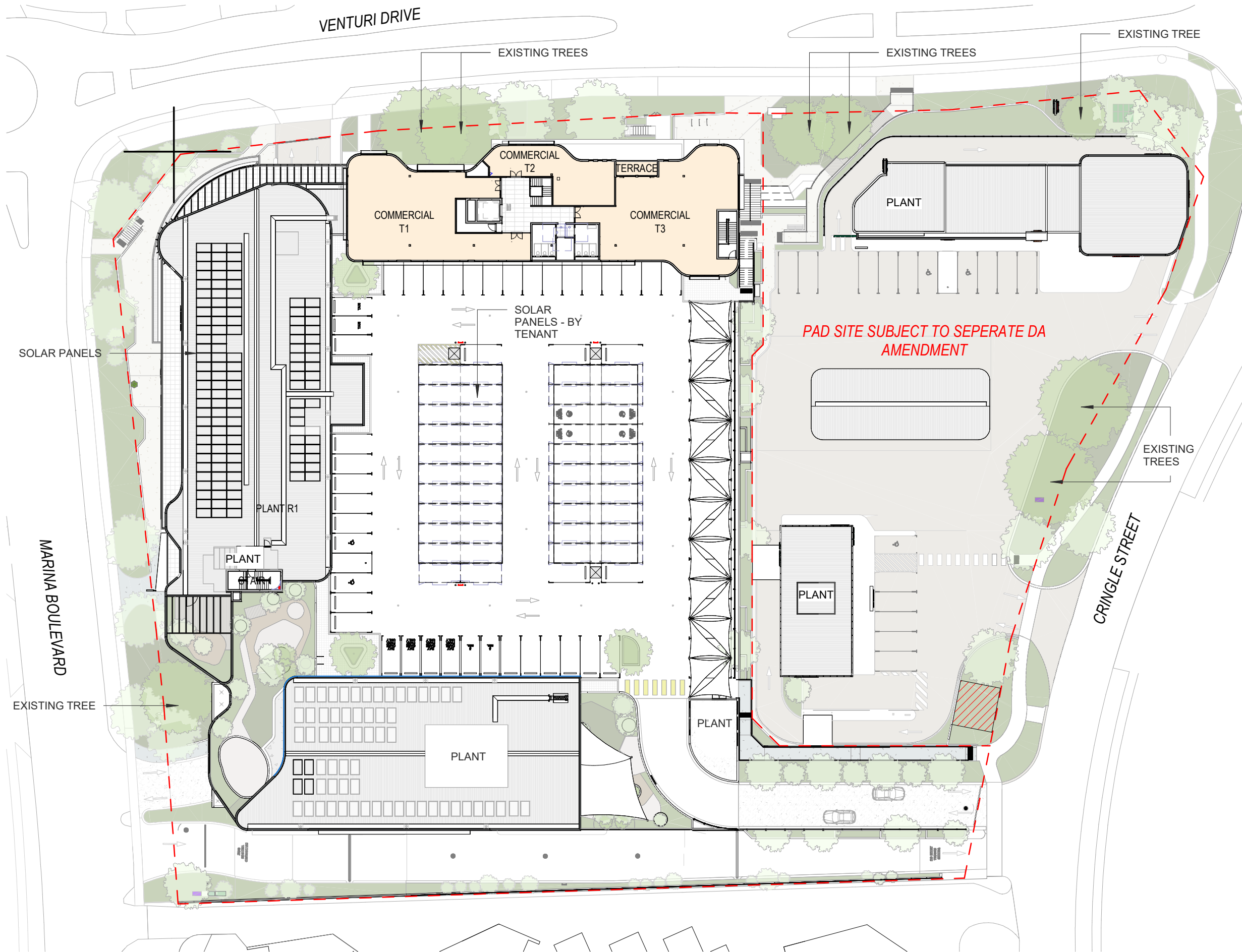


Name	Area	Level
<b>03 Level</b>		
COMMERCIAL T2	85.32 m <sup>2</sup>	03 Level
<b>02 Level (LS)</b>		
CHILDCARE	557.26 m <sup>2</sup>	02 Level (LS)
CHILDCARE OUTDOOR PLAY 1	356.73 m <sup>2</sup>	02 Level (LS)
CHILDCARE OUTDOOR PLAY 2	225.27 m <sup>2</sup>	02 Level (LS)
CHILDCARE	1139.26 m <sup>2</sup>	
<b>02 Level (LS)</b>		
MEDICAL L2	283.78 m <sup>2</sup>	02 Level (LS)
TERRACE 3	12.29 m <sup>2</sup>	02 Level (LS)
<b>03 Level</b>		
COMMERCIAL T1	242.89 m <sup>2</sup>	03 Level
COMMERCIAL T3	228.84 m <sup>2</sup>	03 Level
TERRACE 4	10.67 m <sup>2</sup>	03 Level
COMMERCIAL	778.48 m <sup>2</sup>	
<b>02 Level (LS)</b>		
FAMILY TAVERN	726.57 m <sup>2</sup>	02 Level (LS)
SERVICE YARD & BINS	63.57 m <sup>2</sup>	02 Level (LS)
SPORTS BAR	137.50 m <sup>2</sup>	02 Level (LS)
TAVERN OUTDOOR PLAY	75.30 m <sup>2</sup>	02 Level (LS)
TAVERN TERRACES	285.34 m <sup>2</sup>	02 Level (LS)
TAVERN	1288.28 m <sup>2</sup>	
<b>GRAND TOTAL</b>	<b>3291.34 m<sup>2</sup></b>	

CARPARKING TABLE L2	Count
2600 x 5400 Marking - Electric Vehicles Bay	4
2600 x 5400 STANDARD BAY - L2_IGA BRIEF REQ	38
2600 x 5400 STANDARD BAY - L2_IGA BRIEF REQ+ WHEELSTOP	13
2600 x 5400 - ACCESSIBLE BAY - L2_IGA BRIEF REQ	2
2600 x 5500 STANDARD BAY - L2 + WHEELSTOP	40
2400 x 5500 CARWAS OPERATOR BAY + WHEEL STOP	8
2400 x 5500 CARWASH OPERATOR BAY	1
2400 x 5500 DAY CARE BAY + WHEEL STOP	4
2400 x 5500 5 MIN + WHEEL STOP	2
2400 x 5500 TAXI + WHEEL STOP	2
<b>GRAND TOTAL</b>	<b>114</b>

- CHILDCARE
- CHILDCARE PLAY
- FAMILY TAVERN
- MALL 1B
- MEDICAL

NOTE:  
UECA: Un-Enclosed Covered Area



Name	Area	Level
02 Level (LS)		
CHILDCARE	557.26 m <sup>2</sup>	02 Level (LS)
CHILDCARE OUTDOOR PLAY 1	356.73 m <sup>2</sup>	02 Level (LS)
CHILDCARE OUTDOOR PLAY 2	225.27 m <sup>2</sup>	02 Level (LS)
CHILDCARE	1139.26 m <sup>2</sup>	
02 Level (LS)		
MEDICAL L2	283.78 m <sup>2</sup>	02 Level (LS)
TERRACE 3	12.29 m <sup>2</sup>	02 Level (LS)
03 Level		
COMMERCIAL T1	242.89 m <sup>2</sup>	03 Level
COMMERCIAL T2	85.32 m <sup>2</sup>	03 Level
COMMERCIAL T3	228.84 m <sup>2</sup>	03 Level
TERRACE 4	10.67 m <sup>2</sup>	03 Level
COMMERCIAL	863.80 m <sup>2</sup>	
02 Level (LS)		
FAMILY TAVERN	726.57 m <sup>2</sup>	02 Level (LS)
SERVICE YARD & BINS	63.57 m <sup>2</sup>	02 Level (LS)
SPORTS BAR	137.50 m <sup>2</sup>	02 Level (LS)
TAVERN OUTDOOR PLAY	75.30 m <sup>2</sup>	02 Level (LS)
TAVERN TERRACES	285.34 m <sup>2</sup>	02 Level (LS)
TAVERN	1288.28 m <sup>2</sup>	
GRAND TOTAL	3291.34 m <sup>2</sup>	

- COMERCIAL
- FAMILY TAVERN
- MALL 1B

PAD SITE SUBJECT TO SEPERATE DA AMENDMENT

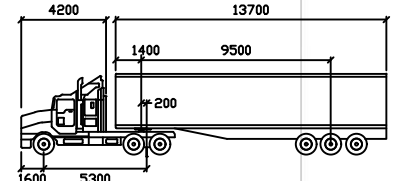
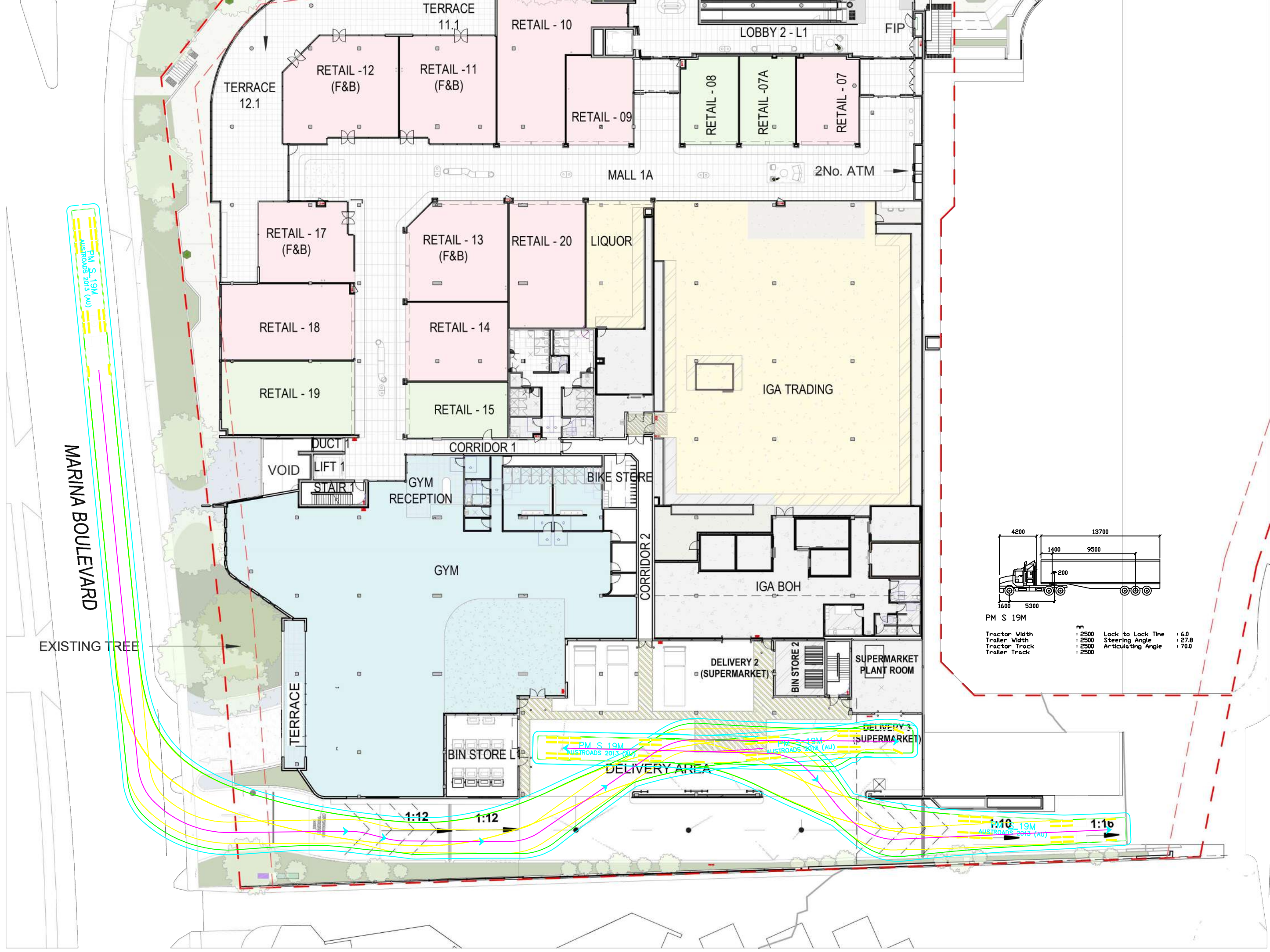
# Appendix C Swept Paths



PM S 19M  
AUSTRROADS 2013 (AU)

MARINA BOULEVARD

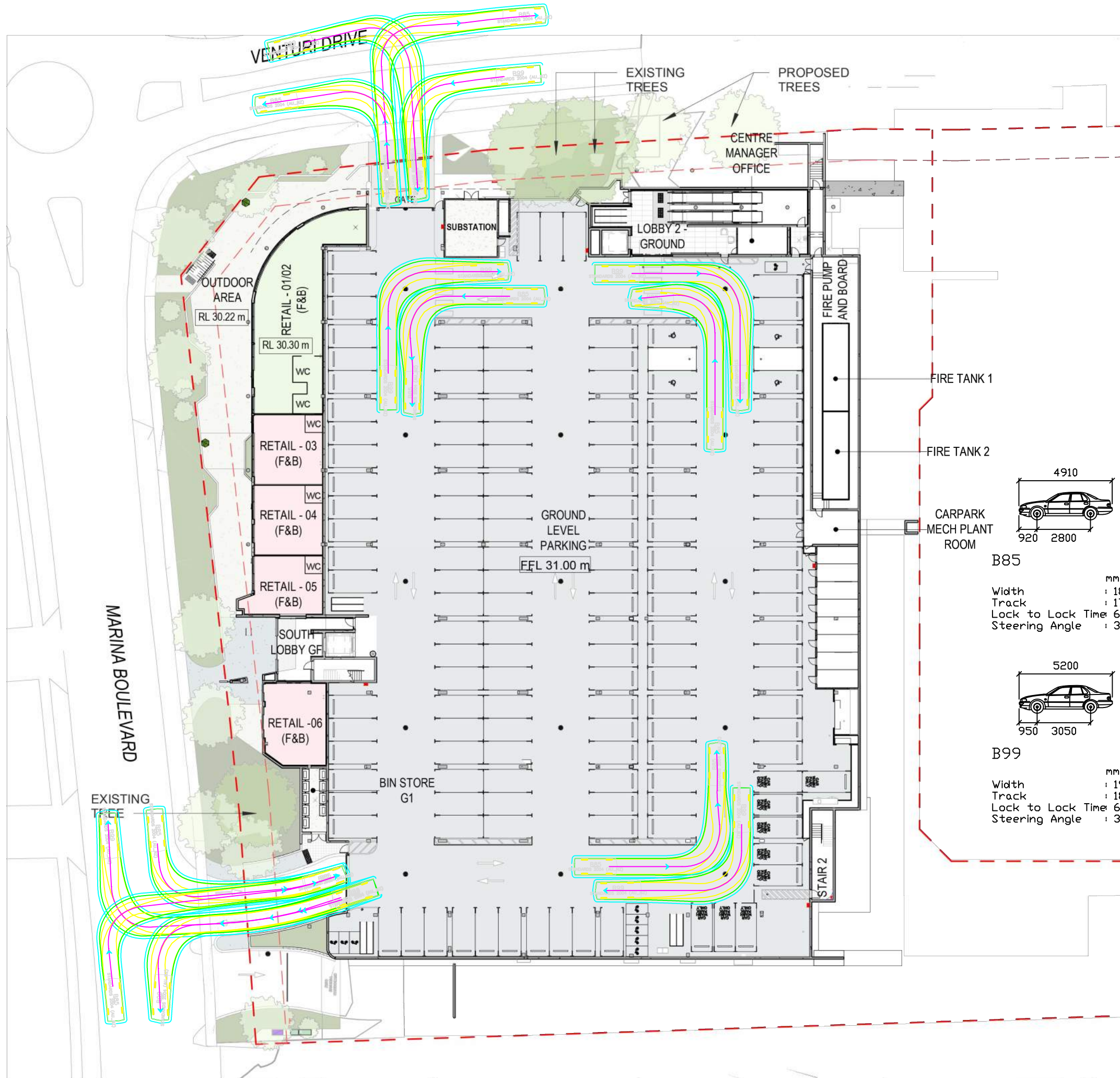
EXISTING TREE



PM S 19M

Tractor Width	: 2500	Lock to Lock Time	: 6.0
Trailer Width	: 2500	Steering Angle	: 27.8
Tractor Track	: 2500	Articulating Angle	: 70.0
Trailer Track	: 2500		

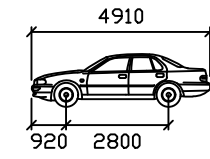
- AM
- FA
- GY
- MA
- MA
- RE
- RE
- SU
- LE



CARPARKING TABLE		Count	Level
2600 x 5500	STANDARD BAY - GF	46	00 Ground
2600 x 5500	STANDARD BAY - GF + WHEELSTOP	89	00 Ground
2400 x 5500	CARWASH OPERATOR BAY + WHEEL STOP	8	00 Ground
2400 x 5500	CARWASH OPERATOR BAY	1	00 Ground
00 Ground		144	

2400 x 5500	ACCESSIBLE BAY	1	01 M Level
2600 x 5500	ACCESSIBLE BAY	2	01 M Level
2600 x 5500	STANDARD BAY	13	01 M Level
01 M Level		16	

2600 x 5400	Marking - Electric Vehicles Bay	4	02 Level (LS)
2600 x 5400	STANDARD BAY - L2_IGA BRIEF REQ	38	02 Level (LS)
2600 x 5400	STANDARD BAY - L2_IGA BRIEF REQ+ WHEELSTOP	13	02 Level (LS)
2600 x 5400	ACCESSIBLE BAY - L2_IGA BRIEF REQ	2	02 Level (LS)
2600 x 5500	STANDARD BAY - L2 + WHEELSTOP	40	02 Level (LS)
2400 x 5500	DAY CARE BAY + WHEEL STOP	4	02 Level (LS)
2400 x 5500	5 MIN + WHEEL STOP	2	02 Level (LS)
2400 x 5500	TAXI + WHEEL STOP	2	02 Level (LS)
02 Level (LS)		105	
GRAND TOTAL		265	



B85

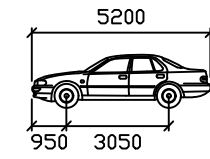
mm

Width : 1870

Track : 1770

Lock to Lock Time : 6.0

Steering Angle : 34.1



B99

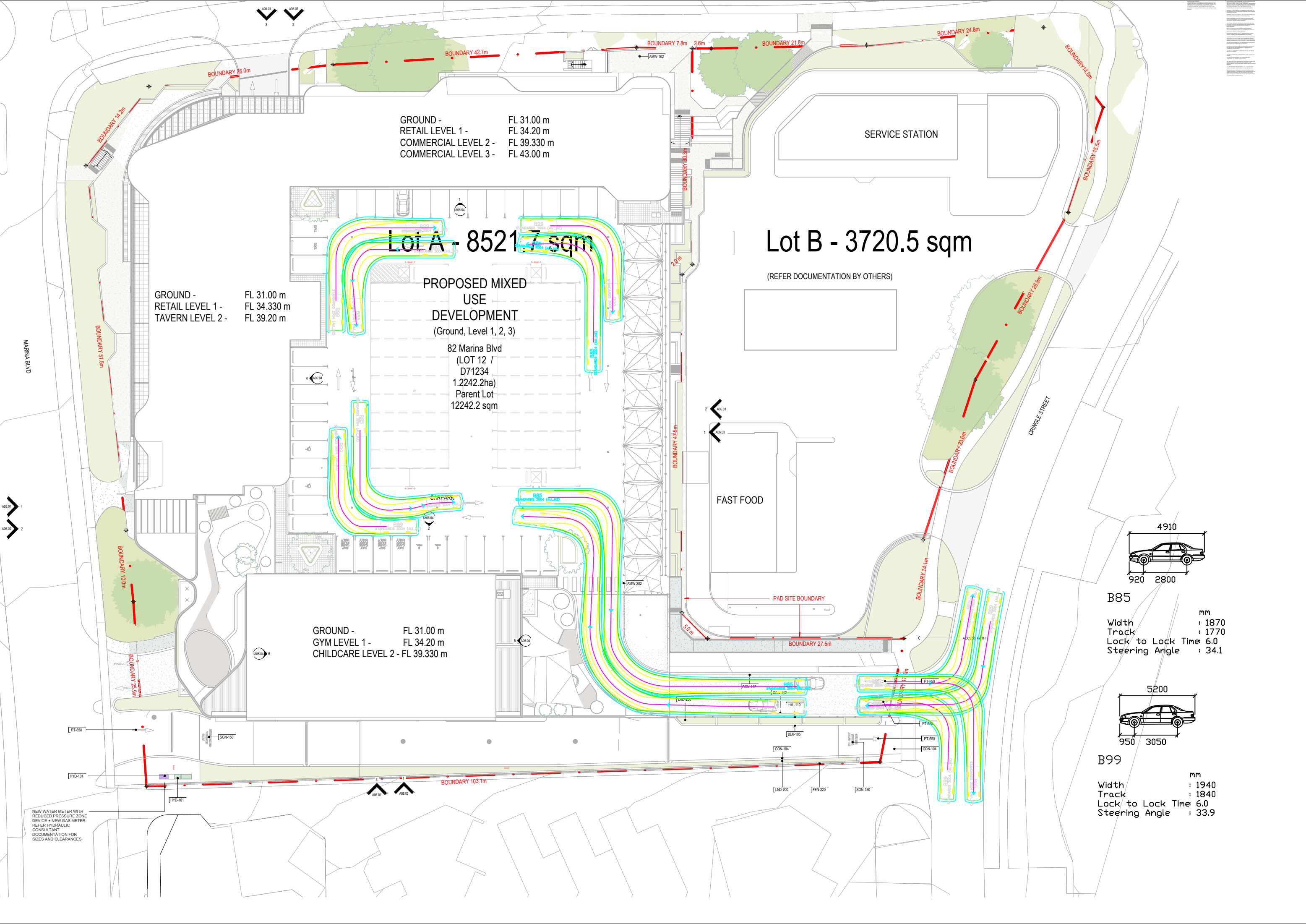
mm

Width : 1940

Track : 1840

Lock to Lock Time : 6.0

Steering Angle : 33.9



GROUND - FL 31.00 m  
 RETAIL LEVEL 1 - FL 34.20 m  
 COMMERCIAL LEVEL 2 - FL 39.330 m  
 COMMERCIAL LEVEL 3 - FL 43.00 m

**Lot A - 8521.7 sqm**

**PROPOSED MIXED USE DEVELOPMENT**  
 (Ground, Level 1, 2, 3)

82 Marina Blvd  
 (LOT 12 / D71234)  
 1.2242.2ha  
 Parent Lot 12242.2 sqm

**Lot B - 3720.5 sqm**

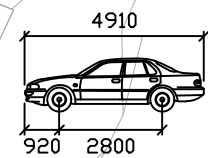
(REFER DOCUMENTATION BY OTHERS)

GROUND - FL 31.00 m  
 RETAIL LEVEL 1 - FL 34.330 m  
 TAVERN LEVEL 2 - FL 39.20 m

GROUND - FL 31.00 m  
 GYM LEVEL 1 - FL 34.20 m  
 CHILDCARE LEVEL 2 - FL 39.330 m

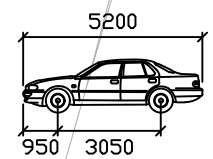
FAST FOOD

SERVICE STATION



B85

Width : 1870 mm  
 Track : 1770 mm  
 Lock to Lock Time : 6.0  
 Steering Angle : 34.1

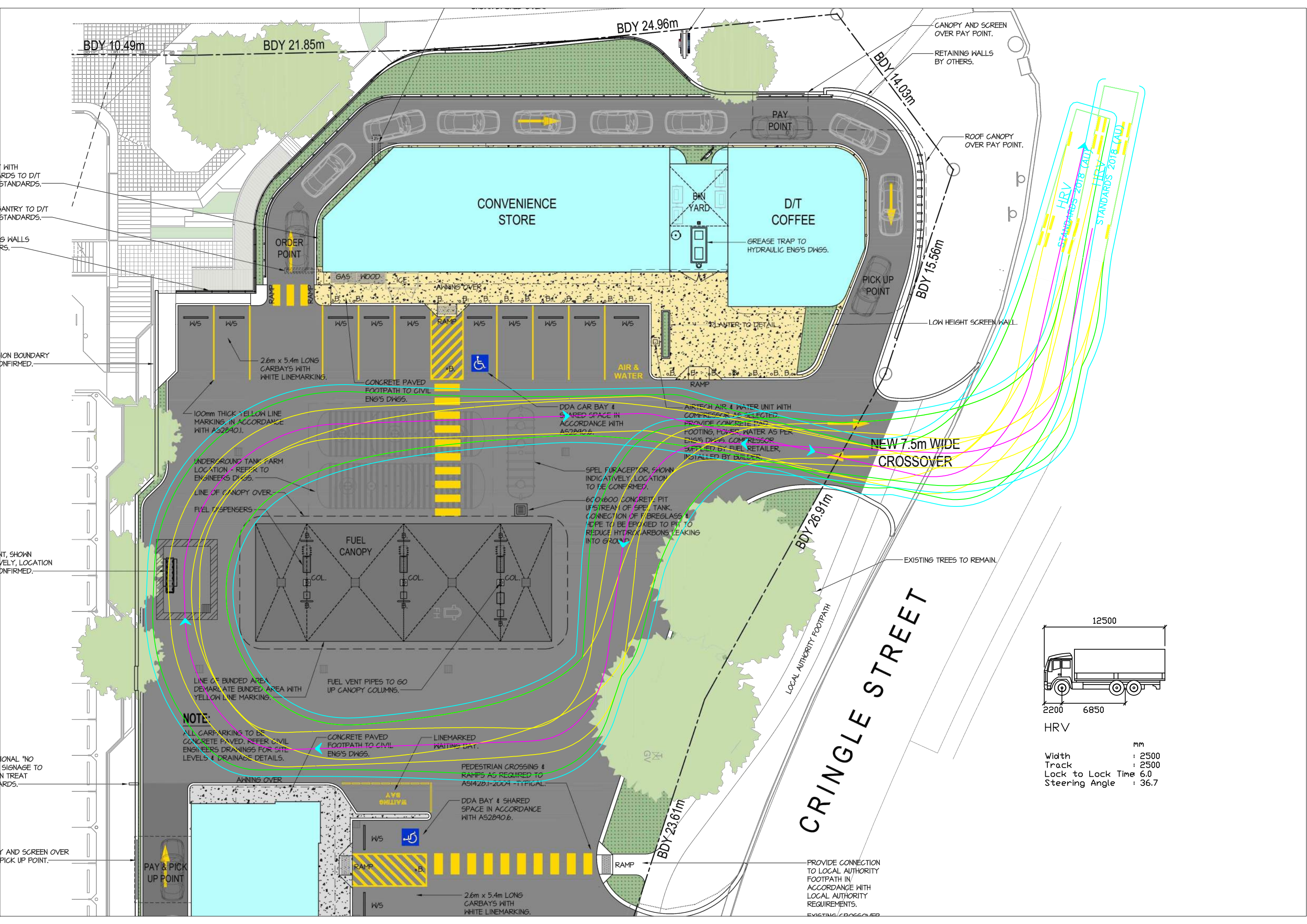


B99

Width : 1940 mm  
 Track : 1840 mm  
 Lock to Lock Time : 6.0  
 Steering Angle : 33.9

NEW WATER METER WITH REDUCED PRESSURE ZONE DEVICE + NEW GAS METER. REFER HYDRAULIC CONSULTANT DOCUMENTATION FOR SIZES AND CLEARANCES





BDY 10.49m

BDY 21.85m

BDY 24.96m

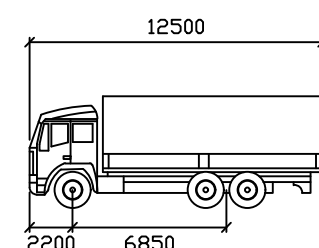
BDY 14.03m

BDY 15.56m

BDY 26.91m

BDY 23.61m

CRINGLE STREET



HRV  
 Width : 2500 mm  
 Track : 2500 mm  
 Lock to Lock Time : 6.0  
 Steering Angle : 36.7

**NOTE:**

ALL CARPARKINGS TO BE CONCRETE PAVED. REFER CIVIL ENGINEERS DRAWINGS FOR SITE LEVELS & DRAINAGE DETAILS.

CONCRETE PAVED FOOTPATH TO CIVIL ENG'S DWGS.

LINEMARKED WAITING BAY.

PEDESTRIAN CROSSING & RAMPS AS REQUIRED TO AS14281-2009 - TYPICAL.

DDA BAY & SHARED SPACE IN ACCORDANCE WITH AS2890.6.

2.6m x 5.4m LONG CARBAYS WITH WHITE LINEMARKING.

NEW 7.5m WIDE CROSSOVER

100mm THICK YELLOW LINE MARKING IN ACCORDANCE WITH AS2890.1.

UNDERGROUND TANK FARM LOCATION - REFER TO ENGINEER'S DWGS.

LINE OF CANOPY OVER FUEL DISPENSERS.

FUEL DISPENSERS

LINE OF BUNDED AREA DEMARCATATE BUNDED AREA WITH YELLOW LINE MARKING.

FUEL VENT PIPES TO GO UP CANOPY COLUMNS.

DDA CAR BAY & SHARED SPACE IN ACCORDANCE WITH AS2890.6.

AIRTECH AIR & WATER UNIT WITH COMPRESSOR AS SELECTED. PROVIDE CONCRETE PAD FOOTING, POWER, WATER AS PER ENG'S DWGS. COMPRESSOR SUPPLIED BY FUEL RETAILER, INSTALLED BY BUILDER.

SPEL PURGEPTOR, SHOWN INDICATIVELY. LOCATION TO BE CONFIRMED.

600x600 CONCRETE PIT UPSTREAM OF SPEL TANK. CONNECTION OF FIBREGLASS & HOPE TO BE EPXIED TO PIT TO REDUCE HYDROCARBONS LEAKING INTO GROUND.

EXISTING TREES TO REMAIN.

LOCAL AUTHORITY FOOTPATH

PROVIDE CONNECTION TO LOCAL AUTHORITY FOOTPATH IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS. EXISTING CROSSOVER

ROOF CANOPY OVER PAY POINT.

LOW HEIGHT SCREEN WALL.

CANOPY AND SCREEN OVER PAY POINT.

RETAINING WALLS BY OTHERS.

WITH STANDARDS TO D/T STANDARDS.

ENTRY TO D/T STANDARDS.

WALLS STANDARDS.

ION BOUNDARY UNCONFIRMED.

NT, SHOWN UNCONFIRMED.

IONAL "NO SIGNAGE TO N TREAT STANDARDS.

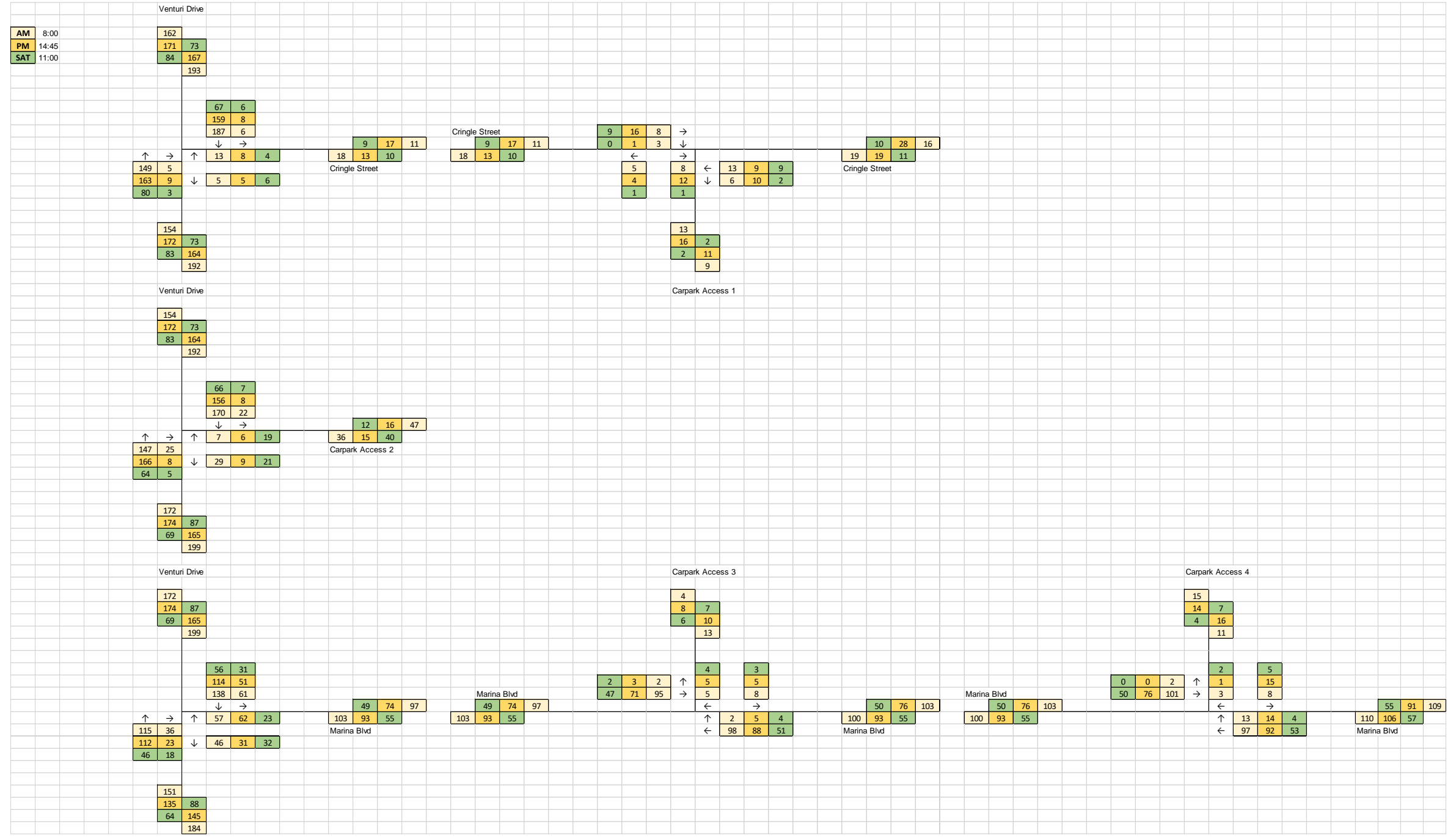
Y AND SCREEN OVER PICK UP POINT.



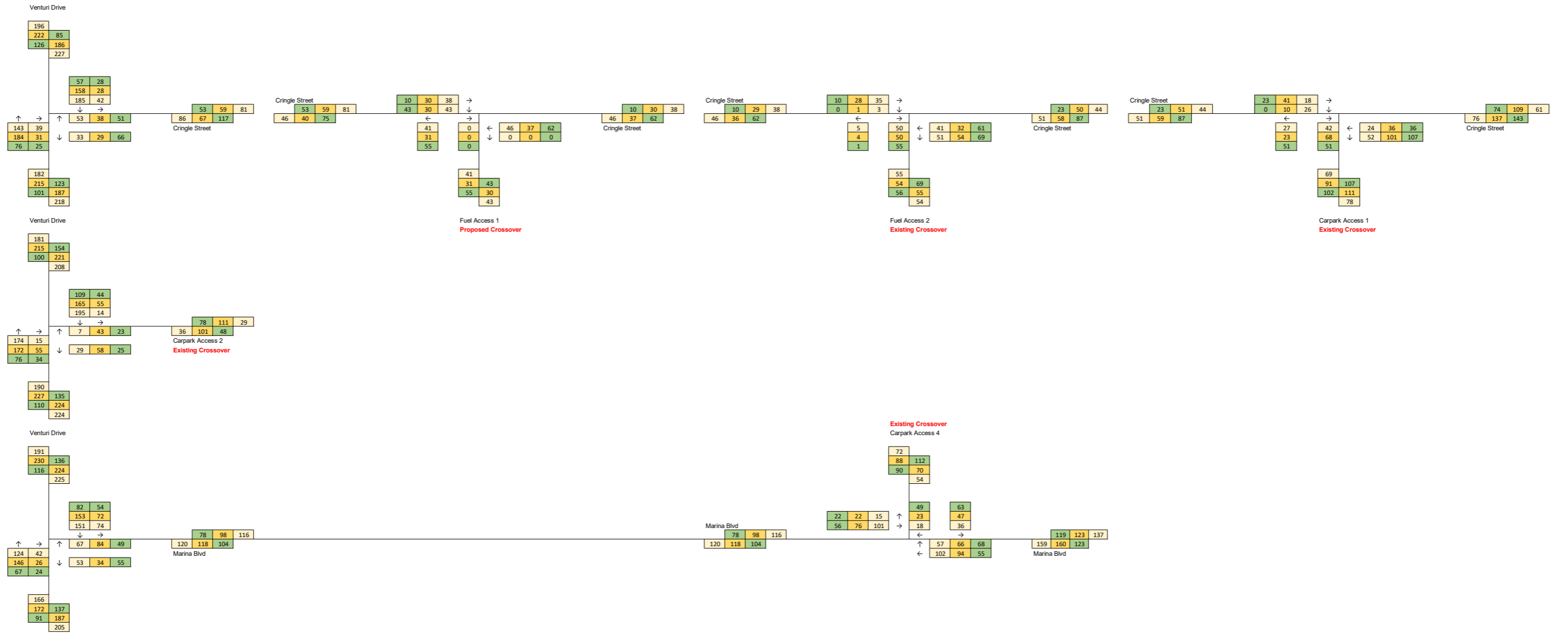
Appendix D Traffic Volumes



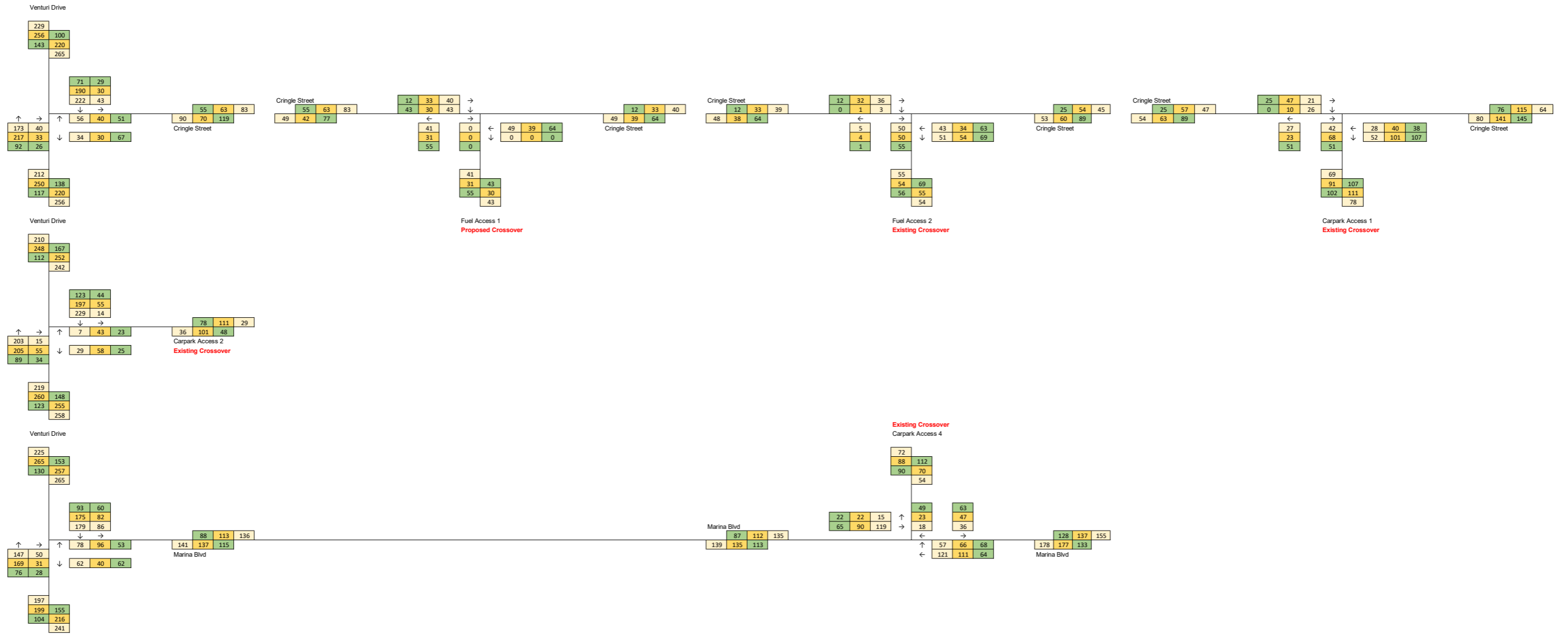
2022 Background Traffic



**AM** 8:00  
**PM** 14:45  
**SAT** 11:00



**AM** 8:00  
**PM** 14:45  
**SAT** 11:00



Appendix E SIDRA



# MOVEMENT SUMMARY

Site: 102 [102\_AM\_Marina Blvd / Venturi Dr (Site Folder: 2022)]

Network: N101 [Base (Network Folder: AM Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	121	4.0	121	4.0	0.136	3.9	LOS A	0.7	5.5	0.22	0.47	0.22	33.5
3	R2	38	0.0	38	0.0	0.136	7.2	LOS A	0.7	5.5	0.22	0.47	0.22	33.5
Approach		159	3.0	159	3.0	0.136	4.6	LOS A	0.7	5.5	0.22	0.47	0.22	33.5
East: Marina Blvd														
4	L2	48	0.0	48	0.0	0.103	2.9	LOS A	0.5	3.4	0.30	0.57	0.30	34.7
6	R2	60	0.0	60	0.0	0.103	5.9	LOS A	0.5	3.4	0.30	0.57	0.30	21.9
Approach		108	0.0	108	0.0	0.103	4.5	LOS A	0.5	3.4	0.30	0.57	0.30	30.1
North: Venturi Dr														
7	L2	64	2.0	64	2.0	0.155	2.5	LOS A	0.7	5.7	0.14	0.40	0.14	27.5
8	T1	145	4.0	145	4.0	0.155	2.5	LOS A	0.7	5.7	0.14	0.40	0.14	40.6
Approach		209	3.4	209	3.4	0.155	2.5	LOS A	0.7	5.7	0.14	0.40	0.14	38.6
All Vehicles		477	2.5	477	2.5	0.155	3.7	LOS A	0.7	5.7	0.20	0.46	0.20	34.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



# MOVEMENT SUMMARY

Site: 104 [104\_AM\_Venturi Dr / Cringle St (Site Folder: 2022)]

Network: N101 [Base (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	157	3.0	157	3.0	0.082	0.0	LOS A	0.0	0.3	0.03	0.02	0.03	49.2
3	R2	5	0.0	5	0.0	0.082	5.2	LOS A	0.0	0.3	0.03	0.02	0.03	48.7
Approach		162	2.9	162	2.9	0.082	0.2	NA	0.0	0.3	0.03	0.02	0.03	49.2
East: Cringle St														
4	L2	5	0.0	5	0.0	0.019	5.1	LOS A	0.1	0.5	0.32	0.56	0.32	25.6
6	R2	14	0.0	14	0.0	0.019	5.9	LOS A	0.1	0.5	0.32	0.56	0.32	31.4
Approach		19	0.0	19	0.0	0.019	5.7	LOS A	0.1	0.5	0.32	0.56	0.32	30.2
North: Venturi Dr														
7	L2	6	0.0	6	0.0	0.104	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	48.9
8	T1	197	3.0	197	3.0	0.104	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	48.9
Approach		203	2.9	203	2.9	0.104	0.1	NA	0.0	0.0	0.00	0.02	0.00	48.9
All Vehicles		384	2.8	384	2.8	0.104	0.4	NA	0.1	0.5	0.03	0.04	0.03	47.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_AM\_Venturi Dr Access (Site Folder: 2022)]

Network: N101 [Base (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	155	3.0	155	3.0	0.097	0.2	LOS A	0.2	1.4	0.11	0.08	0.11	40.4
3	R2	26	0.0	26	0.0	0.097	3.6	LOS A	0.2	1.4	0.11	0.08	0.11	33.5
Approach		181	2.6	181	2.6	0.097	0.7	NA	0.2	1.4	0.11	0.08	0.11	38.8
East: Venturi Dr Access														
4	L2	31	0.0	31	0.0	0.030	3.1	LOS A	0.1	0.8	0.27	0.50	0.27	21.8
6	R2	7	0.0	7	0.0	0.030	3.9	LOS A	0.1	0.8	0.27	0.50	0.27	21.8
Approach		38	0.0	38	0.0	0.030	3.2	LOS A	0.1	0.8	0.27	0.50	0.27	21.8
North: Venturi Dr														
7	L2	23	0.0	23	0.0	0.102	4.6	LOS A	0.0	0.0	0.00	0.06	0.00	37.2
8	T1	179	4.0	179	4.0	0.102	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	47.4
Approach		202	3.5	202	3.5	0.102	0.5	NA	0.0	0.0	0.00	0.06	0.00	45.8
All Vehicles		421	2.8	421	2.8	0.102	0.8	NA	0.2	1.4	0.07	0.11	0.07	42.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_AM\_Marina Blvd Access (West) (Site Folder: 2022)]

Network: N101 [Base (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	103	0.0	103	0.0	0.052	0.0	LOS A	0.0	0.1	0.01	0.01	0.01	48.7
3	R2	2	0.0	2	0.0	0.052	3.4	LOS A	0.0	0.1	0.01	0.01	0.01	37.5
Approach		105	0.0	105	0.0	0.052	0.1	NA	0.0	0.1	0.01	0.01	0.01	48.2
North: Marina Blvd Access														
4	L2	8	0.0	8	0.0	0.010	2.8	LOS A	0.0	0.3	0.19	0.47	0.19	22.5
6	R2	5	0.0	5	0.0	0.010	3.1	LOS A	0.0	0.3	0.19	0.47	0.19	22.5
Approach		14	0.0	14	0.0	0.010	2.9	LOS A	0.0	0.3	0.19	0.47	0.19	22.5
West: Marina Blvd														
7	L2	2	0.0	2	0.0	0.050	2.9	LOS A	0.0	0.0	0.00	0.01	0.00	26.6
8	T1	100	1.0	100	1.0	0.050	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	48.9
Approach		102	1.0	102	1.0	0.050	0.1	NA	0.0	0.0	0.00	0.01	0.00	47.7
All Vehicles		221	0.5	221	0.5	0.052	0.2	NA	0.0	0.3	0.02	0.04	0.02	45.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_AM\_Marina Blvd Access (East) (Site Folder: 2022)]

Network: N101 [Base (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	102	0.0	102	0.0	0.059	0.1	LOS A	0.1	0.6	0.06	0.07	0.06	45.7
3	R2	14	0.0	14	0.0	0.059	4.9	LOS A	0.1	0.6	0.06	0.07	0.06	40.8
Approach		116	0.0	116	0.0	0.059	0.6	NA	0.1	0.6	0.06	0.07	0.06	45.0
North: Marina Blvd Access														
4	L2	8	0.0	8	0.0	0.009	2.8	LOS A	0.0	0.2	0.20	0.47	0.20	36.5
6	R2	3	0.0	3	0.0	0.009	3.2	LOS A	0.0	0.2	0.20	0.47	0.20	22.6
Approach		12	0.0	12	0.0	0.009	2.9	LOS A	0.0	0.2	0.20	0.47	0.20	34.7
West: Marina Blvd														
7	L2	2	0.0	2	0.0	0.053	3.1	LOS A	0.0	0.0	0.00	0.01	0.00	16.9
8	T1	106	1.0	106	1.0	0.053	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.7
Approach		108	1.0	108	1.0	0.053	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.9
All Vehicles		236	0.5	236	0.5	0.059	0.5	NA	0.1	0.6	0.04	0.06	0.04	46.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 106 [106\_AM\_Cringle St Existing Access (Site Folder: 2022)]

Network: N101 [Base (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Cringle St Existing Access														
4	L2	5	0.0	5	0.0	0.010	2.6	LOS A	0.0	0.2	0.06	0.48	0.06	23.7
6	R2	8	0.0	8	0.0	0.010	2.5	LOS A	0.0	0.2	0.06	0.48	0.06	24.7
Approach		14	0.0	14	0.0	0.010	2.5	LOS A	0.0	0.2	0.06	0.48	0.06	24.4
East: Cringle St														
7	L2	6	0.0	6	0.0	0.010	2.8	LOS A	0.0	0.0	0.00	0.16	0.00	32.9
8	T1	14	0.0	14	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.16	0.00	37.7
Approach		20	0.0	20	0.0	0.010	0.9	NA	0.0	0.0	0.00	0.16	0.00	35.5
West: Cringle St														
2	T1	8	0.0	8	0.0	0.006	0.0	LOS A	0.0	0.1	0.04	0.15	0.04	42.3
3	R2	3	0.0	3	0.0	0.006	4.6	LOS A	0.0	0.1	0.04	0.15	0.04	35.9
Approach		12	0.0	12	0.0	0.006	1.3	NA	0.0	0.1	0.04	0.15	0.04	40.4
All Vehicles		45	0.0	45	0.0	0.010	1.5	NA	0.0	0.2	0.03	0.25	0.03	33.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 102 [102\_2025AM\_Marina Blvd / Venturi Dr (Site Folder: 2025)]

Network: N101 [2025AM (Network Folder: AM Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	131	4.0	131	4.0	0.152	3.9	LOS A	0.8	6.3	0.24	0.48	0.24	43.7
3	R2	44	0.0	44	0.0	0.152	7.2	LOS A	0.8	6.3	0.24	0.48	0.24	43.7
Approach		175	3.0	175	3.0	0.152	4.8	LOS A	0.8	6.3	0.24	0.48	0.24	43.7
East: Marina Blvd														
4	L2	56	0.0	56	0.0	0.122	4.6	LOS A	0.6	4.1	0.32	0.59	0.32	42.6
6	R2	71	0.0	71	0.0	0.122	7.7	LOS A	0.6	4.1	0.32	0.59	0.32	26.8
Approach		126	0.0	126	0.0	0.122	6.3	LOS A	0.6	4.1	0.32	0.59	0.32	38.5
North: Venturi Dr														
7	L2	78	2.0	78	2.0	0.177	2.5	LOS A	0.9	6.7	0.16	0.41	0.16	27.2
8	T1	159	4.0	159	4.0	0.177	2.5	LOS A	0.9	6.7	0.16	0.41	0.16	46.7
Approach		237	3.3	237	3.3	0.177	2.5	LOS A	0.9	6.7	0.16	0.41	0.16	45.4
All Vehicles		538	2.4	538	2.4	0.177	4.1	LOS A	0.9	6.7	0.22	0.47	0.22	43.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 104 [104\_2025AM\_Venturi Dr / Cringle St (Site Folder: 2025)]

Network: N101 [2025AM (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	151	3.0	151	3.0	0.104	0.3	LOS A	0.3	2.2	0.17	0.12	0.17	45.2
3	R2	41	0.0	41	0.0	0.104	5.4	LOS A	0.3	2.2	0.17	0.12	0.17	42.8
Approach		192	2.4	192	2.4	0.104	1.4	NA	0.3	2.2	0.17	0.12	0.17	44.8
East: Cringle St														
4	L2	35	0.0	35	0.0	0.088	4.3	LOS A	0.3	2.3	0.34	0.59	0.34	23.0
6	R2	56	0.0	56	0.0	0.088	5.3	LOS A	0.3	2.3	0.34	0.59	0.34	30.9
Approach		91	0.0	91	0.0	0.088	4.9	LOS A	0.3	2.3	0.34	0.59	0.34	28.8
North: Venturi Dr														
7	L2	44	0.0	44	0.0	0.122	4.6	LOS A	0.0	0.0	0.00	0.10	0.00	44.2
8	T1	195	3.0	195	3.0	0.122	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	44.2
Approach		239	2.4	239	2.4	0.122	0.8	NA	0.0	0.0	0.00	0.10	0.00	44.2
All Vehicles		521	2.0	521	2.0	0.122	1.8	NA	0.3	2.3	0.12	0.19	0.12	41.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_2025AM\_Venturi Dr Access (Site Folder: 2025)]

Network: N101 [2025AM (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	183	3.0	183	3.0	0.104	0.1	LOS A	0.1	0.9	0.06	0.04	0.06	44.1
3	R2	16	0.0	16	0.0	0.104	3.7	LOS A	0.1	0.9	0.06	0.04	0.06	35.1
Approach		199	2.8	199	2.8	0.104	0.4	NA	0.1	0.9	0.06	0.04	0.06	42.8
East: Venturi Dr Access														
4	L2	31	0.0	31	0.0	0.031	3.2	LOS A	0.1	0.8	0.30	0.51	0.30	21.5
6	R2	7	0.0	7	0.0	0.031	4.1	LOS A	0.1	0.8	0.30	0.51	0.30	21.5
Approach		38	0.0	38	0.0	0.031	3.4	LOS A	0.1	0.8	0.30	0.51	0.30	21.5
North: Venturi Dr														
7	L2	15	0.0	15	0.0	0.111	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	37.8
8	T1	205	4.0	205	4.0	0.111	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	48.4
Approach		220	3.7	220	3.7	0.111	0.3	NA	0.0	0.0	0.00	0.04	0.00	47.4
All Vehicles		457	3.0	457	3.0	0.111	0.6	NA	0.1	0.9	0.05	0.08	0.05	44.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_2025AM\_Marina Blvd Access (Site Folder: 2025)]

Network: N101 [2025AM (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	107	0.0	107	0.0	0.091	0.2	LOS A	0.3	2.6	0.17	0.19	0.17	40.1
3	R2	60	0.0	60	0.0	0.091	4.9	LOS A	0.3	2.6	0.17	0.19	0.17	37.2
Approach		167	0.0	167	0.0	0.091	1.9	NA	0.3	2.6	0.17	0.19	0.17	38.9
North: Marina Blvd Access														
4	L2	38	0.0	38	0.0	0.044	2.9	LOS A	0.2	1.2	0.21	0.49	0.21	37.3
6	R2	19	0.0	19	0.0	0.044	3.5	LOS A	0.2	1.2	0.21	0.49	0.21	22.4
Approach		57	0.0	57	0.0	0.044	3.1	LOS A	0.2	1.2	0.21	0.49	0.21	35.0
West: Marina Blvd														
7	L2	16	0.0	16	0.0	0.060	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	22.2
8	T1	106	1.0	106	1.0	0.060	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	48.1
Approach		122	0.9	122	0.9	0.060	0.6	NA	0.0	0.0	0.00	0.07	0.00	44.3
All Vehicles		346	0.3	346	0.3	0.091	1.6	NA	0.3	2.6	0.12	0.20	0.12	40.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 106 [106\_2025AM\_Cringle St Existing Access (Site Folder: 2025)]

Network: N101 [2025AM (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Existing Access														
4	L2	5	0.0	5	0.0	0.048	2.7	LOS A	0.2	1.2	0.17	0.49	0.17	22.2
6	R2	53	0.0	53	0.0	0.048	2.8	LOS A	0.2	1.2	0.17	0.49	0.17	22.2
Approach		58	0.0	58	0.0	0.048	2.8	LOS A	0.2	1.2	0.17	0.49	0.17	22.2
East: Cringle St														
7	L2	54	0.0	54	0.0	0.051	2.8	LOS A	0.0	0.0	0.00	0.28	0.00	30.0
8	T1	43	0.0	43	0.0	0.051	0.0	LOS A	0.0	0.0	0.00	0.28	0.00	32.1
Approach		97	0.0	97	0.0	0.051	1.5	NA	0.0	0.0	0.00	0.28	0.00	30.7
West: Cringle St														
2	T1	37	0.0	37	0.0	0.021	0.0	LOS A	0.0	0.1	0.04	0.04	0.04	45.4
3	R2	3	0.0	3	0.0	0.021	3.6	LOS A	0.0	0.1	0.04	0.04	0.04	36.7
Approach		40	0.0	40	0.0	0.021	0.3	NA	0.0	0.1	0.04	0.04	0.04	44.2
All Vehicles		195	0.0	195	0.0	0.051	1.7	NA	0.2	1.2	0.06	0.29	0.06	30.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 105 [105\_2025AM\_Cringle St Access (West Proposed)  
(Site Folder: 2025)]

Network: N101 [2025AM  
(Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Access (West)														
4	L2	43	0.0	43	0.0	0.028	2.7	LOS A	0.1	0.8	0.12	0.46	0.12	23.6
6	R2	1	0.0	1	0.0	0.028	2.9	LOS A	0.1	0.8	0.12	0.46	0.12	23.6
Approach		44	0.0	44	0.0	0.028	2.7	LOS A	0.1	0.8	0.12	0.46	0.12	23.6
East: Cringle St														
7	L2	1	0.0	1	0.0	0.025	3.4	LOS A	0.0	0.0	0.00	0.01	0.00	39.6
8	T1	48	0.0	48	0.0	0.025	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.0
Approach		49	0.0	49	0.0	0.025	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.7
West: Cringle St														
2	T1	40	0.0	40	0.0	0.047	0.1	LOS A	0.2	1.5	0.12	0.27	0.12	31.8
3	R2	45	0.0	45	0.0	0.047	3.7	LOS A	0.2	1.5	0.12	0.27	0.12	29.6
Approach		85	0.0	85	0.0	0.047	2.0	NA	0.2	1.5	0.12	0.27	0.12	30.4
All Vehicles		179	0.0	179	0.0	0.047	1.7	NA	0.2	1.5	0.09	0.25	0.09	32.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 107 [107\_2025AM\_Cringle St Access (East Proposed)  
(Site Folder: 2025)]

Network: N101 [2025AM  
(Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St East Proposed Access														
4	L2	28	0.0	28	0.0	0.055	2.6	LOS A	0.2	1.4	0.10	0.48	0.10	23.3
6	R2	44	0.0	44	0.0	0.055	2.7	LOS A	0.2	1.4	0.10	0.48	0.10	35.5
Approach		73	0.0	73	0.0	0.055	2.7	LOS A	0.2	1.4	0.10	0.48	0.10	33.2
East: Cringle St														
7	L2	55	0.0	55	0.0	0.042	4.6	LOS A	0.0	0.0	0.00	0.37	0.00	34.8
8	T1	25	0.0	25	0.0	0.042	0.0	LOS A	0.0	0.0	0.00	0.37	0.00	36.6
Approach		80	0.0	80	0.0	0.042	3.1	NA	0.0	0.0	0.00	0.37	0.00	35.3
West: Cringle St														
2	T1	19	0.0	19	0.0	0.026	0.2	LOS A	0.1	0.9	0.16	0.29	0.16	42.0
3	R2	27	0.0	27	0.0	0.026	2.9	LOS A	0.1	0.9	0.16	0.29	0.16	27.0
Approach		46	0.0	46	0.0	0.026	1.8	NA	0.1	0.9	0.16	0.29	0.16	34.9
All Vehicles		199	0.0	199	0.0	0.055	2.7	NA	0.2	1.4	0.07	0.39	0.07	34.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 102 [102\_2035AM\_Marina Blvd / Venturi Dr (Site Folder: 2035)]

Network: N101 [2035AM (Network Folder: AM Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	155	4.0	155	4.0	0.182	4.0	LOS A	1.0	7.8	0.27	0.48	0.27	43.6
3	R2	53	0.0	53	0.0	0.182	7.3	LOS A	1.0	7.8	0.27	0.48	0.27	43.6
Approach		207	3.0	207	3.0	0.182	4.9	LOS A	1.0	7.8	0.27	0.48	0.27	43.6
East: Marina Blvd														
4	L2	65	0.0	65	0.0	0.146	4.8	LOS A	0.7	5.0	0.36	0.60	0.36	42.5
6	R2	82	0.0	82	0.0	0.146	7.9	LOS A	0.7	5.0	0.36	0.60	0.36	26.6
Approach		147	0.0	147	0.0	0.146	6.5	LOS A	0.7	5.0	0.36	0.60	0.36	38.4
North: Venturi Dr														
7	L2	91	2.0	91	2.0	0.210	2.5	LOS A	1.1	8.3	0.18	0.41	0.18	26.8
8	T1	188	4.0	188	4.0	0.210	2.6	LOS A	1.1	8.3	0.18	0.41	0.18	46.6
Approach		279	3.4	279	3.4	0.210	2.6	LOS A	1.1	8.3	0.18	0.41	0.18	45.3
All Vehicles		634	2.5	634	2.5	0.210	4.2	LOS A	1.1	8.3	0.25	0.48	0.25	43.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 104 [104\_2035AM\_Venturi Dr / Cringle St (Site Folder: 2035)]

Network: N101 [2035AM (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	182	3.0	182	3.0	0.121	0.3	LOS A	0.3	2.5	0.17	0.11	0.17	45.5
3	R2	42	0.0	42	0.0	0.121	5.6	LOS A	0.3	2.5	0.17	0.11	0.17	43.3
Approach		224	2.4	224	2.4	0.121	1.3	NA	0.3	2.5	0.17	0.11	0.17	45.2
East: Cringle St														
4	L2	36	0.0	36	0.0	0.099	4.4	LOS A	0.3	2.5	0.38	0.62	0.38	22.2
6	R2	59	0.0	59	0.0	0.099	5.8	LOS A	0.3	2.5	0.38	0.62	0.38	30.2
Approach		95	0.0	95	0.0	0.099	5.3	LOS A	0.3	2.5	0.38	0.62	0.38	28.2
North: Venturi Dr														
7	L2	45	0.0	45	0.0	0.143	4.6	LOS A	0.0	0.0	0.00	0.09	0.00	44.8
8	T1	234	3.0	234	3.0	0.143	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	44.8
Approach		279	2.5	279	2.5	0.143	0.7	NA	0.0	0.0	0.00	0.09	0.00	44.8
All Vehicles		598	2.1	598	2.1	0.143	1.7	NA	0.3	2.5	0.12	0.18	0.12	41.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_2035AM\_Venturi Dr Access (Site Folder: 2035)]

Network: N101 [2035AM (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	214	3.0	214	3.0	0.120	0.1	LOS A	0.1	1.0	0.06	0.04	0.06	44.4
3	R2	16	0.0	16	0.0	0.120	3.8	LOS A	0.1	1.0	0.06	0.04	0.06	35.3
Approach		229	2.8	229	2.8	0.120	0.4	NA	0.1	1.0	0.06	0.04	0.06	43.3
East: Venturi Dr Access														
4	L2	31	0.0	31	0.0	0.032	3.3	LOS A	0.1	0.9	0.33	0.52	0.33	20.9
6	R2	7	0.0	7	0.0	0.032	4.5	LOS A	0.1	0.9	0.33	0.52	0.33	20.9
Approach		38	0.0	38	0.0	0.032	3.5	LOS A	0.1	0.9	0.33	0.52	0.33	20.9
North: Venturi Dr														
7	L2	15	0.0	15	0.0	0.128	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	37.9
8	T1	241	4.0	241	4.0	0.128	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	48.6
Approach		256	3.8	256	3.8	0.128	0.3	NA	0.0	0.0	0.00	0.03	0.00	47.8
All Vehicles		523	3.1	523	3.1	0.128	0.5	NA	0.1	1.0	0.05	0.07	0.05	45.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_2035AM\_Marina Blvd Access (Site Folder: 2035)]

Network: N101 [2035AM (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	127	0.0	127	0.0	0.102	0.2	LOS A	0.4	2.7	0.17	0.18	0.17	40.7
3	R2	60	0.0	60	0.0	0.102	5.0	LOS A	0.4	2.7	0.17	0.18	0.17	37.6
Approach		187	0.0	187	0.0	0.102	1.8	NA	0.4	2.7	0.17	0.18	0.17	39.5
North: Marina Blvd Access														
4	L2	38	0.0	38	0.0	0.045	2.9	LOS A	0.2	1.2	0.23	0.50	0.23	37.1
6	R2	19	0.0	19	0.0	0.045	3.7	LOS A	0.2	1.2	0.23	0.50	0.23	22.0
Approach		57	0.0	57	0.0	0.045	3.2	LOS A	0.2	1.2	0.23	0.50	0.23	34.7
West: Marina Blvd														
7	L2	16	0.0	16	0.0	0.069	4.6	LOS A	0.0	0.0	0.00	0.06	0.00	22.2
8	T1	125	1.0	125	1.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	48.4
Approach		141	0.9	141	0.9	0.069	0.5	NA	0.0	0.0	0.00	0.06	0.00	45.0
All Vehicles		385	0.3	385	0.3	0.102	1.5	NA	0.4	2.7	0.12	0.18	0.12	41.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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



# MOVEMENT SUMMARY

Site: 106 [106\_2035AM\_Cringle St Existing Access (Site Folder: 2035)]

Network: N101 [2035AM (Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Existing Access														
4	L2	5	0.0	5	0.0	0.048	2.7	LOS A	0.2	1.2	0.17	0.49	0.17	22.2
6	R2	53	0.0	53	0.0	0.048	2.8	LOS A	0.2	1.2	0.17	0.49	0.17	22.2
Approach		58	0.0	58	0.0	0.048	2.8	LOS A	0.2	1.2	0.17	0.49	0.17	22.2
East: Cringle St														
7	L2	54	0.0	54	0.0	0.052	2.8	LOS A	0.0	0.0	0.00	0.28	0.00	30.1
8	T1	45	0.0	45	0.0	0.052	0.0	LOS A	0.0	0.0	0.00	0.28	0.00	32.4
Approach		99	0.0	99	0.0	0.052	1.5	NA	0.0	0.0	0.00	0.28	0.00	30.9
West: Cringle St														
2	T1	38	0.0	38	0.0	0.021	0.0	LOS A	0.0	0.1	0.04	0.04	0.04	45.5
3	R2	3	0.0	3	0.0	0.021	3.6	LOS A	0.0	0.1	0.04	0.04	0.04	36.7
Approach		41	0.0	41	0.0	0.021	0.3	NA	0.0	0.1	0.04	0.04	0.04	44.4
All Vehicles		198	0.0	198	0.0	0.052	1.6	NA	0.2	1.2	0.06	0.29	0.06	30.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 105 [105\_2035AM\_Cringle St Access (West Proposed)  
(Site Folder: 2035)]

Network: N101 [2035AM  
(Network Folder: AM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Access (West)														
4	L2	43	0.0	43	0.0	0.028	2.7	LOS A	0.1	0.8	0.13	0.46	0.13	23.5
6	R2	1	0.0	1	0.0	0.028	2.9	LOS A	0.1	0.8	0.13	0.46	0.13	23.5
Approach		44	0.0	44	0.0	0.028	2.7	LOS A	0.1	0.8	0.13	0.46	0.13	23.5
East: Cringle St														
7	L2	1	0.0	1	0.0	0.027	3.4	LOS A	0.0	0.0	0.00	0.01	0.00	39.6
8	T1	52	0.0	52	0.0	0.027	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.1
Approach		53	0.0	53	0.0	0.027	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.7
West: Cringle St														
2	T1	42	0.0	42	0.0	0.048	0.1	LOS A	0.2	1.5	0.12	0.27	0.12	32.0
3	R2	45	0.0	45	0.0	0.048	3.8	LOS A	0.2	1.5	0.12	0.27	0.12	29.7
Approach		87	0.0	87	0.0	0.048	2.0	NA	0.2	1.5	0.12	0.27	0.12	30.6
All Vehicles		184	0.0	184	0.0	0.048	1.6	NA	0.2	1.5	0.09	0.24	0.09	32.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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: 107 [107\_2035AM\_Cringle St Access (East Proposed)]  
 (Site Folder: 2035)

Network: N101 [2035AM]  
 (Network Folder: AM Peak)

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St East Proposed Access														
4	L2	28	0.0	28	0.0	0.055	2.6	LOS A	0.2	1.4	0.11	0.48	0.11	23.2
6	R2	44	0.0	44	0.0	0.055	2.8	LOS A	0.2	1.4	0.11	0.48	0.11	35.4
Approach		73	0.0	73	0.0	0.055	2.7	LOS A	0.2	1.4	0.11	0.48	0.11	33.1
East: Cringle St														
7	L2	55	0.0	55	0.0	0.044	4.6	LOS A	0.0	0.0	0.00	0.35	0.00	35.1
8	T1	29	0.0	29	0.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.35	0.00	37.1
Approach		84	0.0	84	0.0	0.044	3.0	NA	0.0	0.0	0.00	0.35	0.00	35.7
West: Cringle St														
2	T1	22	0.0	22	0.0	0.028	0.2	LOS A	0.1	0.9	0.17	0.27	0.17	42.3
3	R2	27	0.0	27	0.0	0.028	2.9	LOS A	0.1	0.9	0.17	0.27	0.17	27.4
Approach		49	0.0	49	0.0	0.028	1.7	NA	0.1	0.9	0.17	0.27	0.17	35.9
All Vehicles		206	0.0	206	0.0	0.055	2.6	NA	0.2	1.4	0.08	0.38	0.08	34.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 102 [102\_PM\_Marina Blvd / Venturi Dr (Site Folder: 2022)]

Network: N101 [Base (Network Folder: PM Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	118	4.0	118	4.0	0.124	3.9	LOS A	0.6	4.9	0.22	0.45	0.22	33.8
3	R2	24	0.0	24	0.0	0.124	7.2	LOS A	0.6	4.9	0.22	0.45	0.22	33.8
Approach		142	3.3	142	3.3	0.124	4.5	LOS A	0.6	4.9	0.22	0.45	0.22	33.8
East: Marina Blvd														
4	L2	33	0.0	33	0.0	0.091	2.8	LOS A	0.4	2.9	0.27	0.58	0.27	34.4
6	R2	65	0.0	65	0.0	0.091	5.7	LOS A	0.4	2.9	0.27	0.58	0.27	21.9
Approach		98	0.0	98	0.0	0.091	4.7	LOS A	0.4	2.9	0.27	0.58	0.27	28.4
North: Venturi Dr														
7	L2	54	0.0	54	0.0	0.125	2.4	LOS A	0.6	4.4	0.10	0.40	0.10	28.0
8	T1	120	4.0	120	4.0	0.125	2.4	LOS A	0.6	4.4	0.10	0.40	0.10	40.9
Approach		174	2.8	174	2.8	0.125	2.4	LOS A	0.6	4.4	0.10	0.40	0.10	38.9
All Vehicles		414	2.3	414	2.3	0.125	3.7	LOS A	0.6	4.9	0.18	0.46	0.18	34.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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: 104 [104\_PM\_Venturi Dr / Cringle St (Site Folder: 2022)]

Network: N101 [Base (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV ] %	[ Total veh/h	HV ] %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	172	1.0	172	1.0	0.091	0.1	LOS A	0.1	0.6	0.04	0.03	0.04	48.8
3	R2	9	11.0	9	11.0	0.091	5.4	LOS A	0.1	0.6	0.04	0.03	0.04	48.2
Approach		181	1.5	181	1.5	0.091	0.3	NA	0.1	0.6	0.04	0.03	0.04	48.8
East: Cringle St														
4	L2	5	0.0	5	0.0	0.013	5.0	LOS A	0.0	0.3	0.29	0.54	0.29	25.9
6	R2	8	0.0	8	0.0	0.013	5.9	LOS A	0.0	0.3	0.29	0.54	0.29	31.6
Approach		14	0.0	14	0.0	0.013	5.5	LOS A	0.0	0.3	0.29	0.54	0.29	30.0
North: Venturi Dr														
7	L2	8	0.0	8	0.0	0.090	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	48.3
8	T1	167	3.0	167	3.0	0.090	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	48.3
Approach		176	2.9	176	2.9	0.090	0.2	NA	0.0	0.0	0.00	0.03	0.00	48.3
All Vehicles		371	2.1	371	2.1	0.091	0.5	NA	0.1	0.6	0.03	0.05	0.03	47.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_PM\_Venturi Dr Access (Site Folder: 2022)]

Network: N101 [Base (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	175	2.0	175	2.0	0.094	0.0	LOS A	0.1	0.5	0.03	0.02	0.03	46.6
3	R2	8	0.0	8	0.0	0.094	3.5	LOS A	0.1	0.5	0.03	0.02	0.03	36.2
Approach		183	1.9	183	1.9	0.094	0.2	NA	0.1	0.5	0.03	0.02	0.03	45.7
East: Venturi Dr Access														
4	L2	9	0.0	9	0.0	0.013	3.0	LOS A	0.0	0.3	0.27	0.50	0.27	21.4
6	R2	6	0.0	6	0.0	0.013	3.8	LOS A	0.0	0.3	0.27	0.50	0.27	21.4
Approach		16	0.0	16	0.0	0.013	3.3	LOS A	0.0	0.3	0.27	0.50	0.27	21.4
North: Venturi Dr														
7	L2	8	0.0	8	0.0	0.086	4.6	LOS A	0.0	0.0	0.00	0.03	0.00	38.0
8	T1	164	3.0	164	3.0	0.086	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	48.9
Approach		173	2.9	173	2.9	0.086	0.2	NA	0.0	0.0	0.00	0.03	0.00	48.1
All Vehicles		372	2.3	372	2.3	0.094	0.3	NA	0.1	0.5	0.03	0.05	0.03	46.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_PM\_Marina Blvd Access (West) (Site Folder: 2022)]

Network: N101 [Base (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	93	0.0	93	0.0	0.049	0.0	LOS A	0.0	0.2	0.02	0.03	0.02	46.7
3	R2	5	0.0	5	0.0	0.049	3.3	LOS A	0.0	0.2	0.02	0.03	0.02	36.7
Approach		98	0.0	98	0.0	0.049	0.2	NA	0.0	0.2	0.02	0.03	0.02	45.8
North: Marina Blvd Access														
4	L2	5	0.0	5	0.0	0.008	2.7	LOS A	0.0	0.2	0.17	0.47	0.17	22.7
6	R2	5	0.0	5	0.0	0.008	3.0	LOS A	0.0	0.2	0.17	0.47	0.17	22.7
Approach		11	0.0	11	0.0	0.008	2.9	LOS A	0.0	0.2	0.17	0.47	0.17	22.7
West: Marina Blvd														
7	L2	3	0.0	3	0.0	0.038	2.9	LOS A	0.0	0.0	0.00	0.02	0.00	26.4
8	T1	75	0.0	75	0.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	48.0
Approach		78	0.0	78	0.0	0.038	0.1	NA	0.0	0.0	0.00	0.02	0.00	45.7
All Vehicles		186	0.0	186	0.0	0.049	0.3	NA	0.0	0.2	0.02	0.05	0.02	43.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_PM\_Marina Blvd Access (East) (Site Folder: 2022)]

Network: N101 [Base (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	97	0.0	97	0.0	0.057	0.0	LOS A	0.1	0.7	0.05	0.07	0.05	45.5
3	R2	15	0.0	15	0.0	0.057	4.8	LOS A	0.1	0.7	0.05	0.07	0.05	40.6
Approach		112	0.0	112	0.0	0.057	0.7	NA	0.1	0.7	0.05	0.07	0.05	44.7
North: Marina Blvd Access														
4	L2	16	0.0	16	0.0	0.011	2.8	LOS A	0.0	0.3	0.16	0.46	0.16	36.6
6	R2	1	0.0	1	0.0	0.011	3.1	LOS A	0.0	0.3	0.16	0.46	0.16	23.1
Approach		17	0.0	17	0.0	0.011	2.8	LOS A	0.0	0.3	0.16	0.46	0.16	36.3
West: Marina Blvd														
7	L2	1	0.0	1	0.0	0.039	3.1	LOS A	0.0	0.0	0.00	0.01	0.00	17.0
8	T1	80	0.0	80	0.0	0.039	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.8
Approach		81	0.0	81	0.0	0.039	0.0	NA	0.0	0.0	0.00	0.01	0.00	49.3
All Vehicles		209	0.0	209	0.0	0.057	0.6	NA	0.1	0.7	0.04	0.08	0.04	45.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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



# MOVEMENT SUMMARY

Site: 106 [106\_PM\_Cringle St Existing Access (Site Folder: 2022)]

Network: N101 [Base (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Cringle St Existing Access														
4	L2	4	0.0	4	0.0	0.013	2.6	LOS A	0.0	0.3	0.06	0.48	0.06	23.6
6	R2	13	0.0	13	0.0	0.013	2.5	LOS A	0.0	0.3	0.06	0.48	0.06	24.6
Approach		17	0.0	17	0.0	0.013	2.5	LOS A	0.0	0.3	0.06	0.48	0.06	24.4
East: Cringle St														
7	L2	11	0.0	11	0.0	0.010	2.8	LOS A	0.0	0.0	0.00	0.27	0.00	30.3
8	T1	9	0.0	9	0.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.27	0.00	32.7
Approach		20	0.0	20	0.0	0.010	1.5	NA	0.0	0.0	0.00	0.27	0.00	31.2
West: Cringle St														
2	T1	17	7.0	17	7.0	0.010	0.0	LOS A	0.0	0.0	0.01	0.03	0.01	48.0
3	R2	1	0.0	1	0.0	0.010	4.6	LOS A	0.0	0.0	0.01	0.03	0.01	40.2
Approach		18	6.6	18	6.6	0.010	0.3	NA	0.0	0.0	0.01	0.03	0.01	47.4
All Vehicles		55	2.2	55	2.2	0.013	1.4	NA	0.0	0.3	0.02	0.26	0.02	35.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 102 [102\_2025PM\_Marina Blvd / Venturi Dr (Site Folder: 2025)]

Network: N101 [2025PM (Network Folder: PM Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	154	3.0	154	3.0	0.162	4.1	LOS A	0.4	2.7	0.28	0.47	0.28	43.9
3	R2	27	0.0	27	0.0	0.162	7.4	LOS A	0.4	2.7	0.28	0.47	0.28	43.9
Approach		181	2.5	181	2.5	0.162	4.6	LOS A	0.4	2.7	0.28	0.47	0.28	43.9
East: Marina Blvd														
4	L2	36	0.0	36	0.0	0.120	4.6	LOS A	0.2	1.6	0.32	0.60	0.32	42.2
6	R2	88	0.0	88	0.0	0.120	7.7	LOS A	0.2	1.6	0.32	0.60	0.32	26.3
Approach		124	0.0	124	0.0	0.120	6.8	LOS A	0.2	1.6	0.32	0.60	0.32	35.6
North: Venturi Dr														
7	L2	76	0.0	76	0.0	0.168	2.4	LOS A	0.3	2.6	0.12	0.40	0.12	27.7
8	T1	161	4.0	161	4.0	0.168	2.4	LOS A	0.3	2.6	0.12	0.40	0.12	46.8
Approach		237	2.7	237	2.7	0.168	2.4	LOS A	0.3	2.6	0.12	0.40	0.12	45.6
All Vehicles		542	2.0	542	2.0	0.168	4.1	LOS A	0.4	2.7	0.22	0.47	0.22	43.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 104 [104\_2025PM\_Venturi Dr / Cringle St (Site Folder: 2025)]

Network: N101 [2025PM (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	194	1.0	194	1.0	0.120	0.2	LOS A	0.1	0.8	0.11	0.08	0.11	46.8
3	R2	33	11.0	33	11.0	0.120	5.5	LOS A	0.1	0.8	0.11	0.08	0.11	45.2
Approach		226	2.4	226	2.4	0.120	0.9	NA	0.1	0.8	0.11	0.08	0.11	46.7
East: Cringle St														
4	L2	31	0.0	31	0.0	0.067	4.2	LOS A	0.1	0.7	0.30	0.57	0.30	23.3
6	R2	40	0.0	40	0.0	0.067	5.3	LOS A	0.1	0.7	0.30	0.57	0.30	31.1
Approach		71	0.0	71	0.0	0.067	4.8	LOS A	0.1	0.7	0.30	0.57	0.30	28.8
North: Venturi Dr														
7	L2	29	0.0	29	0.0	0.100	4.6	LOS A	0.0	0.0	0.00	0.08	0.00	45.1
8	T1	166	3.0	166	3.0	0.100	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	45.1
Approach		196	2.5	196	2.5	0.100	0.7	NA	0.0	0.0	0.00	0.08	0.00	45.1
All Vehicles		493	2.1	493	2.1	0.120	1.4	NA	0.1	0.8	0.10	0.15	0.10	43.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_2025PM\_Venturi Dr Access (Site Folder: 2025)]

Network: N101 [2025PM (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	181	2.0	181	2.0	0.132	0.3	LOS A	0.2	1.2	0.19	0.13	0.19	35.7
3	R2	58	0.0	58	0.0	0.132	3.7	LOS A	0.2	1.2	0.19	0.13	0.19	31.2
Approach		239	1.5	239	1.5	0.132	1.1	NA	0.2	1.2	0.19	0.13	0.19	34.1
East: Venturi Dr Access														
4	L2	61	0.0	61	0.0	0.096	3.1	LOS A	0.1	1.0	0.30	0.54	0.30	20.2
6	R2	45	0.0	45	0.0	0.096	4.4	LOS A	0.1	1.0	0.30	0.54	0.30	20.2
Approach		106	0.0	106	0.0	0.096	3.7	LOS A	0.1	1.0	0.30	0.54	0.30	20.2
North: Venturi Dr														
7	L2	58	0.0	58	0.0	0.116	4.6	LOS A	0.0	0.0	0.00	0.14	0.00	35.8
8	T1	174	3.0	174	3.0	0.116	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	44.8
Approach		232	2.3	232	2.3	0.116	1.1	NA	0.0	0.0	0.00	0.14	0.00	41.9
All Vehicles		577	1.5	577	1.5	0.132	1.6	NA	0.2	1.2	0.13	0.21	0.13	37.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).  
 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 [101\_2025PM\_Marina Blvd Access (Site Folder: 2025)]

Network: N101 [2025PM (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE 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: Marina Blvd														
2	T1	99	0.0	99	0.0	0.092	0.2	LOS A	0.2	1.1	0.17	0.22	0.17	39.3
3	R2	69	0.0	69	0.0	0.092	4.9	LOS A	0.2	1.1	0.17	0.22	0.17	36.6
Approach		168	0.0	168	0.0	0.092	2.1	NA	0.2	1.1	0.17	0.22	0.17	38.1
North: Marina Blvd Access														
4	L2	49	0.0	49	0.0	0.056	2.8	LOS A	0.1	0.6	0.17	0.48	0.17	37.5
6	R2	24	0.0	24	0.0	0.056	3.4	LOS A	0.1	0.6	0.17	0.48	0.17	22.8
Approach		74	0.0	74	0.0	0.056	3.0	LOS A	0.1	0.6	0.17	0.48	0.17	35.2
West: Marina Blvd														
7	L2	23	0.0	23	0.0	0.050	4.6	LOS A	0.0	0.0	0.00	0.12	0.00	21.7
8	T1	80	0.0	80	0.0	0.050	0.0	LOS A	0.0	0.0	0.00	0.12	0.00	46.9
Approach		103	0.0	103	0.0	0.050	1.0	NA	0.0	0.0	0.00	0.12	0.00	40.6
All Vehicles		345	0.0	345	0.0	0.092	2.0	NA	0.2	1.1	0.12	0.25	0.12	38.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 106 [106\_2025PM\_Cringle St Existing Access (Site Folder: 2025)]

Network: N101 [2025PM (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Existing Access														
4	L2	4	0.0	4	0.0	0.047	2.6	LOS A	0.1	0.5	0.15	0.49	0.15	22.3
6	R2	53	0.0	53	0.0	0.047	2.7	LOS A	0.1	0.5	0.15	0.49	0.15	22.3
Approach		57	0.0	57	0.0	0.047	2.7	LOS A	0.1	0.5	0.15	0.49	0.15	22.3
East: Cringle St														
7	L2	57	0.0	57	0.0	0.047	2.8	LOS A	0.0	0.0	0.00	0.32	0.00	29.3
8	T1	34	0.0	34	0.0	0.047	0.0	LOS A	0.0	0.0	0.00	0.32	0.00	30.8
Approach		91	0.0	91	0.0	0.047	1.7	NA	0.0	0.0	0.00	0.32	0.00	29.7
West: Cringle St														
2	T1	29	7.0	29	7.0	0.017	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	47.8
3	R2	1	0.0	1	0.0	0.017	3.6	LOS A	0.0	0.0	0.01	0.02	0.01	37.8
Approach		31	6.8	31	6.8	0.017	0.1	NA	0.0	0.0	0.01	0.02	0.01	47.2
All Vehicles		178	1.2	178	1.2	0.047	1.8	NA	0.1	0.5	0.05	0.32	0.05	29.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 105 [105\_2025PM\_Cringle St Access (West Proposed)  
(Site Folder: 2025)]

Network: N101 [2025PM  
(Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE 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: Cringle St Access (West)														
4	L2	33	0.0	33	0.0	0.021	2.6	LOS A	0.0	0.3	0.11	0.46	0.11	23.8
6	R2	1	0.0	1	0.0	0.021	2.7	LOS A	0.0	0.3	0.11	0.46	0.11	23.8
Approach		34	0.0	34	0.0	0.021	2.7	LOS A	0.0	0.3	0.11	0.46	0.11	23.8
East: Cringle St														
7	L2	1	0.0	1	0.0	0.020	3.4	LOS A	0.0	0.0	0.00	0.01	0.00	39.5
8	T1	39	0.0	39	0.0	0.020	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	48.8
Approach		40	0.0	40	0.0	0.020	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.4
West: Cringle St														
2	T1	32	7.0	32	7.0	0.035	0.1	LOS A	0.1	0.4	0.10	0.26	0.10	32.4
3	R2	32	0.0	32	0.0	0.035	3.7	LOS A	0.1	0.4	0.10	0.26	0.10	29.9
Approach		63	3.5	63	3.5	0.035	1.9	NA	0.1	0.4	0.10	0.26	0.10	30.9
All Vehicles		137	1.6	137	1.6	0.035	1.6	NA	0.1	0.4	0.07	0.24	0.07	32.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 107 [107\_2025PM\_Cringle St Access (East Proposed)  
(Site Folder: 2025)]

Network: N101 [2025PM  
(Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St East Proposed Access														
4	L2	24	0.0	24	0.0	0.078	2.7	LOS A	0.1	0.8	0.15	0.49	0.15	22.4
6	R2	72	0.0	72	0.0	0.078	2.9	LOS A	0.1	0.8	0.15	0.49	0.15	35.0
Approach		96	0.0	96	0.0	0.078	2.9	LOS A	0.1	0.8	0.15	0.49	0.15	33.6
East: Cringle St														
7	L2	106	0.0	106	0.0	0.076	4.6	LOS A	0.0	0.0	0.00	0.39	0.00	34.2
8	T1	38	0.0	38	0.0	0.076	0.0	LOS A	0.0	0.0	0.00	0.39	0.00	35.9
Approach		144	0.0	144	0.0	0.076	3.4	NA	0.0	0.0	0.00	0.39	0.00	34.6
West: Cringle St														
2	T1	43	7.0	43	7.0	0.030	0.1	LOS A	0.0	0.2	0.11	0.10	0.11	46.4
3	R2	11	0.0	11	0.0	0.030	3.1	LOS A	0.0	0.2	0.11	0.10	0.11	32.0
Approach		54	5.6	54	5.6	0.030	0.7	NA	0.0	0.2	0.11	0.10	0.11	44.7
All Vehicles		294	1.0	294	1.0	0.078	2.7	NA	0.1	0.8	0.07	0.37	0.07	35.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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



# MOVEMENT SUMMARY

Site: 102 [102\_2035PM\_Marina Blvd / Venturi Dr (Site Folder: 2035)]

Network: N101 [2035PM (Network Folder: PM Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	178	3.0	178	3.0	0.191	4.2	LOS A	0.4	3.3	0.31	0.48	0.31	43.7
3	R2	33	0.0	33	0.0	0.191	7.5	LOS A	0.4	3.3	0.31	0.48	0.31	43.7
Approach		211	2.5	211	2.5	0.191	4.7	LOS A	0.4	3.3	0.31	0.48	0.31	43.7
East: Marina Blvd														
4	L2	42	0.0	42	0.0	0.141	4.8	LOS A	0.3	1.9	0.35	0.61	0.35	42.2
6	R2	101	0.0	101	0.0	0.141	7.9	LOS A	0.3	1.9	0.35	0.61	0.35	26.1
Approach		143	0.0	143	0.0	0.141	7.0	LOS A	0.3	1.9	0.35	0.61	0.35	35.6
North: Venturi Dr														
7	L2	86	0.0	86	0.0	0.194	2.4	LOS A	0.4	3.0	0.14	0.40	0.14	27.5
8	T1	184	4.0	184	4.0	0.194	2.5	LOS A	0.4	3.0	0.14	0.40	0.14	46.8
Approach		271	2.7	271	2.7	0.194	2.5	LOS A	0.4	3.0	0.14	0.40	0.14	45.5
All Vehicles		624	2.0	624	2.0	0.194	4.2	LOS A	0.4	3.3	0.24	0.48	0.24	43.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 104 [104\_2035PM\_Venturi Dr / Cringle St (Site Folder: 2035)]

Network: N101 [2035PM (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	228	1.0	228	1.0	0.139	0.2	LOS A	0.1	0.9	0.12	0.07	0.12	46.9
3	R2	35	11.0	35	11.0	0.139	5.7	LOS A	0.1	0.9	0.12	0.07	0.12	45.3
Approach		263	2.3	263	2.3	0.139	0.9	NA	0.1	0.9	0.12	0.07	0.12	46.8
East: Cringle St														
4	L2	32	0.0	32	0.0	0.074	4.3	LOS A	0.1	0.8	0.34	0.59	0.34	22.6
6	R2	42	0.0	42	0.0	0.074	5.7	LOS A	0.1	0.8	0.34	0.59	0.34	30.6
Approach		74	0.0	74	0.0	0.074	5.1	LOS A	0.1	0.8	0.34	0.59	0.34	28.2
North: Venturi Dr														
7	L2	32	0.0	32	0.0	0.118	4.6	LOS A	0.0	0.0	0.00	0.07	0.00	45.5
8	T1	200	3.0	200	3.0	0.118	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	45.5
Approach		232	2.6	232	2.6	0.118	0.6	NA	0.0	0.0	0.00	0.07	0.00	45.5
All Vehicles		568	2.1	568	2.1	0.139	1.3	NA	0.1	0.9	0.10	0.14	0.10	43.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_2035PM\_Venturi Dr Access (Site Folder: 2035)]

Network: N101 [2035PM (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	216	2.0	216	2.0	0.151	0.3	LOS A	0.2	1.3	0.19	0.12	0.19	36.2
3	R2	58	0.0	58	0.0	0.151	3.9	LOS A	0.2	1.3	0.19	0.12	0.19	31.5
Approach		274	1.6	274	1.6	0.151	1.1	NA	0.2	1.3	0.19	0.12	0.19	34.7
East: Venturi Dr Access														
4	L2	61	0.0	61	0.0	0.102	3.2	LOS A	0.1	1.1	0.34	0.56	0.34	19.4
6	R2	45	0.0	45	0.0	0.102	4.8	LOS A	0.1	1.1	0.34	0.56	0.34	19.4
Approach		106	0.0	106	0.0	0.102	3.9	LOS A	0.1	1.1	0.34	0.56	0.34	19.4
North: Venturi Dr														
7	L2	58	0.0	58	0.0	0.132	4.6	LOS A	0.0	0.0	0.00	0.12	0.00	36.1
8	T1	207	3.0	207	3.0	0.132	0.0	LOS A	0.0	0.0	0.00	0.12	0.00	45.4
Approach		265	2.3	265	2.3	0.132	1.0	NA	0.0	0.0	0.00	0.12	0.00	42.8
All Vehicles		645	1.6	645	1.6	0.151	1.5	NA	0.2	1.3	0.13	0.19	0.13	37.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_2035PM\_Marina Blvd Access (Site Folder: 2035)]

Network: N101 [2035PM (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE 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: Marina Blvd														
2	T1	117	0.0	117	0.0	0.102	0.2	LOS A	0.2	1.2	0.17	0.20	0.17	39.9
3	R2	69	0.0	69	0.0	0.102	4.9	LOS A	0.2	1.2	0.17	0.20	0.17	37.0
Approach		186	0.0	186	0.0	0.102	2.0	NA	0.2	1.2	0.17	0.20	0.17	38.7
North: Marina Blvd Access														
4	L2	49	0.0	49	0.0	0.057	2.8	LOS A	0.1	0.6	0.19	0.49	0.19	37.3
6	R2	24	0.0	24	0.0	0.057	3.6	LOS A	0.1	0.6	0.19	0.49	0.19	22.4
Approach		74	0.0	74	0.0	0.057	3.1	LOS A	0.1	0.6	0.19	0.49	0.19	35.0
West: Marina Blvd														
7	L2	23	0.0	23	0.0	0.057	4.6	LOS A	0.0	0.0	0.00	0.11	0.00	21.8
8	T1	95	0.0	95	0.0	0.057	0.0	LOS A	0.0	0.0	0.00	0.11	0.00	47.3
Approach		118	0.0	118	0.0	0.057	0.9	NA	0.0	0.0	0.00	0.11	0.00	41.6
All Vehicles		378	0.0	378	0.0	0.102	1.9	NA	0.2	1.2	0.12	0.23	0.12	39.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 106 [106\_2035PM\_Cringle St Existing Access (Site Folder: 2035)]

Network: N101 [2035PM (Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Existing Access														
4	L2	4	0.0	4	0.0	0.047	2.6	LOS A	0.1	0.5	0.16	0.49	0.16	22.3
6	R2	53	0.0	53	0.0	0.047	2.7	LOS A	0.1	0.5	0.16	0.49	0.16	22.3
Approach		57	0.0	57	0.0	0.047	2.7	LOS A	0.1	0.5	0.16	0.49	0.16	22.3
East: Cringle St														
7	L2	57	0.0	57	0.0	0.048	2.8	LOS A	0.0	0.0	0.00	0.31	0.00	29.4
8	T1	36	0.0	36	0.0	0.048	0.0	LOS A	0.0	0.0	0.00	0.31	0.00	31.0
Approach		93	0.0	93	0.0	0.048	1.7	NA	0.0	0.0	0.00	0.31	0.00	29.9
West: Cringle St														
2	T1	34	7.0	34	7.0	0.019	0.0	LOS A	0.0	0.0	0.01	0.02	0.01	48.0
3	R2	1	0.0	1	0.0	0.019	3.6	LOS A	0.0	0.0	0.01	0.02	0.01	37.9
Approach		35	6.8	35	6.8	0.019	0.1	NA	0.0	0.0	0.01	0.02	0.01	47.5
All Vehicles		184	1.3	184	1.3	0.048	1.7	NA	0.1	0.5	0.05	0.31	0.05	30.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 105 [105\_2035PM\_Cringle St Access (West Proposed)  
(Site Folder: 2035)]

Network: N101 [2035PM  
(Network Folder: PM Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE 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: Cringle St Access (West)														
4	L2	33	0.0	33	0.0	0.022	2.7	LOS A	0.0	0.3	0.11	0.46	0.11	23.7
6	R2	1	0.0	1	0.0	0.022	2.8	LOS A	0.0	0.3	0.11	0.46	0.11	23.7
Approach		34	0.0	34	0.0	0.022	2.7	LOS A	0.0	0.3	0.11	0.46	0.11	23.7
East: Cringle St														
7	L2	1	0.0	1	0.0	0.021	3.4	LOS A	0.0	0.0	0.00	0.01	0.00	39.5
8	T1	41	0.0	41	0.0	0.021	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	48.8
Approach		42	0.0	42	0.0	0.021	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.4
West: Cringle St														
2	T1	35	7.0	35	7.0	0.037	0.1	LOS A	0.1	0.4	0.10	0.25	0.10	32.8
3	R2	32	0.0	32	0.0	0.037	3.7	LOS A	0.1	0.4	0.10	0.25	0.10	30.2
Approach		66	3.7	66	3.7	0.037	1.8	NA	0.1	0.4	0.10	0.25	0.10	31.3
All Vehicles		142	1.7	142	1.7	0.037	1.5	NA	0.1	0.4	0.07	0.23	0.07	32.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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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Project: U:\304900299\5\_Technical\Traffic\Modelling\SIDRA\CW1200221\_SIDRA V4.sip9

# MOVEMENT SUMMARY

Site: 107 [107\_2035PM\_Cringle St Access (East Proposed)]  
 (Site Folder: 2035)

Network: N101 [2035PM]  
 (Network Folder: PM Peak)

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St East Proposed Access														
4	L2	24	0.0	24	0.0	0.079	2.7	LOS A	0.1	0.8	0.16	0.49	0.16	22.2
6	R2	72	0.0	72	0.0	0.079	3.0	LOS A	0.1	0.8	0.16	0.49	0.16	34.9
Approach		96	0.0	96	0.0	0.079	2.9	LOS A	0.1	0.8	0.16	0.49	0.16	33.5
East: Cringle St														
7	L2	106	0.0	106	0.0	0.078	4.6	LOS A	0.0	0.0	0.00	0.38	0.00	34.4
8	T1	42	0.0	42	0.0	0.078	0.0	LOS A	0.0	0.0	0.00	0.38	0.00	36.2
Approach		148	0.0	148	0.0	0.078	3.3	NA	0.0	0.0	0.00	0.38	0.00	34.9
West: Cringle St														
2	T1	49	7.0	49	7.0	0.033	0.1	LOS A	0.0	0.2	0.10	0.09	0.10	46.8
3	R2	11	0.0	11	0.0	0.033	3.1	LOS A	0.0	0.2	0.10	0.09	0.10	32.4
Approach		60	5.8	60	5.8	0.033	0.6	NA	0.0	0.2	0.10	0.09	0.10	45.2
All Vehicles		304	1.1	304	1.1	0.079	2.6	NA	0.1	0.8	0.07	0.36	0.07	36.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 102 [102\_SAT\_Marina Blvd / Venturi Dr (Site Folder: 2022)]

Network: N101 [Base (Network Folder: SAT Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	48	0.0	48	0.0	0.054	3.6	LOS A	0.3	1.9	0.12	0.47	0.12	34.3
3	R2	19	0.0	19	0.0	0.054	6.9	LOS A	0.3	1.9	0.12	0.47	0.12	34.3
Approach		67	0.0	67	0.0	0.054	4.5	LOS A	0.3	1.9	0.12	0.47	0.12	34.3
East: Marina Blvd														
4	L2	34	0.0	34	0.0	0.051	2.4	LOS A	0.2	1.6	0.17	0.52	0.17	36.1
6	R2	24	0.0	24	0.0	0.051	5.4	LOS A	0.2	1.6	0.17	0.52	0.17	23.5
Approach		58	0.0	58	0.0	0.051	3.6	LOS A	0.2	1.6	0.17	0.52	0.17	33.2
North: Venturi Dr														
7	L2	33	0.0	33	0.0	0.066	2.4	LOS A	0.3	2.1	0.08	0.40	0.08	28.2
8	T1	59	0.0	59	0.0	0.066	2.4	LOS A	0.3	2.1	0.08	0.40	0.08	42.1
Approach		92	0.0	92	0.0	0.066	2.4	LOS A	0.3	2.1	0.08	0.40	0.08	39.5
All Vehicles		217	0.0	217	0.0	0.066	3.4	LOS A	0.3	2.1	0.12	0.46	0.12	35.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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



# MOVEMENT SUMMARY

Site: 104 [104\_SAT\_Venturi Dr / Cringle St (Site Folder: 2022)]

Network: N101 [Base (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	84	0.0	84	0.0	0.043	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	49.3
3	R2	3	0.0	3	0.0	0.043	4.8	LOS A	0.0	0.1	0.01	0.02	0.01	48.9
Approach		87	0.0	87	0.0	0.043	0.2	NA	0.0	0.1	0.01	0.02	0.01	49.3
East: Cringle St														
4	L2	6	0.0	6	0.0	0.008	4.7	LOS A	0.0	0.2	0.16	0.51	0.16	27.2
6	R2	4	0.0	4	0.0	0.008	5.1	LOS A	0.0	0.2	0.16	0.51	0.16	32.5
Approach		11	0.0	11	0.0	0.008	4.9	LOS A	0.0	0.2	0.16	0.51	0.16	30.0
North: Venturi Dr														
7	L2	6	0.0	6	0.0	0.038	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	47.3
8	T1	71	0.0	71	0.0	0.038	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	47.3
Approach		77	0.0	77	0.0	0.038	0.4	NA	0.0	0.0	0.00	0.04	0.00	47.3
All Vehicles		175	0.0	175	0.0	0.043	0.6	NA	0.0	0.2	0.02	0.06	0.02	47.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_SAT\_Venturi Dr Access (Site Folder: 2022)]

Network: N101 [Base (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	67	0.0	67	0.0	0.037	0.0	LOS A	0.0	0.2	0.03	0.04	0.03	45.6
3	R2	5	0.0	5	0.0	0.037	3.1	LOS A	0.0	0.2	0.03	0.04	0.03	35.8
Approach		73	0.0	73	0.0	0.037	0.2	NA	0.0	0.2	0.03	0.04	0.03	44.3
East: Venturi Dr Access														
4	L2	22	0.0	22	0.0	0.032	2.7	LOS A	0.1	0.8	0.16	0.48	0.16	22.8
6	R2	20	0.0	20	0.0	0.032	2.9	LOS A	0.1	0.8	0.16	0.48	0.16	22.8
Approach		42	0.0	42	0.0	0.032	2.8	LOS A	0.1	0.8	0.16	0.48	0.16	22.8
North: Venturi Dr														
7	L2	7	0.0	7	0.0	0.037	4.6	LOS A	0.0	0.0	0.00	0.05	0.00	37.5
8	T1	69	0.0	69	0.0	0.037	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	47.9
Approach		77	0.0	77	0.0	0.037	0.4	NA	0.0	0.0	0.00	0.05	0.00	46.5
All Vehicles		192	0.0	192	0.0	0.037	0.9	NA	0.1	0.8	0.05	0.14	0.05	42.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_SAT\_Marina Blvd Access (West) (Site Folder: 2022)]

Network: N101 [Base (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	54	0.0	54	0.0	0.029	0.0	LOS A	0.0	0.2	0.02	0.04	0.02	45.9
3	R2	4	0.0	4	0.0	0.029	3.2	LOS A	0.0	0.2	0.02	0.04	0.02	36.4
Approach		58	0.0	58	0.0	0.029	0.2	NA	0.0	0.2	0.02	0.04	0.02	44.7
North: Marina Blvd Access														
4	L2	3	0.0	3	0.0	0.006	2.7	LOS A	0.0	0.1	0.13	0.47	0.13	23.1
6	R2	4	0.0	4	0.0	0.006	2.8	LOS A	0.0	0.1	0.13	0.47	0.13	23.1
Approach		7	0.0	7	0.0	0.006	2.7	LOS A	0.0	0.1	0.13	0.47	0.13	23.1
West: Marina Blvd														
7	L2	2	0.0	2	0.0	0.025	2.9	LOS A	0.0	0.0	0.00	0.02	0.00	26.4
8	T1	49	0.0	49	0.0	0.025	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	47.9
Approach		52	0.0	52	0.0	0.025	0.1	NA	0.0	0.0	0.00	0.02	0.00	45.7
All Vehicles		117	0.0	117	0.0	0.029	0.3	NA	0.0	0.2	0.02	0.06	0.02	43.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_SAT\_Marina Blvd Access (East) (Site Folder: 2022)]

Network: N101 [Base (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	56	0.0	56	0.0	0.030	0.0	LOS A	0.0	0.2	0.02	0.04	0.02	47.6
3	R2	4	0.0	4	0.0	0.030	4.7	LOS A	0.0	0.2	0.02	0.04	0.02	42.0
Approach		60	0.0	60	0.0	0.030	0.3	NA	0.0	0.2	0.02	0.04	0.02	47.1
North: Marina Blvd Access														
4	L2	5	0.0	5	0.0	0.005	2.7	LOS A	0.0	0.1	0.13	0.46	0.13	36.9
6	R2	2	0.0	2	0.0	0.005	2.8	LOS A	0.0	0.1	0.13	0.46	0.13	23.4
Approach		7	0.0	7	0.0	0.005	2.7	LOS A	0.0	0.1	0.13	0.46	0.13	35.0
West: Marina Blvd														
7	L2	1	0.0	1	0.0	0.026	3.1	LOS A	0.0	0.0	0.00	0.01	0.00	17.0
8	T1	53	0.0	53	0.0	0.026	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.7
Approach		54	0.0	54	0.0	0.026	0.1	NA	0.0	0.0	0.00	0.01	0.00	48.9
All Vehicles		121	0.0	121	0.0	0.030	0.4	NA	0.0	0.2	0.02	0.05	0.02	47.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 106 [106\_SAT\_Cringle St Existing Access (Site Folder: 2022)]

Network: N101 [Base (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Cringle St Existing Access														
4	L2	1	0.0	1	0.0	0.001	2.6	LOS A	0.0	0.0	0.05	0.48	0.05	24.0
6	R2	1	0.0	1	0.0	0.001	2.5	LOS A	0.0	0.0	0.05	0.48	0.05	24.8
Approach		2	0.0	2	0.0	0.001	2.5	LOS A	0.0	0.0	0.05	0.48	0.05	24.5
East: Cringle St														
7	L2	2	0.0	2	0.0	0.006	2.8	LOS A	0.0	0.0	0.00	0.09	0.00	34.8
8	T1	9	0.0	9	0.0	0.006	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	41.9
Approach		12	0.0	12	0.0	0.006	0.5	NA	0.0	0.0	0.00	0.09	0.00	39.9
West: Cringle St														
2	T1	9	7.0	9	7.0	0.006	0.0	LOS A	0.0	0.0	0.01	0.06	0.01	46.8
3	R2	1	0.0	1	0.0	0.006	4.6	LOS A	0.0	0.0	0.01	0.06	0.01	39.3
Approach		11	6.3	11	6.3	0.006	0.5	NA	0.0	0.0	0.01	0.06	0.01	45.9
All Vehicles		24	2.7	24	2.7	0.006	0.7	NA	0.0	0.0	0.01	0.11	0.01	42.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 102 [102\_2025SAT\_Marina Blvd / Venturi Dr (Site Folder: 2025)]

Network: N101 [2025SAT (Network Folder: SAT Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	71	0.0	71	0.0	0.082	3.8	LOS A	0.4	3.0	0.19	0.47	0.19	44.0
3	R2	25	0.0	25	0.0	0.082	7.1	LOS A	0.4	3.0	0.19	0.47	0.19	44.0
Approach		96	0.0	96	0.0	0.082	4.6	LOS A	0.4	3.0	0.19	0.47	0.19	44.0
East: Marina Blvd														
4	L2	58	0.0	58	0.0	0.098	4.2	LOS A	0.4	3.2	0.22	0.55	0.22	43.1
6	R2	52	0.0	52	0.0	0.098	7.3	LOS A	0.4	3.2	0.22	0.55	0.22	27.9
Approach		109	0.0	109	0.0	0.098	5.6	LOS A	0.4	3.2	0.22	0.55	0.22	40.2
North: Venturi Dr														
7	L2	57	0.0	57	0.0	0.103	2.4	LOS A	0.5	3.4	0.10	0.41	0.10	27.8
8	T1	86	0.0	86	0.0	0.103	2.4	LOS A	0.5	3.4	0.10	0.41	0.10	47.1
Approach		143	0.0	143	0.0	0.103	2.4	LOS A	0.5	3.4	0.10	0.41	0.10	45.5
All Vehicles		348	0.0	348	0.0	0.103	4.0	LOS A	0.5	3.4	0.16	0.47	0.16	43.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 104 [104\_2025SAT\_Venturi Dr / Cringle St (Site Folder: 2025)]

Network: N101 [2025SAT (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	80	0.0	80	0.0	0.055	0.1	LOS A	0.2	1.1	0.10	0.13	0.10	45.6
3	R2	26	0.0	26	0.0	0.055	4.8	LOS A	0.2	1.1	0.10	0.13	0.10	43.4
Approach		106	0.0	106	0.0	0.055	1.3	NA	0.2	1.1	0.10	0.13	0.10	45.2
East: Cringle St														
4	L2	69	0.0	69	0.0	0.093	3.8	LOS A	0.4	2.6	0.15	0.51	0.15	25.3
6	R2	54	0.0	54	0.0	0.093	4.3	LOS A	0.4	2.6	0.15	0.51	0.15	32.5
Approach		123	0.0	123	0.0	0.093	4.0	LOS A	0.4	2.6	0.15	0.51	0.15	29.5
North: Venturi Dr														
7	L2	29	0.0	29	0.0	0.045	4.6	LOS A	0.0	0.0	0.00	0.18	0.00	40.8
8	T1	60	0.0	60	0.0	0.045	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	40.8
Approach		89	0.0	89	0.0	0.045	1.5	NA	0.0	0.0	0.00	0.18	0.00	40.8
All Vehicles		319	0.0	319	0.0	0.093	2.4	NA	0.4	2.6	0.09	0.29	0.09	38.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_2025SAT\_Venturi Dr Access (Site Folder: 2025)]

Network: N101 [2025SAT (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	80	0.0	80	0.0	0.063	0.2	LOS A	0.2	1.6	0.17	0.16	0.17	34.5
3	R2	36	0.0	36	0.0	0.063	3.4	LOS A	0.2	1.6	0.17	0.16	0.17	30.6
Approach		116	0.0	116	0.0	0.063	1.2	NA	0.2	1.6	0.17	0.16	0.17	32.8
East: Venturi Dr Access														
4	L2	26	0.0	26	0.0	0.041	2.9	LOS A	0.1	1.1	0.22	0.50	0.22	22.1
6	R2	24	0.0	24	0.0	0.041	3.4	LOS A	0.1	1.1	0.22	0.50	0.22	22.1
Approach		51	0.0	51	0.0	0.041	3.1	LOS A	0.1	1.1	0.22	0.50	0.22	22.1
North: Venturi Dr														
7	L2	46	0.0	46	0.0	0.079	4.6	LOS A	0.0	0.0	0.00	0.16	0.00	35.5
8	T1	115	0.0	115	0.0	0.079	0.0	LOS A	0.0	0.0	0.00	0.16	0.00	44.3
Approach		161	0.0	161	0.0	0.079	1.3	NA	0.0	0.0	0.00	0.16	0.00	41.1
All Vehicles		327	0.0	327	0.0	0.079	1.6	NA	0.2	1.6	0.10	0.21	0.10	37.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_2025SAT\_Marina Blvd Access (Site Folder: 2025)]

Network: N101 [2025SAT (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	58	0.0	58	0.0	0.072	0.2	LOS A	0.3	2.4	0.17	0.29	0.17	37.4
3	R2	72	0.0	72	0.0	0.072	4.8	LOS A	0.3	2.4	0.17	0.29	0.17	35.1
Approach		129	0.0	129	0.0	0.072	2.7	NA	0.3	2.4	0.17	0.29	0.17	36.0
North: Marina Blvd Access														
4	L2	66	0.0	66	0.0	0.090	2.7	LOS A	0.3	2.5	0.15	0.49	0.15	37.6
6	R2	52	0.0	52	0.0	0.090	3.2	LOS A	0.3	2.5	0.15	0.49	0.15	22.9
Approach		118	0.0	118	0.0	0.090	2.9	LOS A	0.3	2.5	0.15	0.49	0.15	34.3
West: Marina Blvd														
7	L2	23	0.0	23	0.0	0.040	4.6	LOS A	0.0	0.0	0.00	0.15	0.00	21.5
8	T1	59	0.0	59	0.0	0.040	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	46.2
Approach		82	0.0	82	0.0	0.040	1.3	NA	0.0	0.0	0.00	0.15	0.00	38.4
All Vehicles		329	0.0	329	0.0	0.090	2.5	NA	0.3	2.5	0.12	0.33	0.12	36.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 106 [106\_2025SAT\_Cringle St Existing Access (Site Folder: 2025)]

Network: N101 [2025SAT (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Existing Access														
4	L2	1	0.0	1	0.0	0.050	2.7	LOS A	0.2	1.2	0.19	0.49	0.19	21.9
6	R2	58	0.0	58	0.0	0.050	2.8	LOS A	0.2	1.2	0.19	0.49	0.19	21.9
Approach		59	0.0	59	0.0	0.050	2.8	LOS A	0.2	1.2	0.19	0.49	0.19	21.9
East: Cringle St														
7	L2	73	0.0	73	0.0	0.071	2.8	LOS A	0.0	0.0	0.00	0.27	0.00	30.3
8	T1	64	0.0	64	0.0	0.071	0.0	LOS A	0.0	0.0	0.00	0.27	0.00	32.6
Approach		137	0.0	137	0.0	0.071	1.5	NA	0.0	0.0	0.00	0.27	0.00	31.1
West: Cringle St														
2	T1	11	7.0	11	7.0	0.006	0.0	LOS A	0.0	0.1	0.05	0.05	0.05	44.3
3	R2	1	0.0	1	0.0	0.006	3.7	LOS A	0.0	0.1	0.05	0.05	0.05	36.1
Approach		12	6.4	12	6.4	0.006	0.4	NA	0.0	0.1	0.05	0.05	0.05	43.1
All Vehicles		207	0.4	207	0.4	0.071	1.8	NA	0.2	1.2	0.06	0.32	0.06	29.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 105 [105\_2025SAT\_Cringle St Access (West Proposed)  
(Site Folder: 2025)]

Network: N101 [2025SAT  
(Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Access (West)														
4	L2	58	0.0	58	0.0	0.038	2.7	LOS A	0.2	1.1	0.15	0.46	0.15	23.3
6	R2	1	0.0	1	0.0	0.038	2.8	LOS A	0.2	1.1	0.15	0.46	0.15	23.3
Approach		59	0.0	59	0.0	0.038	2.7	LOS A	0.2	1.1	0.15	0.46	0.15	23.3
East: Cringle St														
7	L2	1	0.0	1	0.0	0.034	3.4	LOS A	0.0	0.0	0.00	0.01	0.00	39.7
8	T1	65	0.0	65	0.0	0.034	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
Approach		66	0.0	66	0.0	0.034	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.0
West: Cringle St														
2	T1	11	0.0	11	0.0	0.032	0.2	LOS A	0.1	1.1	0.16	0.41	0.16	27.0
3	R2	45	0.0	45	0.0	0.032	3.8	LOS A	0.1	1.1	0.16	0.41	0.16	26.4
Approach		56	0.0	56	0.0	0.032	3.1	NA	0.1	1.1	0.16	0.41	0.16	26.5
All Vehicles		181	0.0	181	0.0	0.038	1.9	NA	0.2	1.1	0.10	0.28	0.10	30.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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: 107 [107\_2025SAT\_Cringle St Access (East Proposed)  
(Site Folder: 2025)]

Network: N101 [2025SAT  
(Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St East Proposed Access														
4	L2	54	0.0	54	0.0	0.080	2.7	LOS A	0.3	2.2	0.12	0.48	0.12	23.2
6	R2	54	0.0	54	0.0	0.080	2.8	LOS A	0.3	2.2	0.12	0.48	0.12	35.3
Approach		107	0.0	107	0.0	0.080	2.7	LOS A	0.3	2.2	0.12	0.48	0.12	32.1
East: Cringle St														
7	L2	113	0.0	113	0.0	0.079	4.6	LOS A	0.0	0.0	0.00	0.40	0.00	34.1
8	T1	38	0.0	38	0.0	0.079	0.0	LOS A	0.0	0.0	0.00	0.40	0.00	35.8
Approach		151	0.0	151	0.0	0.079	3.4	NA	0.0	0.0	0.00	0.40	0.00	34.5
West: Cringle St														
2	T1	24	0.0	24	0.0	0.013	0.0	LOS A	0.0	0.1	0.02	0.02	0.02	49.2
3	R2	1	0.0	1	0.0	0.013	3.1	LOS A	0.0	0.1	0.02	0.02	0.02	35.5
Approach		25	0.0	25	0.0	0.013	0.2	NA	0.0	0.1	0.02	0.02	0.02	48.9
All Vehicles		283	0.0	283	0.0	0.080	2.9	NA	0.3	2.2	0.05	0.40	0.05	34.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 102 [102\_2035SAT\_Marina Blvd / Venturi Dr (Site Folder: 2035)]

Network: N101 [2035SAT (Network Folder: SAT Peak)]

New Site  
 Site Category: (None)  
 Roundabout

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	80	0.0	80	0.0	0.094	3.8	LOS A	0.5	3.5	0.20	0.47	0.20	43.9
3	R2	29	0.0	29	0.0	0.094	7.1	LOS A	0.5	3.5	0.20	0.47	0.20	43.9
Approach		109	0.0	109	0.0	0.094	4.7	LOS A	0.5	3.5	0.20	0.47	0.20	43.9
East: Marina Blvd														
4	L2	65	0.0	65	0.0	0.110	4.2	LOS A	0.5	3.6	0.24	0.56	0.24	43.1
6	R2	56	0.0	56	0.0	0.110	7.3	LOS A	0.5	3.6	0.24	0.56	0.24	27.8
Approach		121	0.0	121	0.0	0.110	5.7	LOS A	0.5	3.6	0.24	0.56	0.24	40.2
North: Venturi Dr														
7	L2	63	0.0	63	0.0	0.117	2.4	LOS A	0.5	4.0	0.12	0.41	0.12	27.7
8	T1	98	0.0	98	0.0	0.117	2.4	LOS A	0.5	4.0	0.12	0.41	0.12	47.1
Approach		161	0.0	161	0.0	0.117	2.4	LOS A	0.5	4.0	0.12	0.41	0.12	45.4
All Vehicles		392	0.0	392	0.0	0.117	4.1	LOS A	0.5	4.0	0.18	0.47	0.18	43.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).  
 Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).  
 HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

Site: 104 [104\_2035SAT\_Venturi Dr / Cringle St (Site Folder: 2035)]

Network: N101 [2035SAT (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	97	0.0	97	0.0	0.064	0.1	LOS A	0.2	1.2	0.10	0.12	0.10	45.9
3	R2	27	0.0	27	0.0	0.064	4.9	LOS A	0.2	1.2	0.10	0.12	0.10	43.8
Approach		124	0.0	124	0.0	0.064	1.2	NA	0.2	1.2	0.10	0.12	0.10	45.6
East: Cringle St														
4	L2	71	0.0	71	0.0	0.096	3.9	LOS A	0.4	2.7	0.18	0.52	0.18	25.1
6	R2	54	0.0	54	0.0	0.096	4.4	LOS A	0.4	2.7	0.18	0.52	0.18	32.4
Approach		124	0.0	124	0.0	0.096	4.1	LOS A	0.4	2.7	0.18	0.52	0.18	29.3
North: Venturi Dr														
7	L2	31	0.0	31	0.0	0.053	4.6	LOS A	0.0	0.0	0.00	0.16	0.00	41.7
8	T1	75	0.0	75	0.0	0.053	0.0	LOS A	0.0	0.0	0.00	0.16	0.00	41.7
Approach		105	0.0	105	0.0	0.053	1.3	NA	0.0	0.0	0.00	0.16	0.00	41.7
All Vehicles		354	0.0	354	0.0	0.096	2.2	NA	0.4	2.7	0.10	0.27	0.10	39.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 103 [103\_2035SAT\_Venturi Dr Access (Site Folder: 2035)]

Network: N101 [2035SAT (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Venturi Dr														
2	T1	94	0.0	94	0.0	0.070	0.2	LOS A	0.2	1.7	0.17	0.15	0.17	35.3
3	R2	36	0.0	36	0.0	0.070	3.5	LOS A	0.2	1.7	0.17	0.15	0.17	31.1
Approach		129	0.0	129	0.0	0.070	1.1	NA	0.2	1.7	0.17	0.15	0.17	33.7
East: Venturi Dr Access														
4	L2	26	0.0	26	0.0	0.042	2.9	LOS A	0.1	1.1	0.24	0.50	0.24	21.7
6	R2	24	0.0	24	0.0	0.042	3.5	LOS A	0.1	1.1	0.24	0.50	0.24	21.7
Approach		51	0.0	51	0.0	0.042	3.2	LOS A	0.1	1.1	0.24	0.50	0.24	21.7
North: Venturi Dr														
7	L2	46	0.0	46	0.0	0.086	4.6	LOS A	0.0	0.0	0.00	0.14	0.00	35.8
8	T1	129	0.0	129	0.0	0.086	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	44.7
Approach		176	0.0	176	0.0	0.086	1.2	NA	0.0	0.0	0.00	0.14	0.00	41.7
All Vehicles		356	0.0	356	0.0	0.086	1.5	NA	0.2	1.7	0.10	0.20	0.10	38.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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 [101\_2035SAT\_Marina Blvd Access (Site Folder: 2035)]

Network: N101 [2035SAT (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL 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: Marina Blvd														
2	T1	67	0.0	67	0.0	0.077	0.2	LOS A	0.3	2.5	0.18	0.27	0.18	37.8
3	R2	72	0.0	72	0.0	0.077	4.8	LOS A	0.3	2.5	0.18	0.27	0.18	35.4
Approach		139	0.0	139	0.0	0.077	2.6	NA	0.3	2.5	0.18	0.27	0.18	36.5
North: Marina Blvd Access														
4	L2	66	0.0	66	0.0	0.091	2.8	LOS A	0.3	2.5	0.17	0.49	0.17	37.5
6	R2	52	0.0	52	0.0	0.091	3.3	LOS A	0.3	2.5	0.17	0.49	0.17	22.6
Approach		118	0.0	118	0.0	0.091	3.0	LOS A	0.3	2.5	0.17	0.49	0.17	34.2
West: Marina Blvd														
7	L2	23	0.0	23	0.0	0.045	4.6	LOS A	0.0	0.0	0.00	0.14	0.00	21.6
8	T1	68	0.0	68	0.0	0.045	0.0	LOS A	0.0	0.0	0.00	0.14	0.00	46.5
Approach		92	0.0	92	0.0	0.045	1.2	NA	0.0	0.0	0.00	0.14	0.00	39.5
All Vehicles		348	0.0	348	0.0	0.091	2.4	NA	0.3	2.5	0.13	0.31	0.13	36.9

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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



# MOVEMENT SUMMARY

Site: 106 [106\_2035SAT\_Cringle St Existing Access (Site Folder: 2035)]

Network: N101 [2035SAT (Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Existing Access														
4	L2	1	0.0	1	0.0	0.050	2.7	LOS A	0.2	1.2	0.19	0.49	0.19	21.9
6	R2	58	0.0	58	0.0	0.050	2.8	LOS A	0.2	1.2	0.19	0.49	0.19	21.9
Approach		59	0.0	59	0.0	0.050	2.8	LOS A	0.2	1.2	0.19	0.49	0.19	21.9
East: Cringle St														
7	L2	73	0.0	73	0.0	0.072	2.8	LOS A	0.0	0.0	0.00	0.27	0.00	30.4
8	T1	66	0.0	66	0.0	0.072	0.0	LOS A	0.0	0.0	0.00	0.27	0.00	32.7
Approach		139	0.0	139	0.0	0.072	1.4	NA	0.0	0.0	0.00	0.27	0.00	31.2
West: Cringle St														
2	T1	13	7.0	13	7.0	0.008	0.0	LOS A	0.0	0.1	0.04	0.04	0.04	45.0
3	R2	1	0.0	1	0.0	0.008	3.7	LOS A	0.0	0.1	0.04	0.04	0.04	36.5
Approach		14	6.5	14	6.5	0.008	0.3	NA	0.0	0.1	0.04	0.04	0.04	44.0
All Vehicles		212	0.4	212	0.4	0.072	1.8	NA	0.2	1.2	0.06	0.32	0.06	29.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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

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

# MOVEMENT SUMMARY

Site: 105 [105\_2035SAT\_Cringle St Access (West Proposed)  
(Site Folder: 2035)]

Network: N101 [2035SAT  
(Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St Access (West)														
4	L2	58	0.0	58	0.0	0.038	2.7	LOS A	0.2	1.1	0.15	0.46	0.15	23.3
6	R2	1	0.0	1	0.0	0.038	2.8	LOS A	0.2	1.1	0.15	0.46	0.15	23.3
Approach		59	0.0	59	0.0	0.038	2.7	LOS A	0.2	1.1	0.15	0.46	0.15	23.3
East: Cringle St														
7	L2	1	0.0	1	0.0	0.035	3.4	LOS A	0.0	0.0	0.00	0.01	0.00	39.7
8	T1	67	0.0	67	0.0	0.035	0.0	LOS A	0.0	0.0	0.00	0.01	0.00	49.3
Approach		68	0.0	68	0.0	0.035	0.1	NA	0.0	0.0	0.00	0.01	0.00	49.0
West: Cringle St														
2	T1	13	0.0	13	0.0	0.033	0.2	LOS A	0.2	1.1	0.16	0.40	0.16	27.4
3	R2	45	0.0	45	0.0	0.033	3.8	LOS A	0.2	1.1	0.16	0.40	0.16	26.6
Approach		58	0.0	58	0.0	0.033	3.0	NA	0.2	1.1	0.16	0.40	0.16	26.8
All Vehicles		185	0.0	185	0.0	0.038	1.8	NA	0.2	1.1	0.10	0.27	0.10	30.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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: 107 [107\_2035SAT\_Cringle St Access (East Proposed)  
(Site Folder: 2035)]

Network: N101 [2035SAT  
(Network Folder: SAT Peak)]

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

Vehicle Movement Performance														
Mov ID	Turn	DEMAND FLOWS		ARRIVAL FLOWS		Deg. Satn	Aver. Delay	Level of Service	95% BACK OF QUEUE		Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed
		[ Total veh/h	HV %	[ Total veh/h	HV %				[ Veh. veh	Dist ] m				
South: Cringle St East Proposed Access														
4	L2	54	0.0	54	0.0	0.080	2.7	LOS A	0.3	2.2	0.12	0.48	0.12	23.1
6	R2	54	0.0	54	0.0	0.080	2.9	LOS A	0.3	2.2	0.12	0.48	0.12	35.3
Approach		107	0.0	107	0.0	0.080	2.8	LOS A	0.3	2.2	0.12	0.48	0.12	32.0
East: Cringle St														
7	L2	113	0.0	113	0.0	0.080	4.6	LOS A	0.0	0.0	0.00	0.39	0.00	34.2
8	T1	40	0.0	40	0.0	0.080	0.0	LOS A	0.0	0.0	0.00	0.39	0.00	35.9
Approach		153	0.0	153	0.0	0.080	3.4	NA	0.0	0.0	0.00	0.39	0.00	34.6
West: Cringle St														
2	T1	26	0.0	26	0.0	0.014	0.0	LOS A	0.0	0.1	0.02	0.02	0.02	49.3
3	R2	1	0.0	1	0.0	0.014	3.1	LOS A	0.0	0.1	0.02	0.02	0.02	35.5
Approach		27	0.0	27	0.0	0.014	0.1	NA	0.0	0.1	0.02	0.02	0.02	49.0
All Vehicles		287	0.0	287	0.0	0.080	2.8	NA	0.3	2.2	0.05	0.39	0.05	35.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Network Data dialog (Network 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).

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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