



29 Florida Street, Sylvania

SSD - 83258708

Transport Impact Assessment

Prepared for:

Homes NSW

10 December 2025

PROJECT INFORMATION

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Client:	Homes NSW
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We confirm this transport impact assessment report addresses the requirement of SEAR No. 83258708 and relevant State and local legislation, policies, and guidelines. I further confirm that none of the information contained in this document is false or misleading.



Table of Contents

1	Introduction	1
1.1	<i>Background</i>	1
1.2	<i>Site context</i>	1
1.3	<i>Proposal description</i>	2
1.4	<i>Report purpose</i>	2
2	Existing Transport Conditions	4
2.1	<i>Road network</i>	4
2.2	<i>Vehicle site access</i>	5
2.3	<i>Public transport services</i>	5
2.4	<i>Active transport network</i>	7
2.5	<i>Crash data</i>	8
2.6	<i>Existing traffic volumes</i>	9
3	Transport and Parking Strategy	12
3.1	<i>Vehicle site access</i>	12
3.2	<i>Car park design</i>	14
3.3	<i>Loading area</i>	14
3.4	<i>Car parking supply</i>	16
3.5	<i>Accessible car parking</i>	17
3.6	<i>Bicycle parking</i>	18
3.7	<i>Pedestrian infrastructure</i>	18
3.8	<i>Forecast traffic generation</i>	19
3.9	<i>Trip distribution</i>	20
3.10	<i>Road network impacts</i>	21
4	Preliminary Construction Traffic Management Plan	22
4.1	<i>Overview</i>	22
4.2	<i>Working hours</i>	22
4.3	<i>Construction traffic routes</i>	23
4.4	<i>Construction vehicle volumes</i>	24
4.5	<i>Works zones</i>	24
4.6	<i>Road closures and road occupancy</i>	24
4.7	<i>Size and type of vehicles</i>	24
4.8	<i>Impacts to pedestrians</i>	24
4.9	<i>Cumulative construction impacts</i>	25
4.10	<i>Emergency vehicle access</i>	25

4.11	Mitigation measures	25
4.12	Site induction	27
5	Summary	28
	Appendix A: Traffic Modelling Outputs	29

Figures

Figure 1	Site context.....	1
Figure 2	Road network serving the site.....	4
Figure 3	Existing vehicle site access.....	5
Figure 4	Surrounding bus network	6
Figure 5	Nearby bus stops	6
Figure 6	Nearby pedestrian crossings.....	7
Figure 7	Crash data.....	8
Figure 8	Existing traffic flows – Princes Highway / Florida Street.....	9
Figure 9	Existing traffic flows – Port Hacking Road / Pembroke Street	9
Figure 10	Existing traffic flows – Princes Highway / Florida Street.....	10
Figure 11	Proposed vehicle access arrangements	12
Figure 12	Swept paths analysis – internal roadway.....	13
Figure 13	Swept paths analysis – southern building	14
Figure 14	Swept path analysis – internal vehicle circulation.....	15
Figure 15	Swept paths – Council waste collection vehicle.....	16
Figure 16	Visulisation of future shared zone	18
Figure 17	Proposed pedestrian infrastructure	19
Figure 18	Forecast traffic distribution	20
Figure 19	Potential construction vehicle routes	23

Tables

Table 1	Project SEARs	2
Table 2	Existing intersection performance.....	11
Table 3	Car parking summary.....	17
Table 4	Forecast intersection performance – AM Peak Hour.....	21
Table 5	Forecast intersection performance – PM Peak Hour.....	21

1 Introduction

1.1 Background

This transport impact assessment report has been prepared by JMT Consulting to accompany a State Significant Development Application (SSDA) for a residential development for the site at 29 Florida Street, Sylvania within the Sutherland Local Government Area (LGA). This report has been prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued for the project (SSD-83258708) on 2 May 2025.

1.2 Site context

The Site is located at 29 Florida Street, Sylvania. The site comprises 14 lots and has a total combined site area of 21,792sqm. The site falls within the block bounded by the Princes Highway to the north, Port Hacking Road to the west, Pembroke Street to the south and Florida Street to the east. The site has access from Florida Street via an internal roadway (Coral Tree Place).

The site is currently occupied with two storey terrace buildings and 3-4 storey apartment buildings containing 83 social housing dwellings.

The site location is shown in Figure 1 below.



Figure 1 Site context

Source: Turf

1.3 Proposal description

The proposed development includes site preparation works, tree removal and demolition of all structures, and the construction of eight (8) residential buildings up to nine (9) storeys across the site, including basement parking, construction of a new access street, associated landscaping and public domain works, and infrastructure servicing.

A detailed description of the project is included in the EIS.

1.4 Report purpose

This report has been prepared in response to the Secretary's Environmental Assessment Requirements (SEARs) for SSD- 83258708 relevant to traffic and transport as summarised in Table 1.

Table 1 Project SEARs

SEARs Item	Description of Requirement - SSD- 83258708	Response
Item 9. Transport	Provide a Transport Impact Assessment (TIA) in accordance with the processes and methodology recommended in the Guide to Transport Impact Assessment (GITA) published by TfNSW.	The report has also been prepared with consideration of the relevant items contained within the TfNSW Guide to Transport Impact Assessment (GTIA) – Appendix E scoping checklist. It should be noted however that the GTIA provides for a generic set of guidelines across all types of development, with many of the items in the scoping checklist not relevant to a sub-division proposal. Section 1.1.3 of the GTIA specifically notes the following “<i>recommendations in this Guide may not be appropriate in all development situations. Discretion and professional judgement should always be exercised and clearly documented</i>”

SEARs Item	Description of Requirement - SSD-83258708	Response
	If the construction of the development would cause interruptions to regular pedestrian and transport routes (including public transport, active transport or general traffic), a preliminary Construction Traffic (or Transport) Management Plan (CTMP) should be prepared as part of the TIA to mitigate any such impacts.	A detailed CTMP will be prepared prior to any works commencing on site, this requirement can be reinforced via a suitably worded consent condition. Notwithstanding the above a preliminary CTMP has been prepared and outlined in Section 5 of this document.

2 Existing Transport Conditions

2.1 Road network

To manage the extensive network of roads for which councils are responsible under the Roads Act 1993, Transport for NSW (TfNSW) in partnership with local government established an administrative framework of *State*, *Regional*, and *Local Road* categories. State Roads are managed and financed by TfNSW and Regional and Local Roads are managed and financed by councils. Regional Roads perform an intermediate function between the main arterial network of State Roads and council controlled Local Roads.

Key State and Regional roads which provide access to the site are illustrated in Figure 2 below and include the Princes Highway and Port Hacking Road. Florida Street and Pembroke Street immediately fronting the site are local roads under the control of Sutherland Council.

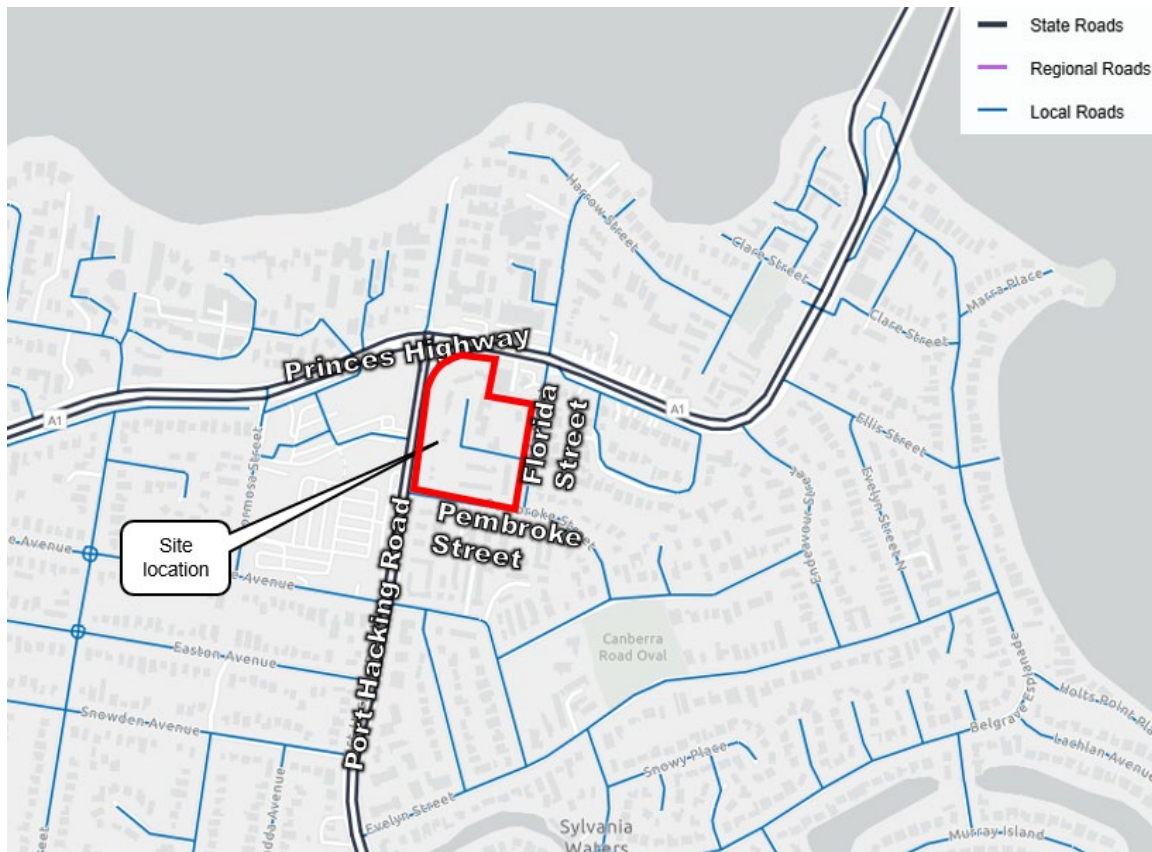


Figure 2 Road network serving the site

2.2 Vehicle site access

Vehicle access to the site is currently provided via multiple driveways on both Florida Street and Pembroke Street as indicated in Figure 3. An internal roadway known as Coral Tree Place is also provided and is accessed via Florida Street.



Figure 3 Existing vehicle site access

2.3 Public transport services

The site is well serviced by a network of local and regional bus routes as indicated in Figure 4. Key bus routes serving the site are as follows:

- Route 970 (Miranda <> Hurstville)
- Route 971 (Cronulla <> Hurstville)
- Route 972 (Sylvania <> Miranda via Sylvania Waters)

Bus stops are located within close walking distance of the site on Port Hacking Road and the Princes Highway as illustrated in Figure 5 – enabling residents to easily access these good quality public transport services.

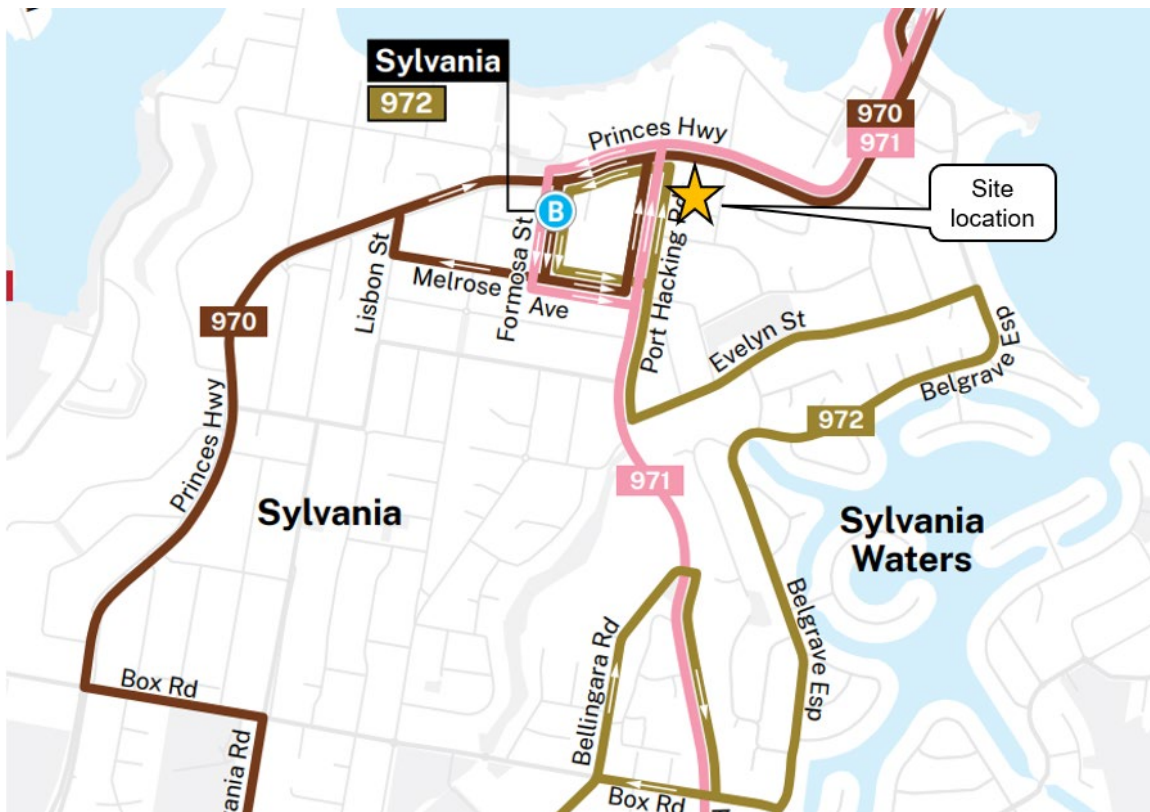


Figure 4 Surrounding bus network

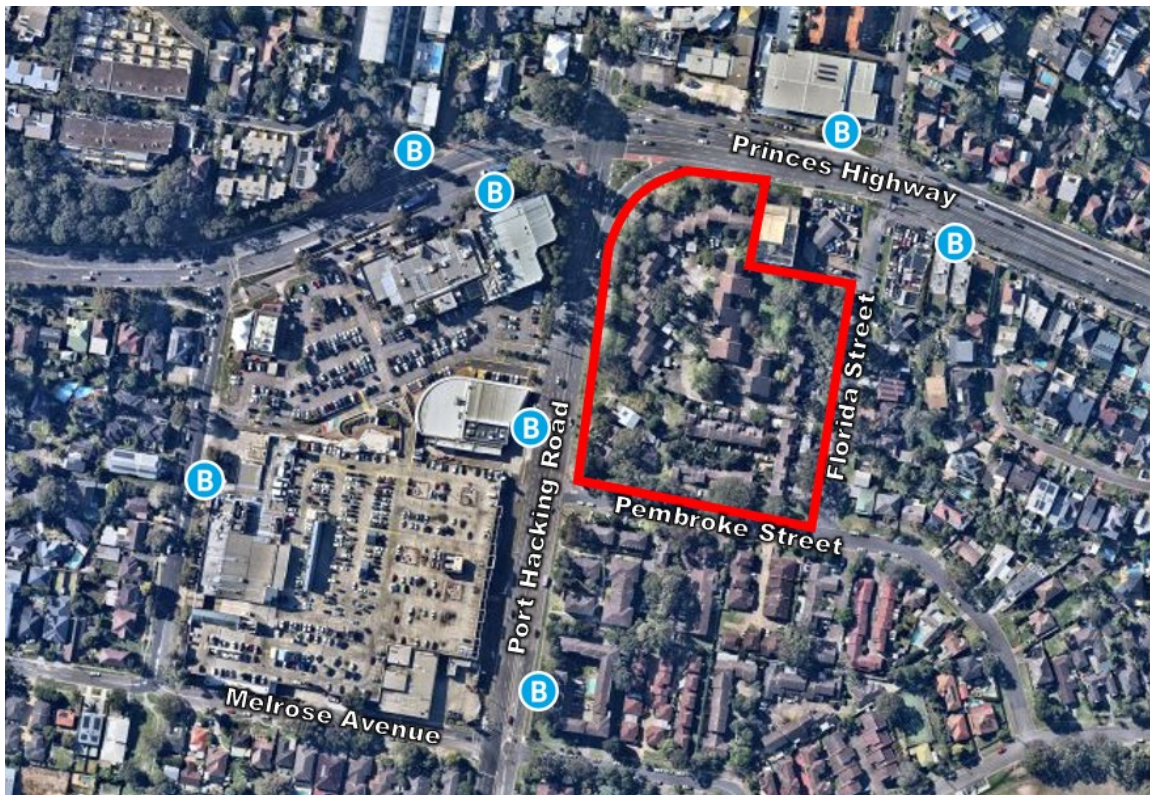


Figure 5 Nearby bus stops

2.4 Active transport network

There is an established network of pedestrian and cycling facilities in the vicinity of the site. Footpaths are generally available however there is a lack of footpath infrastructure on roads immediately fronting the site. The revitalisation of the site as proposed offers the opportunity to significantly improve pedestrian access in and around the area.

Due to the presence of major arterial roads fronting the site such as the Princes Highway and Port Hacking Road there are limited pedestrian crossing opportunities available. The nearest formal pedestrian crossing of Port Hacking Road is located at Melrose Avenue approximately 150m to the south of the site.



Figure 6 Nearby pedestrian crossings

2.5 Crash data

A review of crash data published by Transport for NSW for the most recent five year period has been reviewed and is shown in Figure 7. This indicates no recorded crash history immediately adjacent to the site on either Pembroke Street or Florida Street. The majority of crashes recorded are along the busy arterial roads of the Princes Highway and Port Hacking Road. The analysis confirms there are no major concerns in relation to road safety along the site frontage.

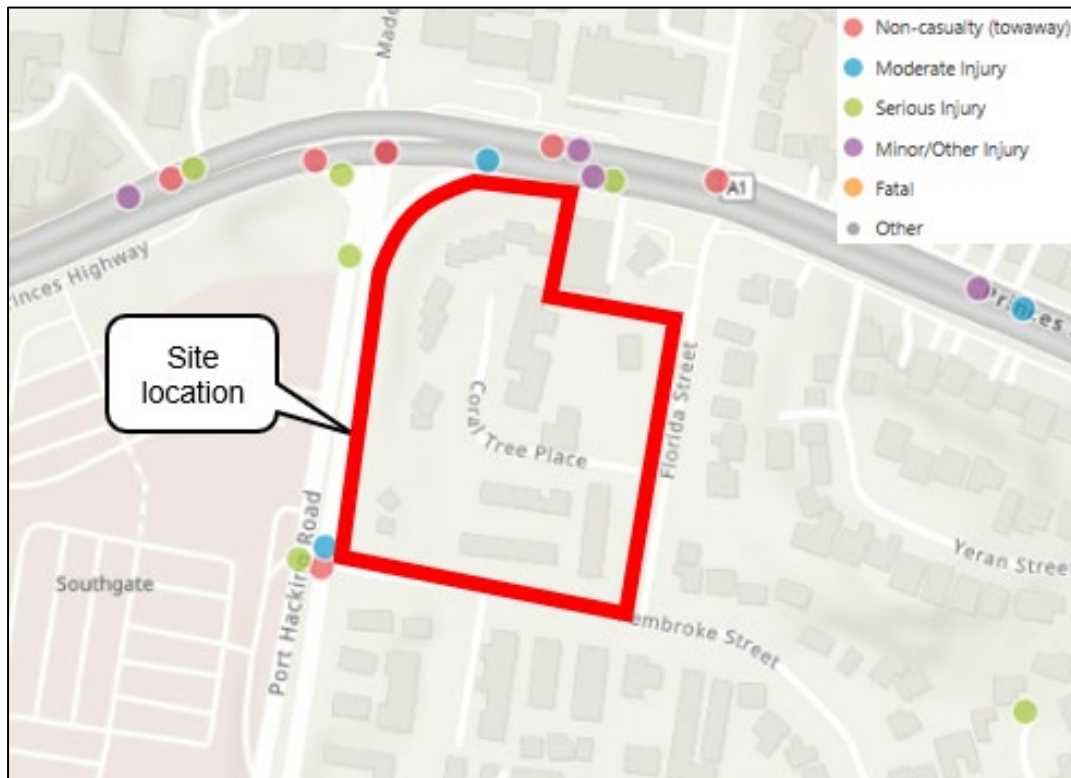


Figure 7 Crash data

Source: NSW Centre for Road Safety

2.6 Existing traffic volumes

Traffic counts were undertaken on Thursday 5 June 2025 at the following nearby intersections:

- Princes Highway / Port Hacking Road
- Princes Highway / Florida Street
- Port Hacking Road / Pembroke Street

The traffic data was collected which sits outside of any school or public holiday periods. This existing traffic data is indicated in Figure 8 and has formed the basis for the road network analysis undertaken in later sections of this document.

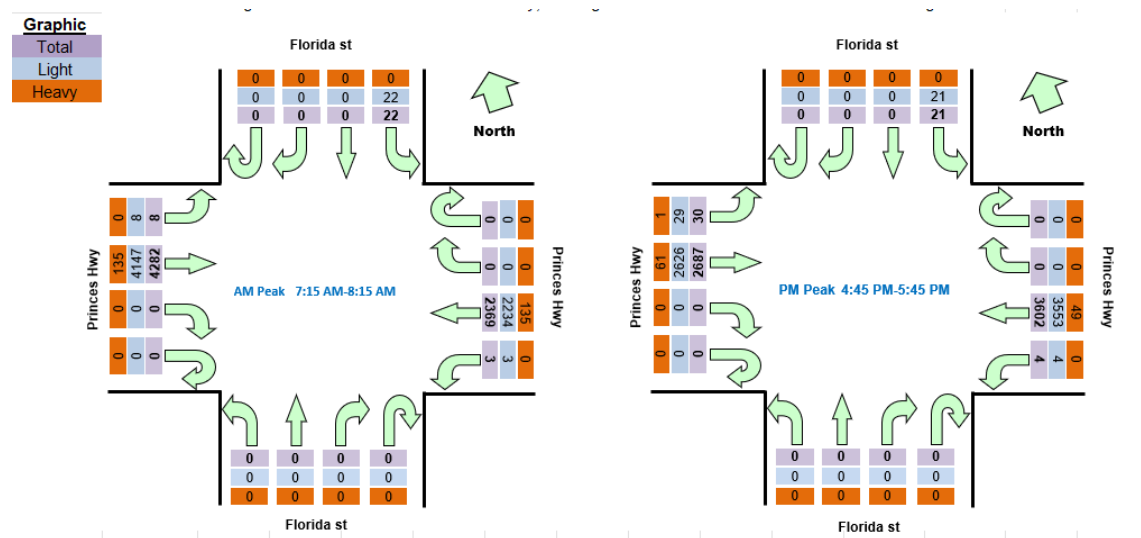


Figure 8 Existing traffic flows – Princes Highway / Florida Street

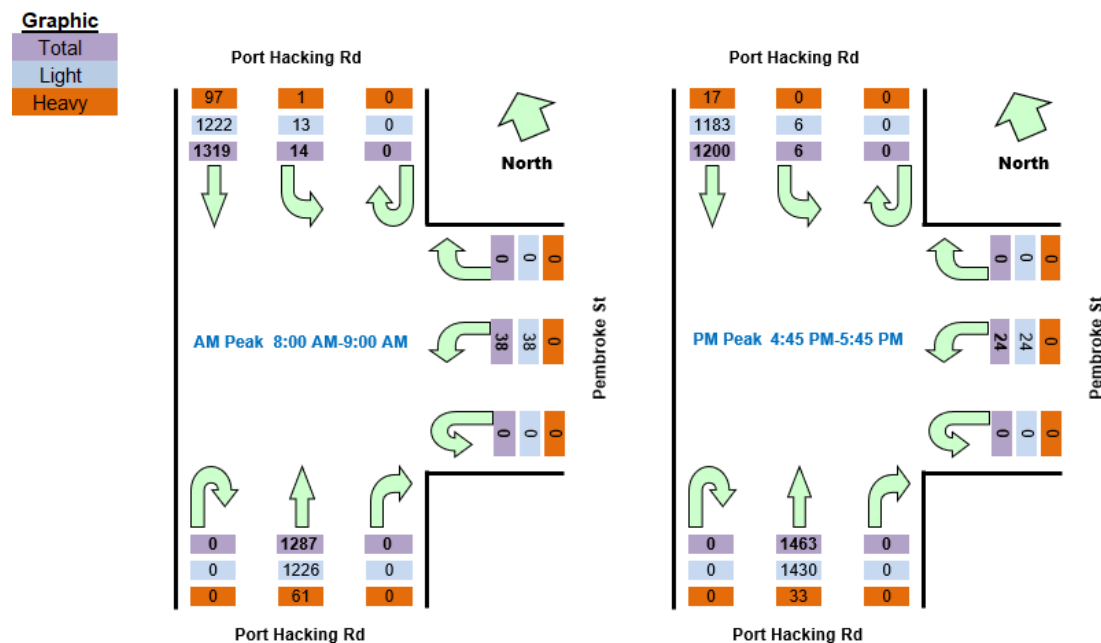


Figure 9 Existing traffic flows – Port Hacking Road / Pembroke Street

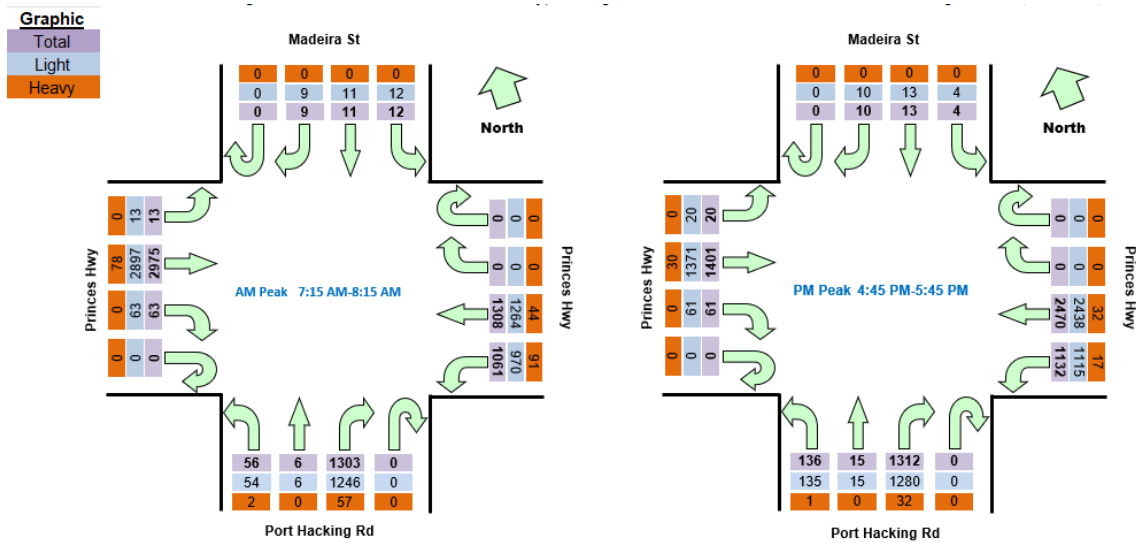


Figure 10 Existing traffic flows – Princes Highway / Florida Street

Traffic modelling has been undertaken using the TfNSW approved 'SIDRA' software to understand the existing operational performance of these adjacent intersections.

The traffic modelling metric used to analyse the performance of the intersections is intersection Level of Service (LOS). Level of Service is a measure that uses the average delay experienced by vehicles to categorically assign each approach and movement with a qualitative ordinal grade (A through F, with A being the best and F being the worst). In typical urban environments it is typical for intersections to operate at Level of Service D or E and still remain within acceptable performance levels.

Another common measure of intersection performance is the degree of saturation (DOS), which provides an overall measure of the capability of the intersection to accommodate additional traffic. A DOS of 1.0 indicates that an intersection is operating at capacity.

The modelling indicates that the adjacent intersections to the site at Pembroke Street / Port Hacking Road and Floria Street / Princes Highway currently operate at a very good Level of Service A in the morning peak and the afternoon peak hours. The key intersection of Port Hacking Road and the Princes Highway has been modelled to operate at Level of Service D in the commuter peak hours.

A summary of the existing intersection performance is provided in Table 2.

Table 2 Existing intersection performance

Intersection	Intersection Performance – AM Peak Hour			Intersection Performance – PM Peak Hour		
	Level of Service	Degree of Saturation	Average Delay (s)	Level of Service	Degree of Saturation	Average Delay (s)
Princes Highway / Port Hacking Road	D	0.97	54	D	0.92	48
Princes Highway / Florida Street	A	0.44	6	A	0.66	6
Port Hacking Road / Pembroke Street	A	0.38	12	A	0.33	12

3 Transport and Parking Strategy

3.1 Vehicle site access

Under the SSDA vehicle access arrangements would be via the following means:

- Access to the southernmost building fronting Pembroke Street (constructed as part of Phase 1 of the development) to be accessed directly via Pembroke Street.
- Access to the three other buildings within the site via an internal shared zone, primarily running one-way anti-clockwise with entry from Florida Street and exit via Pembroke Street.
- On-street loading zones and waste collection to take place immediately adjacent to building frontages.

These proposed vehicular access arrangements are indicated in Figure 11.

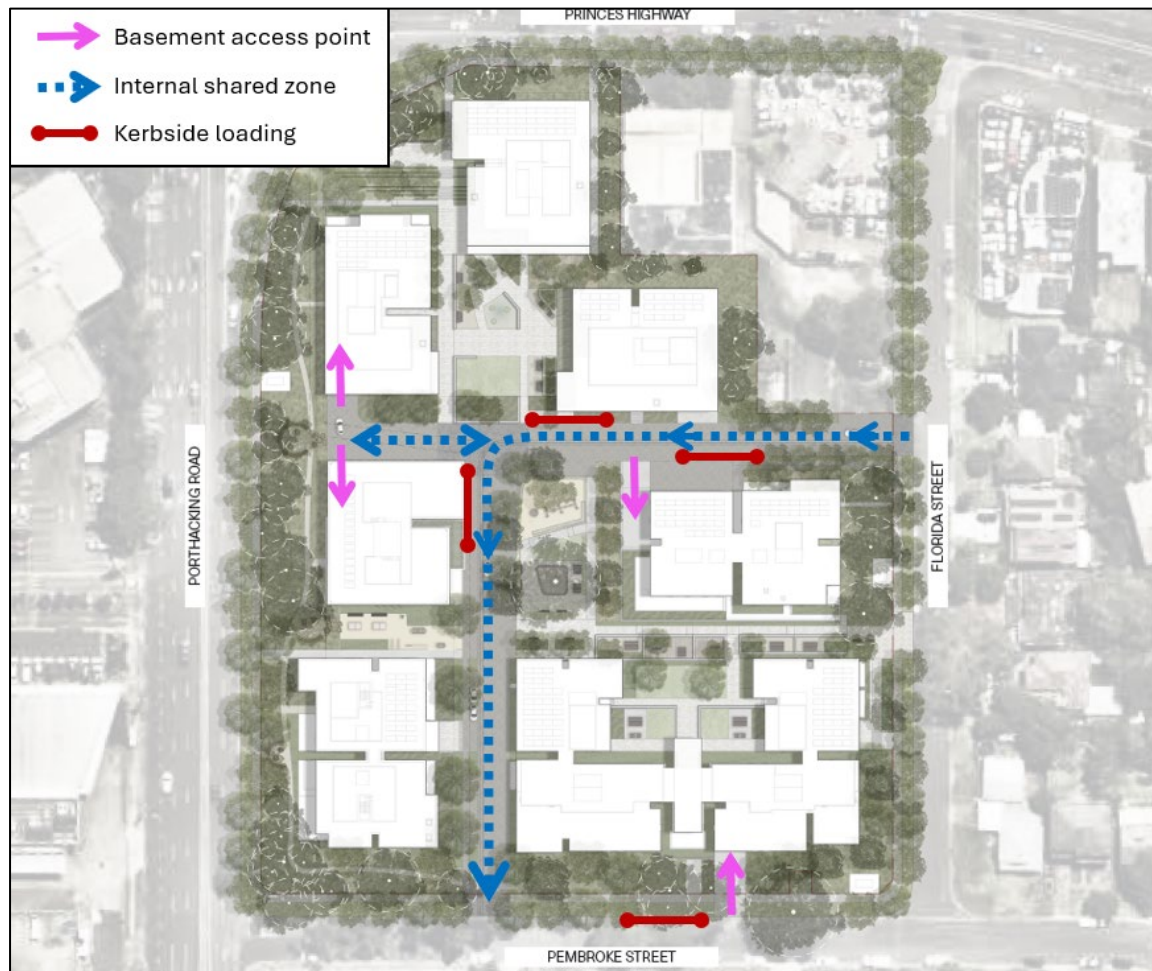


Figure 11 Proposed vehicle access arrangements

Section 2.119 of SEPP (Transport and Infrastructure) 2021 notes that “the consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that where practicable and safe, vehicular access to the land is provided by a road other than the classified road”.

By providing vehicular access from Florida Street and Pembroke Street (being local roads) the proposal complies with this provision of the SEPP. No direct vehicle access is provided from the classified roads of Princes Highway or Port Hacking Road.

The vehicle access points have been designed in accordance with the design requirements set out in the relevant Australian Standard, namely AS2890.1:2004 Vehicle swept paths indicating the entry and exit of passenger vehicles from the site are provided in the following figures – demonstrating suitable allowance for simultaneous movement of vehicles entering and exiting the site.

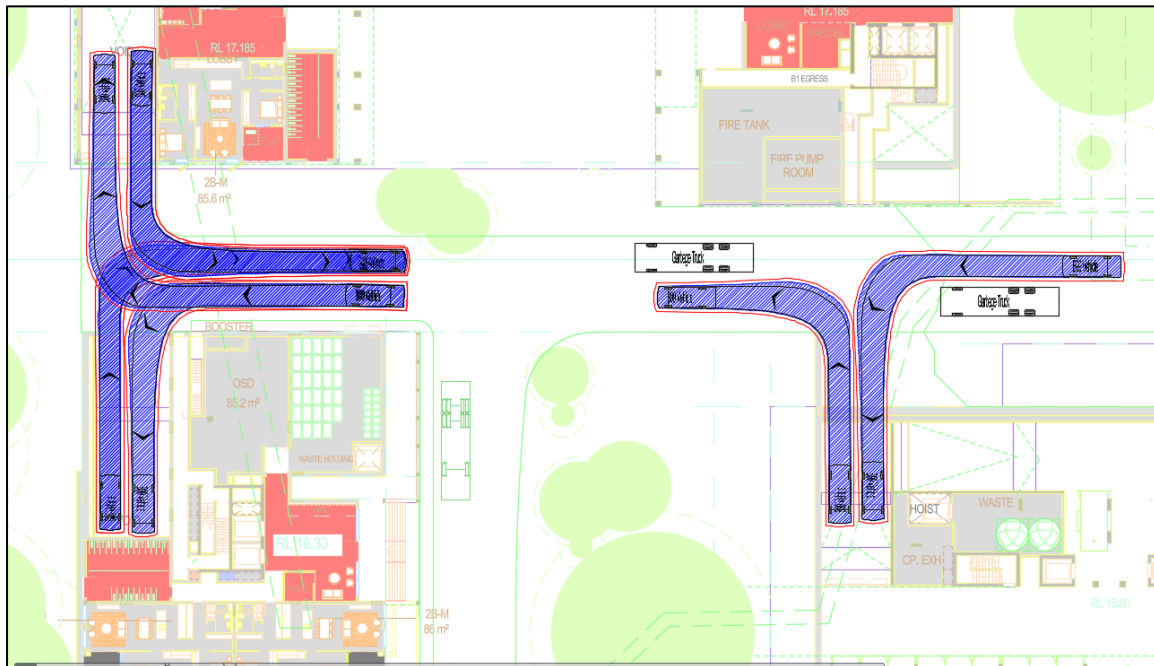


Figure 12 Swept paths analysis – internal roadway

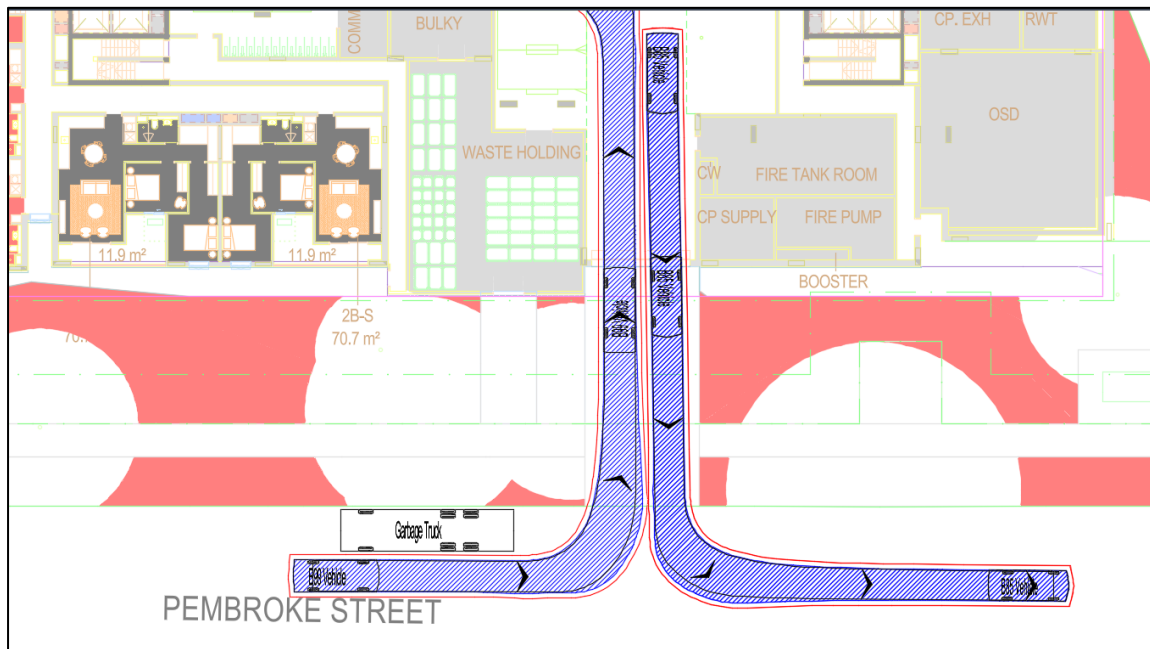


Figure 13 Swept paths analysis – southern building

3.2 Car park design

The car park has been designed in accordance with AS2890.1 with respect to ramp gradients, circulation aisle widths and car space dimensions. A review of the plans has found that the car park layout complies with the requirements of AS2890.1-2004 for all uses. Relevant dimensions provided include aisles minimum 5.8 metres wide with parking spaces 2.4 metres wide by 5.4 metres long

The main entry ramp has a relatively flat gradient for the first 6m beyond the property boundary in accordance with AS2890.1. The following vehicle clearance heights will be provided in the on-site car parking areas to accommodate the safe movement of vehicles:

- 2.2m clearance height within the basement levels, as per the requirements of AS2890.1. The exception to this will be a 2.5m clearance height above accessible car parking spaces and adjoining shared areas as required under AS2890.6.

3.3 Loading area

The loading strategy for the proposal involves the creation of a number of on-street loading zones immediately fronting the buildings within the development. This on-street loading zone is capable of accommodating a range of service vehicles including delivery vehicles as well as 10.5m long Sutherland Council waste collection vehicles.

Waste vehicles serving the social housing development fronting Pembroke Street will be provided along Pembroke Street. A collect and return strategy is proposed, whereby Council waste collection teams will be able to collect waste bins from the waste holding room within the building footprint, unload waste into the vehicle and then return empty bins to the holding area.

For the remaining buildings waste collection and building servicing occurs from the internal shared zone with dedicated on-street loading zones. Service vehicles will not enter the buildings themselves.

Vehicle swept paths have been developed to confirm the suitability of the design to accommodate the movement of a Council waste collection vehicle into and out of the on-street loading zones. Separately swept paths have been developed for a delivery vehicle manoeuvring within the site confirming it has the ability to travel around potential on-street parking and loading bays.

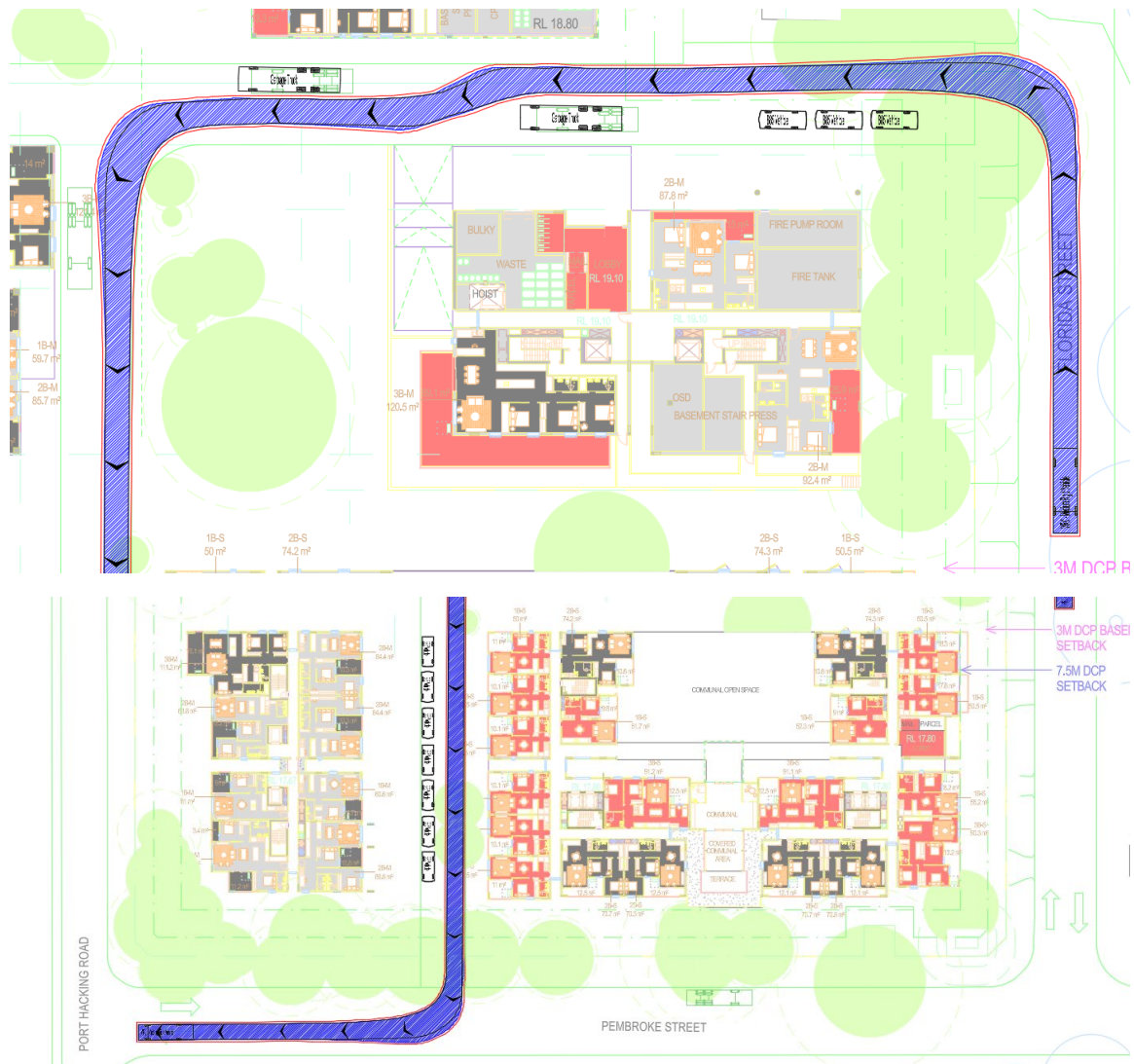


Figure 14 Swept path analysis – internal vehicle circulation

3.4 Car parking supply

- For dwellings used for affordable housing
 - For each dwelling containing 1 bedroom – at least 0.4 parking spaces
 - For each dwelling containing 2 bedrooms – at least 0.5 parking spaces
 - For each dwelling containing at least 3 bedrooms – at least 1 parking space

For the non-affordable (market) housing units car parking is to be provided in accordance with the minimum requirements of Sutherland Council's DCP.

For residential visitors a parking rate of 1 space per 4 apartments has been adopted which aligns Council's DCP.

As summarised in Table 3 below the proposed level of parking for the development complies with the minimum requirements noted in the Housing SEPP (for affordable housing units) and Council's DCP (for market housing units). The proposed level of parking is therefore considered satisfactory to accommodate expected demands.

Table 3 Car parking summary

Land Use	Type	No. of units	Minimum Parking Rate	Min. No. of Spaces*	Parking provided
Residents	Non-Affordable Housing	1 bed	52	1.0 / unit	52
		2 bed	218	1.5 / unit	327
		3/4 bed	55	2.0 / unit	110
	Affordable Housing	1 bed	77	0.4 / unit	31
		2 bed	60	0.5 / unit	30
		3/4 bed	22	1.0 / unit	22
	Sub-Total: Residents				572
	Residential Visitors			1 / 4 units	121
	Total		484	-	693

* Rounded to nearest whole number

3.5 Accessible car parking

The proposal provides for 89 accessible car parking spaces across the development. These accessible spaces have been designed in accordance with AS2890.6 or AS4299 including the provision of adjacent shared areas, wide 3.8m car spaces and clearance heights of 2.5m. 7 accessible parking spaces are allocated to visitors of the buildings.

3.6 Bicycle parking

The Sutherland DCP outlines minimum bicycle parking requirements for residential developments to be provided at the following rates:

- 1 bicycle space per 10 car parking spaces for the first 200 car spaces, plus
- 1 space per 20 car parking spaces thereafter

Based on the proposed level of car parking there would be a requirement to provide for approximately 40 bicycle parking spaces. The proposal exceeds this requirement by providing for approximately 90 bicycle storage areas across the site. All bicycle parking spaces would be provided in compliance with the requirements of the Australian Standard AS2890.3.

3.7 Pedestrian infrastructure

Currently Port Hacking Road, Pembroke Street and Florida Street fronting the site do not benefit from any pedestrian footpath infrastructure. The proposal will significantly enhance pedestrian accessibility in the vicinity of the site through the introduction of pedestrian footpaths on all site frontages. Internal pedestrian only pathways and a 10km/h low speed shared zone will also be provided as part of the development to support pedestrian movements.



Figure 16 Visulisation of future shared zone

Source: Turf

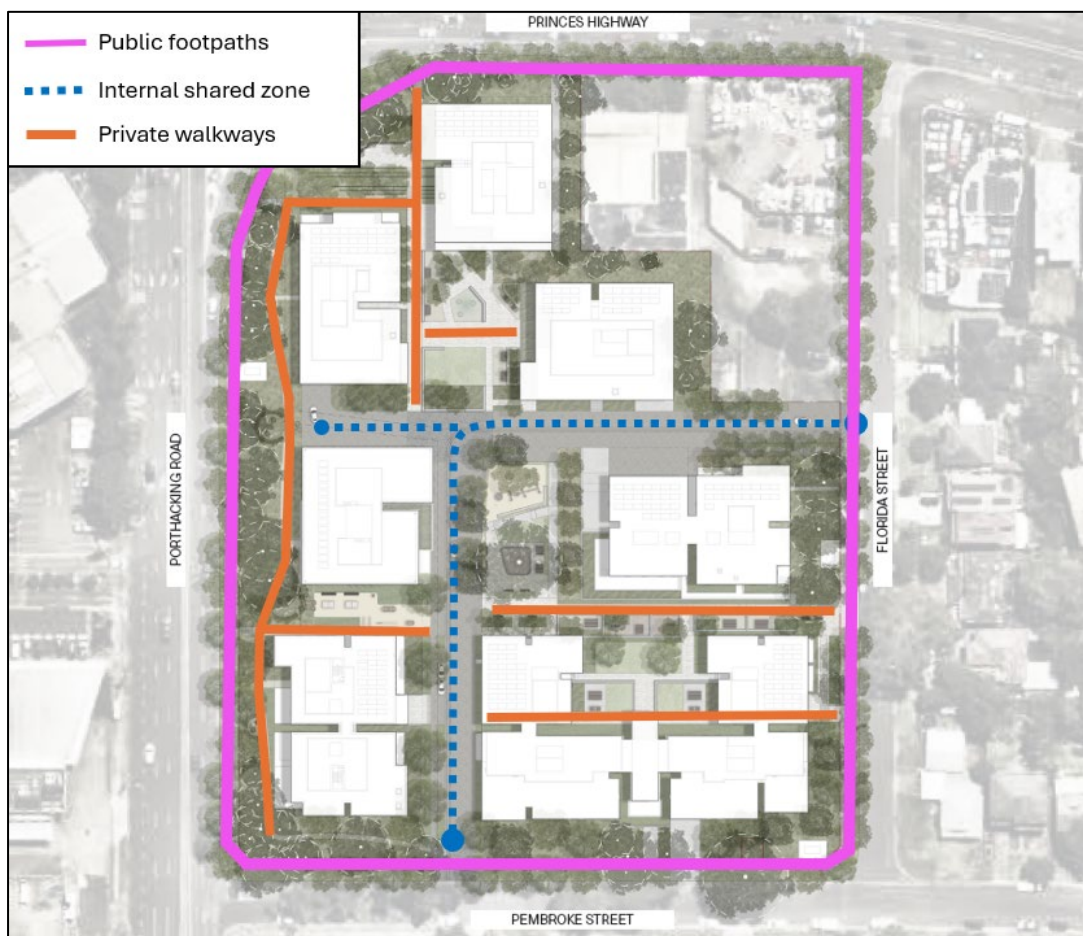


Figure 17 Proposed pedestrian infrastructure

3.8 Forecast traffic generation

The Transport for NSW Guide to Transport Impact Assessment (GTIA) document published in October 2024 outlines recommended vehicular trip rates for high density residential developments in urban areas with good access to public transport.

It should also be noted that the standard trip generation rates are based on typical rates of car parking (1 space per unit or greater) for build to sell apartments. The subject site will be partly dedicated to social housing and therefore a lower car parking rate, equivalent to approximately 0.50 spaces per unit, is to be in place. This lower car parking rate will reduce the extent of traffic generation compared to a typical build to sell apartment development.

In this context the traffic generation rates adopted are as follows:

Social Housing

- AM Peak hour: 0.10 trips / dwelling
- PM Peak hour: 0.08 trips / dwelling

Market Housing

- AM Peak hour: 0.19 trips / dwelling
- PM Peak hour: 0.15 trips / dwelling

Based on the proposed development yield the following peak hour traffic generation could be expected:

- AM Peak hour: 78 vehicle trips
- PM Peak hour: 61 vehicle trips

3.9 Trip distribution

Traffic has been distributed on the surrounding road network based on observed traffic flows and likely destinations of future site residents. These distribution assumptions for both incoming and outgoing traffic movements are presented in Figure 18.

During the AM peak hour, the development trips are expected to be 80% outbound (away from the site) and 20% inbound (into the site). This is expected to be reversed during the PM peak hour.

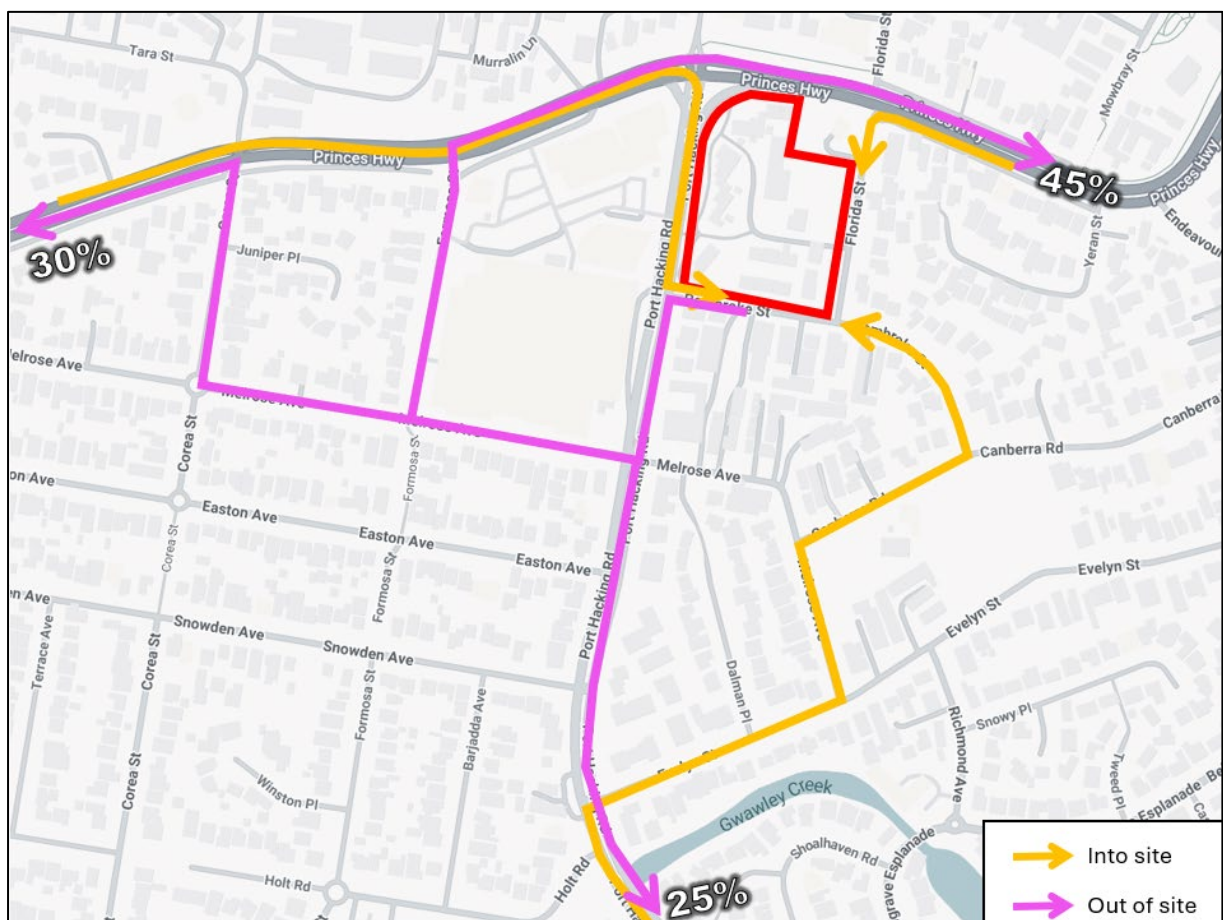


Figure 18 Forecast traffic distribution

3.10 Road network impacts

Based on the project level of traffic generation (see Section 0) and traffic distribution (see Section 3.9) the impact of the additional traffic movements associated with the proposal has been assessed. The outcomes of the traffic modelling are summarised in Table 4 and Table 5 and confirm that the proposal would not adversely impact the operation of the adjacent road network – with all intersections forecast to retain their current level of service.

In this context no intersection works or upgrades are therefore required to facilitate the development of the subject site and this development could progress immediately without significantly impacting the surrounding road network.

Detailed traffic modelling outputs are provided as Appendix A of this document.

Table 4 Forecast intersection performance – AM Peak Hour

Intersection	Intersection Performance – Existing Conditions			Intersection Performance – Existing Conditions + Proposal		
	Level of Service	Degree of Saturation	Average Delay (s)	Level of Service	Degree of Saturation	Average Delay (s)
Princes Highway / Port Hacking Road	D	0.97	54	D	0.97	56
Princes Highway / Florida Street	A	0.44	6	A	0.44	6
Port Hacking Road / Pembroke Street	A	0.38	12	A	0.38	13

Table 5 Forecast intersection performance – PM Peak Hour

Intersection	Intersection Performance – Existing Conditions			Intersection Performance – Existing Conditions + Proposal		
	Level of Service	Degree of Saturation	Average Delay (s)	Level of Service	Degree of Saturation	Average Delay (s)
Princes Highway / Port Hacking Road	D	0.92	48	D	0.92	48
Princes Highway / Florida Street	A	0.66	6	A	0.66	6
Port Hacking Road / Pembroke Street	A	0.33	12	A	0.33	12

4 Preliminary Construction Traffic Management Plan

4.1 Overview

For the purposes of the SSDA a preliminary Construction Traffic Management Plan (CTMP) has been prepared. This preliminary CTMP outlines the key principles for how construction may be carried out on the site, subject to further planning to be undertaken during subsequent stages of the project. As the project is early in the design phase details around construction timeframes, methodology and processes are not yet confirmed.

Prior to the commencement of construction for the site, a detailed CTMP will be prepared. This will be reinforced through an appropriately worded condition of consent, with the purpose of the CTMP to assess the proposed access and operation of construction traffic associated with the proposed development with respect to safety and capacity. The Contractor will be responsible for preparing the CTMP, ensuring the following are addressed:

- Proposed construction vehicle routes;
- Indicative construction programme;
- Expected construction vehicle types and volumes;
- Car parking arrangements and site access during construction; and
- Safety measures to minimise impacts to pedestrians and cyclists.

The Contractor will also be responsible for monitoring and coordinating all vehicles entering and exiting the site.

4.2 Working hours

Working hours will be confirmed at the time of the development of the detailed CPTMP however are envisaged to take place during the following hours:

- Monday to Friday: 7am – 6pm
- Saturday: 8am – 5pm
- Sunday / public holiday: No work

The appointed contractor will be responsible for instructing and controlling all subcontractors regarding the hours of work. Any work outside the approved construction hours would be subject to specific prior approval.

4.3 Construction traffic routes

The construction vehicles routes to be utilised for the construction of the subject site would be selected in order to:

- Maximise vehicle use to the State and Regional road network and limit the extent of travel on residential streets;
- Avoid impacting concurrent construction projects in the vicinity of the site;
- Minimise impacts to the public transport network

The main construction access routes will be via the state road network including the Princes Highway and Port Hacking Road as illustrated in Figure 19. The construction vehicle routes will be confirmed following the appointment of a contractor and advised to drivers as part of their site induction process.

These construction routes will be confirmed during the preparation of the detailed CPTMP developed prior to the commencement of construction.

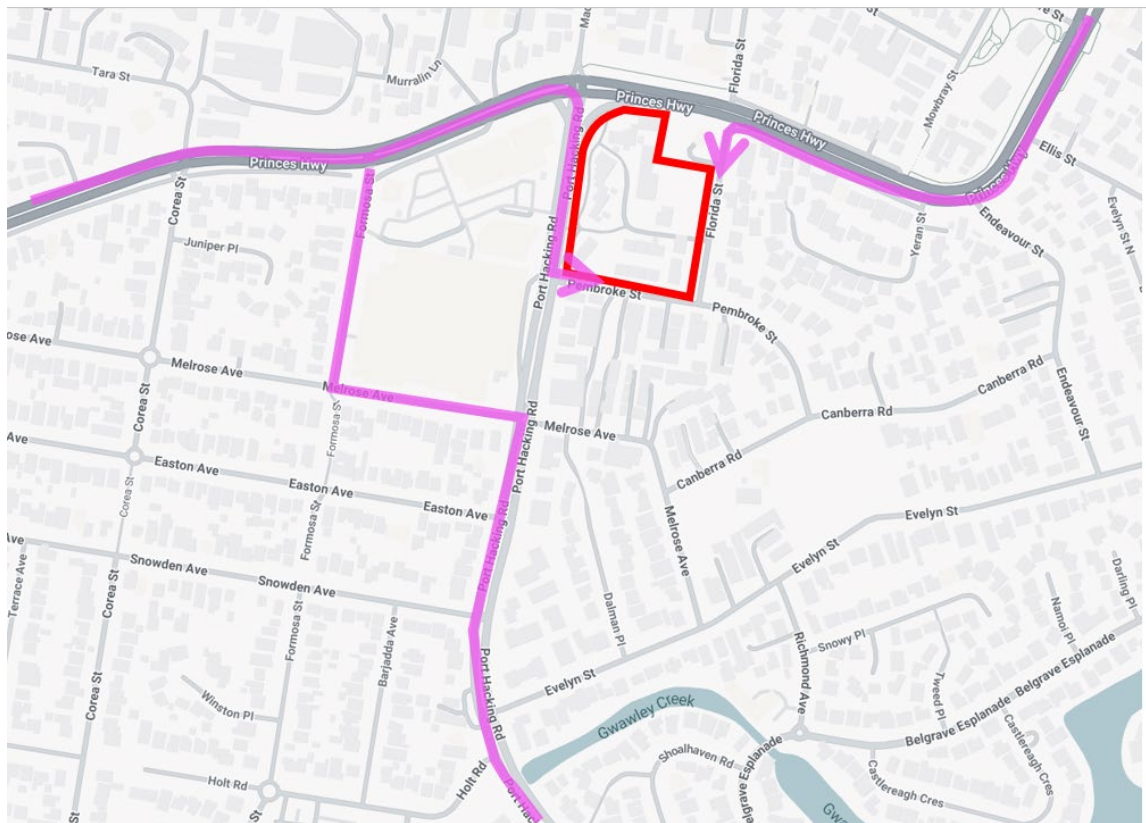


Figure 19 Potential construction vehicle routes

4.4 Construction vehicle volumes

The number of construction vehicles accessing the site on a typical day may be in the order of 20-30 vehicles. This figure will be confirmed following the appointment of a contractor and will form part of the detailed CPTMP to be prepared prior to the commencement of construction. It should be noted however that the level of construction vehicle traffic will be less than that generated during the operational phase of the project.

4.5 Works zones

During the construction a works zone may be established along the site frontages of Florida Street and Pembroke Street. These work zones would facilitate the lifting of materials onto the site and be supporting by a B Class Hoarding to enable pedestrian movements to safely occur. No works zones are anticipated to be required along the classified roads of the Princes Highway and Port Hacking Road so as not to adversely affect traffic movements in the surrounding area.

The requirement for this works zone would be confirmed at the time of the preparation of the detailed CPTMP.

4.6 Road closures and road occupancy

It is not anticipated that the works will necessitate the need for any road closures or occupation of roadways during the project. Should this need arise the appointed contractor would liaise closely with Council and TfNSW and schedule these works well in advance to minimise impacts to road users.

4.7 Size and type of vehicles

The site will have various types of construction vehicles accessing the site, including:

- 12.5m Heavy Rigid Vehicles (HRVs)
- 8.8m Medium Rigid Vehicles (MRVs)
- 6.5m Small Rigid Vehicles (SRVs);
- Utes/vans

4.8 Impacts to pedestrians

Temporary fencing and hoardings will be installed along the site frontages to maintain pedestrian movements and ensure the safety of pedestrians walking adjacent to the construction site. Footpaths will remain open at all times to pedestrians and therefore minimal impacts are anticipated.

Traffic controllers will be positioned at vehicle site access points to manage interactions between vehicles and pedestrians on the adjoining footpath. Traffic control plans for the site access points will be developed during the preparation of the detailed CPTMP (prior to the commencement of construction) which will further detail management arrangements to be in place to ensure the safety of pedestrians in the area.

4.9 Cumulative construction impacts

There may be other construction projects occurring at the same as the proposed works at the site. Ongoing review of cumulative heavy vehicle traffic generation and coordination of heavy vehicle routes used by these projects will be undertaken on a regular basis between the appointed contractor, Council and TfNSW to minimise impacts on the road network. As other CTPMPs become available for adjacent projects, these will be reviewed by the contractor and discussions held with relevant stakeholders.

It is noted that the works at the site are anticipated to generate a relatively low level of construction vehicle activity of at most approximately 5 vehicles per hour. This volume of vehicles would not impact the operation of the surrounding road network.

4.10 Emergency vehicle access

Emergency vehicle access will be maintained at all times, or if necessary site personnel will grant access to emergency vehicles entering the site itself.

The contractor will liaise with the NSW Police, Fire Brigade and emergency services agencies throughout construction and a 24-hour contact would be made available for 'out of hours' emergencies and access. The emergency services will be briefed as needed.

4.11 Mitigation measures

Mitigation measures will be adopted during construction to ensure traffic movements have minimal impact on surrounding land uses and the community in general, and would include the following:

- Trucks to access the site from either Florida Street or Pembroke Street and not directly from the classified road network;
- Trucks to minimise the use of local streets for access to the construction site;
- Trucks to enter and exit the site in a forward direction;
- Pedestrians near the ingress/egress points will not be held unnecessarily.
- At construction vehicle access/egress points, priority is to be given to trucks accessing the site over trucks egressing the site so as to have no impact to

traffic flow on surrounding roads (unless exceptional circumstances do not permit)

- Trucks to not circulate on the road network to wait to enter the site (unless exceptional circumstances do not permit)
- Restrict construction vehicle activity to designated routes which do not utilise any local roads;
- Truck drivers will be advised of the designated truck routes to/ from the site;
- Construction access from the external road network to mainly occur at signalised intersection;
- Pedestrian movements adjacent the construction site will be managed and controlled by site personnel where required;
- Pedestrian warning signs and construction safety signs/devices to be utilised in the vicinity of the site and to be provided in accordance with WorkCover requirements;
- Construction activity to be carried out in accordance with approved hours of work;
- Truck loads would be covered during transportation off-site;
- Establishment and enforcement of appropriate on-site vehicle speed limits which would be reviewed depending on weather conditions or safety requirements;
- Activities related to the construction works would not impede traffic flow along adjacent roads;
- Materials would be delivered and spoil removed during standard construction hours;
- Construction vehicles not to queue on adjacent streets;
- During site induction, workers will be informed of the existing bus, train and metro network servicing the site;
- To support construction workers in utilising public transport, appropriate arrangements will be made for any equipment/ tool storage and drop-off requirements; and
- Development and enforcement of driver charter.

The appointed contractor will include the following in all subcontract procurement packages as part of a driver code of conduct:

- a copy of the approved truck routes as previously detailed in this document.
- the approved maximum truck size
- any other entry restrictions, or site access restrictions as agreed to by the authorities.

4.12 Site induction

All staff employed on the head contractor (including sub-contractors) would be required to undergo a site induction. The induction would include permitted access routes to and from the construction site for site staff and delivery vehicles, parking arrangements, as well as standard environmental, workplace health and safety, driver protocols and emergency procedures. The approved work hours must be included as part of this induction.

5 Summary

This transport impact assessment report has been prepared by JMT Consulting to support a State Significant Development Application (SSDA) for a residential development for the site at 29 Florida Street, Sylvania. Key findings of the assessment are as follows:

- The site is well located with respect to public transport services, with multiple bus routes and stops available within easy walking distance.
- Vehicles would access the site via one of a number of driveways either from Pembroke Street or via a new internal shared zone.
- The proposal includes provision for on-street loading and waste collection to take place immediately adjacent to building frontages.
- The internal on-site parking areas have been designed in accordance with the requirements of the relevant Australian Standards (AS2890.1 and AS2890.6).
- The proposal provides for on-site car parking consistent with the minimum requirements of the Housing SEPP 2021 for social housing developments and the Sutherland DCP for private housing.
- Traffic modelling confirms that the proposed development would not have a significant impact on the operation of the surrounding road network.
- A preliminary construction traffic management plan confirms that, subject to further detailed planning prior to the commencement of works on site, the construction of the site can be appropriately managed.

In the above context, the traffic and transport impacts arising from the proposal are considered acceptable.

Appendix A: Traffic Modelling Outputs

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Site Scenario: 1 | Local Volumes

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
North: Maderia Street												

P3 Full	1	1	69.1	LOS F	0.0	0.0	0.96	0.96	223.0	200.0	0.90
West: Princes Hwy (W)											
P4 Full	13	14	69.2	LOS F	0.1	0.1	0.96	0.96	223.0	200.0	0.90
All Pedestrians	14	15	69.2	LOS F	0.1	0.1	0.96	0.96	223.0	200.0	0.90

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

MOVEMENT SUMMARY



Site: [2] Port Hacking / Pembroke (AM Existing)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Pembroke Street															
4	L2	All MCs	49	0.0	49	0.0	0.082	12.6	LOS A	0.3	2.1	0.60	0.98	0.60	48.8
Approach			49	0.0	49	0.0	0.082	12.6	LOS A	0.3	2.1	0.60	0.98	0.60	48.8
North: Port Hacking Road (N)															
7	L2	All MCs	14	7.7	14	7.7	0.377	5.7	LOS A	0.0	0.0	0.00	0.01	0.00	56.8
8	T1	All MCs	1388	7.4	1388	7.4	0.377	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.7
Approach			1402	7.4	1402	7.4	0.377	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.7
All Vehicles			1452	7.1	1452	7.1	0.377	0.6	NA	0.3	2.1	0.02	0.04	0.02	59.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY



Site: [3] Princes Hwy / Florida (AM Existing)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Princes Hwy (E)															
4	L2	All MCs	3	0.0	3	0.0	0.443	5.7	LOS A	0.0	0.0	0.00	0.00	0.00	57.2
5	T1	All MCs	2494	5.7	2494	5.7	0.443	0.2	LOS A	0.0	0.0	0.00	0.00	0.00	59.7
Approach			2497	5.7	2497	5.7	0.443	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.7
All Vehicles			2497	5.7	2497	5.7	0.443	0.2	NA	0.0	0.0	0.00	0.00	0.00	59.7

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [1 (3)] Princes Hwy / Port Hacking** (AM Existing + Proposal)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150.0 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Port Hacking Road															
1	L2	All MCs	59	3.6	59	3.6	0.059	8.6	LOS A	0.9	6.2	0.22	0.75	0.22	46.9
2	T1	All MCs	6	0.0	6	0.0	0.971	72.1	LOS F	42.3	306.8	1.00	1.09	1.33	23.3
3	R2	All MCs	1372	4.4	1372	4.4	* 0.971	97.0	LOS F	42.3	306.8	1.00	1.09	1.33	22.9
Approach			1437	4.3	1437	4.3	0.971	93.3	LOS F	42.3	306.8	0.97	1.07	1.29	23.4
East: Princes Hwy (E)															
4	L2	All MCs	1117	8.6	1117	8.6	0.616	6.0	LOS A	0.0	0.0	0.00	0.52	0.00	52.7
5	T1	All MCs	1377	3.4	1377	3.4	0.541	32.2	LOS C	24.1	173.9	0.79	0.70	0.79	39.4
Approach			2494	5.7	2494	5.7	0.616	20.5	LOS B	24.1	173.9	0.43	0.62	0.43	44.4
North: Maderia Street															
7	L2	All MCs	13	0.0	13	0.0	0.446	86.5	LOS F	2.6	18.0	1.00	0.73	1.00	24.8
8	T1	All MCs	12	0.0	12	0.0	* 0.446	81.0	LOS F	2.6	18.0	1.00	0.73	1.00	25.2
9	R2	All MCs	9	0.0	9	0.0	0.446	86.6	LOS F	2.6	18.0	1.00	0.73	1.00	24.8
Approach			34	0.0	34	0.0	0.446	84.6	LOS F	2.6	18.0	1.00	0.73	1.00	24.9
West: Princes Hwy (W)															
10	L2	All MCs	14	0.0	14	0.0	0.971	63.3	LOS E	91.3	653.6	1.00	1.10	1.17	30.3
11	T1	All MCs	3141	2.6	3141	2.6	* 0.971	66.1	LOS E	91.4	654.0	1.00	1.10	1.18	30.8
12	R2	All MCs	85	0.0	85	0.0	0.495	101.6	LOS F	6.1	42.8	0.99	0.78	0.99	26.2
Approach			3240	2.5	3240	2.5	0.971	67.0	LOS E	91.4	654.0	1.00	1.09	1.17	28.7
All Vehicles			7204	4.0	7204	4.0	0.971	56.2	LOS D	91.4	654.0	0.80	0.92	0.94	31.1

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
						ped	m					

North: Maderia Street												
P3	Full	1	1	69.1	LOS F	0.0	0.0	0.96	0.96	223.0	200.0	0.90
West: Princes Hwy (W)												
P4	Full	13	14	69.2	LOS F	0.1	0.1	0.96	0.96	223.0	200.0	0.90
All		14	15	69.2	LOS F	0.1	0.1	0.96	0.96	223.0	200.0	0.90
Pedestrians												

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

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

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

MOVEMENT SUMMARY

 **Site: [2 (3)] Port Hacking / Pembroke (AM Existing + Proposal)**
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Pembroke Street															
4	L2	All MCs	49	0.0	49	0.0	0.080	12.5	LOS A	0.3	2.0	0.59	0.98	0.59	48.9
Approach			49	0.0	49	0.0	0.080	12.5	LOS A	0.3	2.0	0.59	0.98	0.59	48.9
North: Port Hacking Road (N)															
7	L2	All MCs	35	3.0	35	3.0	0.383	5.7	LOS A	0.0	0.0	0.00	0.03	0.00	56.9
8	T1	All MCs	1388	7.4	1388	7.4	0.383	0.1	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach			1423	7.2	1423	7.2	0.383	0.3	NA	0.0	0.0	0.00	0.01	0.00	59.5
All Vehicles			1473	7.0	1473	7.0	0.383	0.7	NA	0.3	2.0	0.02	0.05	0.02	59.1

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [3 (3)] Princes Hwy / Florida (AM Existing + Proposal)**
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. Dist]					
			veh/h	%	veh/h	%				v/c	sec				veh
East: Princes Hwy (E)															
4	L2	All MCs	33	0.0	33	0.0	0.448	5.7	LOS A	0.0	0.0	0.00	0.02	0.00	57.0
5	T1	All MCs	2494	5.7	2494	5.7	0.448	0.2	LOS A	0.0	0.0	0.00	0.01	0.00	59.6
Approach			2526	5.6	2526	5.6	0.448	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6
All Vehicles			2526	5.6	2526	5.6	0.448	0.2	NA	0.0	0.0	0.00	0.01	0.00	59.6

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Site Scenario: 1 | Local Volumes

- * Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped ped	Dist] m			sec	m	m/sec
North: Maderia Street												

P3 Full	10	11	69.2	LOS F	0.0	0.0	0.96	0.96	223.0	200.0	0.90
West: Princes Hwy (W)											
P4 Full	29	31	69.2	LOS F	0.1	0.1	0.96	0.96	223.1	200.0	0.90
All Pedestrians	39	41	69.2	LOS F	0.1	0.1	0.96	0.96	223.0	200.0	0.90

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

MOVEMENT SUMMARY



Site: [2 (2)] Port Hacking / Pembroke (PM Existing)
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh.]					
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Pembroke Street															
4	L2	All MCs	25	0.0	25	0.0	0.037	11.6	LOS A	0.1	0.9	0.55	0.92	0.55	49.4
Approach			25	0.0	25	0.0	0.037	11.6	LOS A	0.1	0.9	0.55	0.92	0.55	49.4
North: Port Hacking Road (N)															
7	L2	All MCs	6	0.0	6	0.0	0.329	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.3
8	T1	All MCs	1263	1.4	1263	1.4	0.329	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			1269	1.4	1269	1.4	0.329	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.8
All Vehicles			1295	1.4	1295	1.4	0.329	0.4	NA	0.1	0.9	0.01	0.02	0.01	59.5

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [3 (2)] Princes Hwy / Florida (PM Existing)**
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. Dist]					
			veh/h	%	veh/h	%				v/c	sec				veh
East: Princes Hwy (E)															
4	L2	All MCs	4	0.0	4	0.0	0.655	5.9	LOS A	0.0	0.0	0.00	0.00	0.00	56.8
5	T1	All MCs	3792	1.4	3792	1.4	0.655	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
Approach			3796	1.4	3796	1.4	0.655	0.4	NA	0.0	0.0	0.00	0.00	0.00	59.2
All Vehicles			3796	1.4	3796	1.4	0.655	0.4	NA	0.0	0.0	0.00	0.00	0.00	59.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [1 (4)] Princes Hwy / Port Hacking** (PM Existing + Proposal)

Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site

Site Category: (None)

Signals - EQUISAT (Fixed-Time/SCATS) Isolated Cycle Time = 150.0 seconds (Site User-Given Cycle Time)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]	[Total HV]	[Total HV]				[Veh.]	[Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Port Hacking Road															
1	L2	All MCs	143	0.7	143	0.7	0.177	29.8	LOS C	6.2	43.7	0.66	1.24	0.66	34.1
2	T1	All MCs	16	0.0	16	0.0	* 0.923	62.4	LOS E	38.7	276.3	1.00	1.02	1.21	26.2
3	R2	All MCs	1381	2.4	1381	2.4	0.923	79.7	LOS F	38.7	276.3	1.00	1.01	1.21	25.7
Approach			1540	2.3	1540	2.3	0.923	74.9	LOS F	38.7	276.3	0.97	1.04	1.16	26.3
East: Princes Hwy (E)															
4	L2	All MCs	1192	1.5	1192	1.5	0.626	23.7	LOS B	0.0	0.0	0.00	0.69	0.00	53.0
5	T1	All MCs	2589	1.3	2589	1.3	* 0.922	56.4	LOS D	65.6	464.7	1.00	1.04	1.10	32.9
Approach			3781	1.4	3781	1.4	0.922	46.1	LOS D	65.6	464.7	0.68	0.93	0.75	34.1
North: Maderia Street															
7	L2	All MCs	4	0.0	4	0.0	0.374	86.1	LOS F	2.2	15.1	1.00	0.72	1.00	25.0
8	T1	All MCs	14	0.0	14	0.0	* 0.374	80.5	LOS F	2.2	15.1	1.00	0.72	1.00	25.4
9	R2	All MCs	11	0.0	11	0.0	0.374	86.1	LOS F	2.2	15.1	1.00	0.72	1.00	25.0
Approach			28	0.0	28	0.0	0.374	83.4	LOS F	2.2	15.1	1.00	0.72	1.00	25.2
West: Princes Hwy (W)															
10	L2	All MCs	21	0.0	21	0.0	0.475	26.5	LOS B	21.9	156.0	0.64	0.59	0.64	43.5
11	T1	All MCs	1498	2.1	1498	2.1	0.475	22.7	LOS B	21.9	156.3	0.64	0.58	0.64	45.0
12	R2	All MCs	68	0.0	68	0.0	0.921	106.3	LOS F	5.8	40.6	1.00	0.96	1.48	22.6
Approach			1587	2.0	1587	2.0	0.921	26.4	LOS B	21.9	156.3	0.66	0.60	0.68	41.9
All Vehicles			6937	1.7	6937	1.7	0.923	48.2	LOS D	65.6	464.7	0.74	0.87	0.83	33.3

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

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

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

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

Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Green.

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

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

Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

* Critical Movement (Signal Timing)

Pedestrian Movement Performance												
Mov ID	Crossing	Input Vol.	Dem. Flow	Aver. Delay	Level of Service	AVERAGE BACK OF QUEUE		Prop. Qued	Eff. Stop Rate	Travel Time	Travel Dist.	Aver. Speed
		ped/h	ped/h	sec		[Ped	Dist]			sec	m	m/sec
						ped	m					

North: Maderia Street												
P3	Full	10	11	69.2	LOS F	0.0	0.0	0.96	0.96	223.0	200.0	0.90
West: Princes Hwy (W)												
P4	Full	29	31	69.2	LOS F	0.1	0.1	0.96	0.96	223.1	200.0	0.90
All		39	41	69.2	LOS F	0.1	0.1	0.96	0.96	223.0	200.0	0.90
Pedestrians												

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

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

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

MOVEMENT SUMMARY

 **Site: [2 (4)] Port Hacking / Pembroke (PM Existing + Proposal)**
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]	[Total HV]						[Veh.]	Dist]				
			veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
East: Pembroke Street															
4	L2	All MCs	54	0.0	54	0.0	0.078	11.7	LOS A	0.3	2.0	0.56	0.95	0.56	49.3
Approach			54	0.0	54	0.0	0.078	11.7	LOS A	0.3	2.0	0.56	0.95	0.56	49.3
North: Port Hacking Road (N)															
7	L2	All MCs	11	0.0	11	0.0	0.330	5.6	LOS A	0.0	0.0	0.00	0.01	0.00	57.2
8	T1	All MCs	1263	1.4	1263	1.4	0.330	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.8
Approach			1274	1.4	1274	1.4	0.330	0.1	NA	0.0	0.0	0.00	0.00	0.00	59.7
All Vehicles			1327	1.3	1327	1.3	0.330	0.6	NA	0.3	2.0	0.02	0.04	0.02	59.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.

MOVEMENT SUMMARY

 **Site: [3 (4)] Princes Hwy / Florida (PM Existing + Proposal)**
Output produced by SIDRA INTERSECTION Version: 10.0.6.236

New Site
Site Category: (None)
Stop (Two-Way)
Site Scenario: 1 | Local Volumes

Vehicle Movement Performance															
Mov ID	Turn	Mov Class	Demand Flows		Arrival Flows		Deg. Satn	Aver. Delay	Level of Service	95% Back Of Queue		Prop. Qued	Eff. Stop Rate	Number of Cycles to Depart	Aver. Speed
			[Total HV]		[Total HV]					[Veh. veh	Dist] m				km/h
			veh/h	%	veh/h	%	v/c	sec							
East: Princes Hwy (E)															
4	L2	All MCs	11	0.0	11	0.0	0.656	5.9	LOS A	0.0	0.0	0.00	0.00	0.00	56.8
5	T1	All MCs	3792	1.4	3792	1.4	0.656	0.4	LOS A	0.0	0.0	0.00	0.00	0.00	59.2
Approach			3802	1.4	3802	1.4	0.656	0.4	NA	0.0	0.0	0.00	0.00	0.00	59.2
All Vehicles			3802	1.4	3802	1.4	0.656	0.4	NA	0.0	0.0	0.00	0.00	0.00	59.2

Site Level of Service (LOS) Method: Delay (NSW). Site LOS Method is specified in the Parameter Settings dialog (Options 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 (TWSC): Level of Service is not defined for major road approaches or the intersection as a whole for Two-Way Sign Control (HCM LOS rule).
Two-Way Sign Control Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Control Delay: Geometric Delay is included).
Queue Model: SIDRA queue estimation methods are used for Back of Queue and Queue at Start of Gap.
Gap-Acceptance Capacity Formula: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.
Arrival Flows used in performance calculations are adjusted to include any Initial Queued Demand and Upstream Capacity Constraint effects.