TPC TRAFFIC PLANNING CONSULTANTS LTD

Ref: 18274
12 March, 2019

James Kirkpatrick Group Limited
c/- Mt Hobson Group
P.O. Box 37964
Parnell
AUCKLAND 1151

Attention: Hamish Firth

Dear Hamish

PROPOSED PRIVATE PLAN CHANGE
1, 3, 5, 7, 10 AND 12 FLORENCE CARTER AVENUE, FLAT BUSH
CLAUSE 23 RMA FURTHER TRAFFIC INFORMATION REQUEST

Further to the request for additional information received from Auckland Council in relation to the proposed private plan change at 1, 3, 5, 7, 10 and 12 Florence Carter Avenue in Flat Bush. We have considered the relevant aspects of the request and provide the following additional information. For ease of reference in our response we have numbered and repeated the respective query (in *italics*).

Traffic Matters

8. *Please provide further clarification on how traffic volumes at the Te Irirangi Dr/Ormiston Rd Intersection have been derived.*

In Section 6.1.2 of our Integrated Transport Assessment (ITA) we discuss the derivation of future traffic flows for assessment purposes. Essentially a design year of 2026 has been adopted as this is consistent in with the Auckland Transport Saturn model for the area and allows some 8 years for the site to be fully developed.

However, the Auckland Transport Saturn model for the area only provides future "link" traffic flows and not future turning movements, particularly at the traffic signal controlled intersection of Ormiston Road and Te Irirangi Drive.

To derive these future turning movements at the intersection of Ormiston Road and Te Irirangi Drive, the turning movement counts that were carried out in the immediate area in 2015 as part of the Transport Assessments prepared for the consented developments on the site have been scaled up to reflect traffic growth on the underlying network as described in Section 3.2 of our ITA.

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The site has an underlying Business – Light Industry zone. The 2026 forecast traffic flows in the Auckland Transport model must have included an allowance for future development consistent with the land-use zoning in this area. The methodology for assessing the traffic generation of the underlying zoning is described in Section 6.1.2 of our ITA.

Thus, the turning movements indicated at the intersection or Ormiston Road and Te Irirangi Drive included on the diagrams contained in Attachments 1 and 2 of our ITA represent the "net" change in turning movements at the intersection over the 2026 "base" flows on the basis that the 2026 "base" flows include traffic generated by the underlying site zoning.

There is also an allowance of pass-by trips for the anticipated retail activities on the Plan Change site of 30%.

Therefore, the turning movements indicated on the diagrams contained in Attachments 1 and 2 of our ITA for the intersections of Florence Carter Avenue with Ormiston Road and Te Irirangi Drive represent all traffic generated by the anticipated site activities whereas those shown at the intersection of Ormiston Road and Te Irirangi Drive represent the "net" change in turning movements at the intersection over the 2026 "base" case.

9. *Subject to the traffic volumes being amended as requested above, can a complete set of SIDRA model outputs be provided to review.*

Given the explanation in 8 above, in our opinion there is no requirement to amend traffic flows analysed for the Plan Change.

Summary SIDRA outputs are included in Attachments 1 and 2 to this additional information response.

10. *As part of the methodology to access the trip/traffic generation effects. It is requested that the peak period mode share assumptions (across the site) be identified for the existing and forecast years.*

Anticipated mode shares are summarised in Table 1.

Table 1 – Mode Share

Mode	Percentage
Driver of private vehicle	75%
Passenger of private vehicle	5%
Public Transport	7%
Other (walk and cycle)	13%
TOTAL	100%

11. *Please provide further information on the anticipated 15,000m^2 GFA cap for retail and office space (as discussed in the Plan Change Report). It is noted that the ITA assumes some 18,000m^2 GFA of the office activities.*

Further to this, it is requested that the GFA assumptions underpinning the summary of peak hour traffic generation (Table 6 in Appendix 5 of the PPCR) include the combined consented activities (to be retained) with the changes under the Proposed Plan Change.

We understand that the cap of 15,000m^2 has been discussed further in the planning response prepared by Mt Hobson Group for the project and have not addressed the matter here.

The traffic generation for the currently consented activities on the site plus the additional activity size enabled by the proposed height provisions in the Plan Change are shown in Table 2 although we note that the exercise is somewhat academic because neither a retirement village or residential activities are included in the currently consented activities for the site.

Table 2 – Traffic Generation

Land-use Scenario	AM Peak Hour	PM Peak Hour
Consented Activities	950	2,306
Extra Height Activities		
- Office	130	130
- Retirement Village	42	52
- Residential	55	55
TOTAL	1,177	2,543

12. *Please provide further information on how the trigger for the Ormiston Rd/Florence Carter Ave intersection upgrade (as discussed in Section 6.2.2 of the ITA) is captured within the planning framework for the Proposed Plan Change. Noting that the sites gain access into a local road, and that development could be staged to fall within the development trigger, how will the upgrade occur when needed, and in an equitable way should land be sold off.*

It will be necessary for the land required for the additional turning lane to be excluded from the lot and potentially vested as future road.

As we indicate within Section 6.2.2 of our ITA, the threshold at which the additional turn lane is required is at a site traffic generation level of 2,300 traffic movements per hour during the weekday PM Peak Hour.

A suggested mechanism for capturing the Traffic Generation Threshold is included in Attachment 3 to this response.

13. *A sensitivity test is requested as to what maximum trip generation potential for the plan change sites could potentially be if the development of the site relies on the Mixed-Use Zone and Auckland Wide rules. It is requested that these trips be accessed on the signalised intersections immediately adjacent to the development site.*

As described in Section 4.2 of our ITA, the Business – Mixed Use Zone permits the range of activities indicated in Table 3 below.

Table 3 – Mixed-Use Zone Permitted Activities

Activity	
Accommodation	Dwellings
	Integrated residential development
	Supported residential care
	Visitor accommodation and boarding houses
Commerce	Commercial services
	Drive-through restaurants
	Entertainment facilities
	Food and beverage
	Offices up to 500m^2 Gross Floor Area (GFA) per site
	Retail up to 200m^2 GFA per tenancy
	Supermarkets up to 450m^2 GFA per tenancy
Community	Artworks
	Care centres
	Community facilities
	Education facilities
	Healthcare facilities
	Recreation facility
	Tertiary education facility
Industry	Industrial laboratories
	Light manufacturing and servicing
	Repair and maintenance services
	Warehousing and storage

From the range of permitted activities and those activities with a GFA restriction, it is difficult to determine what the maximum trip generation could be given that the number of variables concerned is significant. The zone also sets a range of parameters in relation to outlook, height and other elements that make such a request problematic.

We would suggest that a development consistent with what we have assessed in our ITA is a realistic indication of development potential for the sites given the need to balance activity size with car parking provision and amenity elements.

14. *Please provide and assess the required infrastructure upgrades required about the plan change area to achieve the appropriate policies for Mixed Use Zones, notably;*

- *Policy H13.3(c) Required development to be of a quality and design that positively contributes to pedestrian amenity, movement, safety and convenience for people of all ages and abilities:*
  and
- *Policy H13.3(7) Require at grade parking to be located and designed in such a manner as to avoid or mitigate adverse effects on pedestrian amenity and the streetscape.*

  For example, with the change of activity for Block D from hotel to retirement village under the Mixed-Use Zone, please demonstrate how safe movement of the additional concentration of elderly residents (vulnerable road users) be addressed in the context of an anticipated increase in vehicle movements about the wider site.

In addition to the provision of pedestrian routes along Florence Carter Avenue, forming the main spine route through the development, the proposed layout under the Plan Change will include a number of internal pedestrian routes and linkages. These will ensure good pedestrian permeability and maximise amenity value within the development as a whole. This includes the provision of dedicated pedestrian routes through car parking areas, which minimise conflict with moving vehicles.

The locations for servicing and staff parking arrangements for buildings within each block will be designed, such that they do not fall on key pedestrian desire lines, or else result in minimal intrusion along the desire lines between the main roads, car park areas and building frontages. This further serves to maximise the amenity value within the development.

Pedestrian routes linking the site to Ormiston Road and Te Irirangi Drive align with desire lines towards key onward destinations such as the bus stops on Ormiston Road and signalised pedestrian crossing facilities on Ormiston Road and Te Irirangi Drive, which provide convenient onward access to amenities, such as the Botany Junction Shopping Centre.

The change in land-use activities for Blocks C and D under the proposed plan change, from hospitality to residential land uses, would be expected to result in an improved synergy with adjoining land uses, such as food retail at Botany Junction Shopping Centre.

In terms of safety, internal roads within the site have been designed with straight alignments and good levels of inter-visibility between pedestrians and vehicles, to ensure a safe environment, particularly for elderly residents of the retirement home proposed for Block D. Furthermore, the Retirement Home proposed for Block D under the Plan Change would be expected to have a lower trip generation than the currently consented hotel activity, particularly during the evening peak period, thus reducing the potential for conflict between vehicles and pedestrians.

15. *It is requested that the ITA is updated to include how the future public transport infrastructure proposed along Te Irirangi Dr will assist with the proposed plan change, and how future projects (such as Manukau to Botany project may reduce the reliance of private vehicle trips.*

As noted in Section 2.2 of our ITA, there are at present no confirmed locations for public transport stops for the proposed Airport to Botany Rapid Transit Project, although current strategic plans indicate that it would use stops either on Ormiston Road or on Te Irirangi Drive in the vicinity of the subject site. As described under point 14 above, the existing locations of bus stops on the Ormiston Road approaches to its intersection with Te Irirangi Drive align with pedestrian desire lines between the subject site and the wider area.

The intersection of Te Irirangi Drive / Ormiston Road already forms a strategic node in the local transport network, which as described in Section 2 of our ITA, will be enhanced by the new development on the subject site and its synergy with both immediately adjoining land uses and the respective urban centres of Manukau and Botany. The importance of this intersection as a strategic node could be enhanced further by the potential future public transport infrastructure on Te Irirangi Drive.

Based on the location of the subject site, approximately half-way between the urban centres of Manukau and Botany, and the expected short walking distances between the site and public transport stops, the future Manukau to Botany Public Transport Project would be well placed to cater for trips accessing the site.

The walking distances between the subject site and future public transport stops would be expected to be comparable with typical walking distances from existing public transport facilities in the centres of both Botany and Manukau, thus making public transport journeys an attractive and convenient mode of travel for people accessing the new development. The new public transport proposal would hence be expected to reduce reliance on private vehicle trips for accessing the site which is consistent with the draft Travel Plan strategy included within our ITA.

The proposed conversion of Blocks C and D from hospitality to residential type land uses under the Proposed Plan Change would be expected to generate higher proportions of trips that would be likely to be undertaken by public transport, noting that such trips would be more regular in nature and undertaken by people familiar with the site. B oth blocks are located within a 400-metre walking distance of bus stop locations on Ormiston Road, which would normally be considered to be an acceptable distance to walk to bus stops.

16. *Please provide a description of the consented activities (refer to Appendix 5 Section 4.1.2 of the PPCR) including the number of parking spaces provided for each of the respective subdivided blocks. Section 5.2 of the ITA refers to the AUP-OIP parking standards and notes that developments on the site would be anticipated to comply with the standards unless a Resource Consent was granted for non-compliance activities. As the AUP-OIP*

parking rates for the Mixed-Use zone are relatively flexible (e.g. 1 Parking space per 30m^2 maximum for office and no minimum and no maximum for residential) It is possible that resource consent would not be required for a non-compliance of the accessory parking standards.

To understand the potential cumulative parking related effects, it is requested that an indication of the anticipated amount of parking be provided for each of the development blocks. For example, Block B, 17,920m^2 of office would result in a maximum of 597 car parks (at a rate of 1 parking space per 30m^2) plus 11,553m^2 of specialty retail resulting in a minimum requirement of 385 car parks (at a minimum rate of 1 parking space per 30m^2. Bock B could therefore include the development of 982 car parking spaces compared with the consented activity providing 651 parking spaces.

Discussion on the potential provision and management of parking should also consider the above point on the future investment in public transport infrastructure and the reduction in private vehicle trips/on-site parking particularly for peak period office related trips.

In Section 6.3 of our ITA we discuss the potential traffic effects on the traffic signal controlled intersection of Ormiston Road and Te Irirangi Drive. Within that discussion around management of peak hour traffic demands is the development of a suitable Travel Demand Management (TDM) Plan.

The TDM Plan would enable a range of measures to be implemented to reduce private vehicle travel resulting in less congestion on the road network than the current traffic modelling indicates. A draft Travel Plan Strategy (TPS) was included in Attachment 5 to our ITA.

The purpose of the TPS is to lay the foundation for the development of a framework for individual travel plans for each building as they become operational. The process of TPS development is shown in Figure 1.

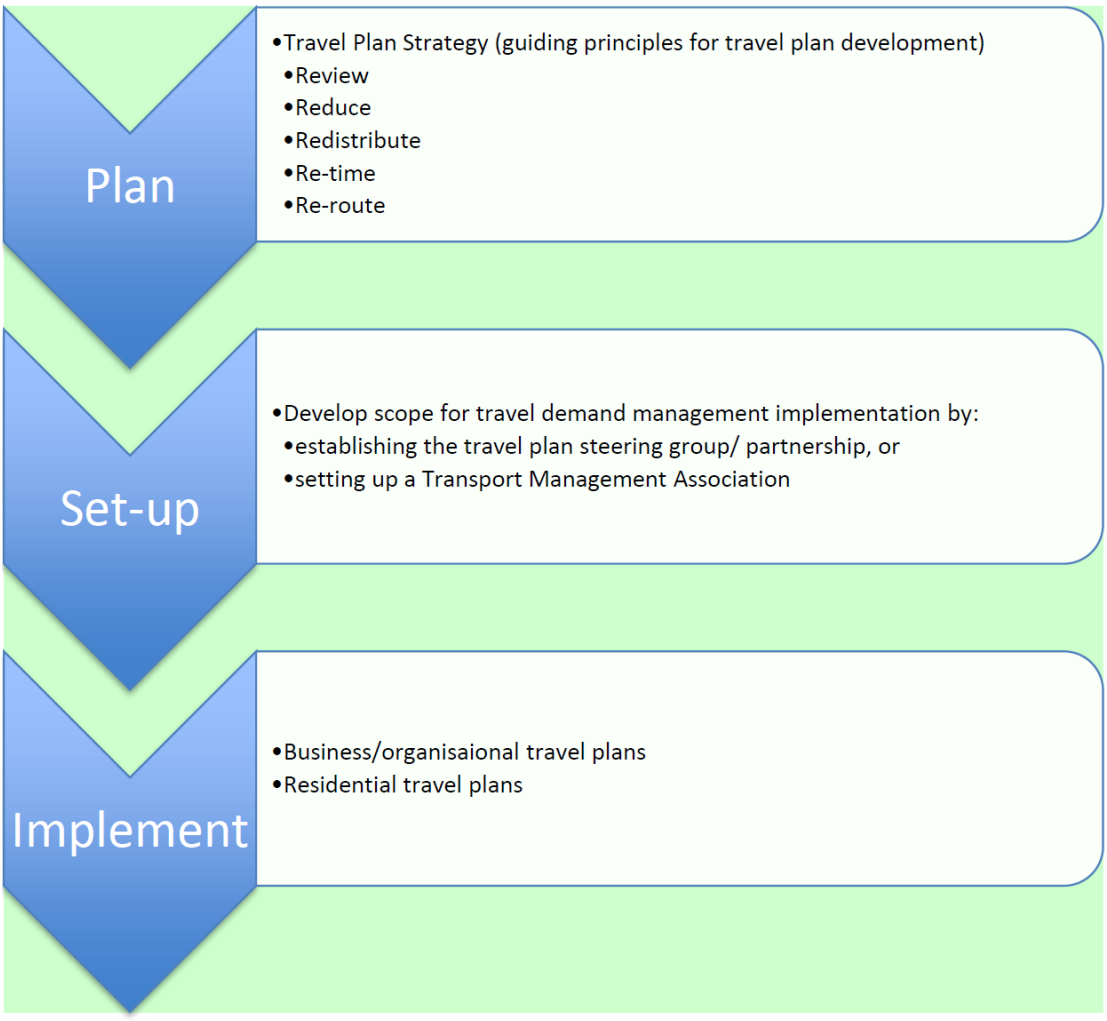

Figure 1 – Strategic travel plan development

The aims of the TPS would be to:

- enable future commuters and residents to make informed travel choices;
- to influence long terms sustainable travel behaviour to and from the site; and
- to align with future workplace/residential accessibility.

It would be anticipated that any future Travel Plan developed for the site would include a range of measures to enhance travel by modes other than the single occupant vehicle (SOV) and that such measures would extend to parking management.

We trust that the above provides sufficient information to respond to the queries raised by Auckland Council. However, should there be further queries in relation to the above, we would be happy to discuss these with you.

Yours faithfully
TRAFFIC PLANNING CONSULTANTS LTD

Bryce Hall
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ATTACHMENT 1

2026 SIDRA Intersection Analysis Results – Consented Development

Ormiston Road / Florence Carter Avenue – AM Peak

MOVEMENT SUMMARY

Site: 18274-1 [Omiston Rd / Subdivision Int - AM - 2026 Consent]

18274 - Omiston Road / New Subdivision - AM Peak
Site Category: AM - 2026 - Consented
Signals - Fixed Time Coordinated Cycle Time = 50 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Subdivision Road												
1	L2	98	0.0	0.106	8.6	LOS A	1.0	6.7	0.52	0.65	0.52	44.8
3	R2	207	0.0	0.798	31.9	LOS C	5.8	40.3	1.00	0.98	1.37	34.6
Approach		305	0.0	0.798	24.4	LOS C	5.8	40.3	0.84	0.87	1.10	37.3
East: Omiston Road												
4	L2	286	0.0	0.202	4.6	LOS A	0.1	0.7	0.03	0.50	0.03	47.2
5	T1	1168	2.9	0.803	11.1	LOS B	11.9	85.4	0.80	0.77	0.90	43.4
Approach		1455	2.3	0.803	9.8	LOS A	11.9	85.4	0.65	0.72	0.72	44.1
West: Omiston Road												
11	T1	401	12.1	0.179	0.2	LOS A	0.1	0.9	0.03	0.02	0.03	49.8
12	R2	57	0.0	0.255	25.6	LOS C	1.3	8.8	0.88	0.72	0.88	36.7
Approach		458	10.6	0.255	3.4	LOS A	1.3	8.8	0.13	0.11	0.13	47.7
All Vehicles		2218	3.7	0.803	10.5	LOS B	11.9	85.4	0.57	0.61	0.65	43.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88
All Pedestrians		105	19.4	LOS B			0.88	0.88

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.

Ormiston Road / Florence Carter Avenue – PM Peak

MOVEMENT SUMMARY

Site: 18274-1 [Omiston Rd / Subdivision Int - PM - 2026 Consent]

18274 - Omiston Road / New Subdivision - PM Peak
Site Category: PM - 2026 - Consented
Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Subdivision Road												
1	L2	138	0.0	0.099	7.2	LOS A	1.6	11.1	0.29	0.58	0.29	45.6
3	R2	769	0.0	0.905	42.8	LOS D	40.8	285.3	0.92	0.98	1.13	31.4
Approach		907	0.0	0.905	37.4	LOS D	40.8	285.3	0.83	0.92	1.00	33.0
East: Omiston Road												
4	L2	565	0.0	0.390	4.8	LOS A	0.6	4.2	0.03	0.53	0.10	47.1
5	T1	602	1.6	0.866	41.8	LOS D	15.2	107.8	1.00	0.95	1.15	31.8
Approach		1167	0.8	0.866	23.9	LOS C	15.2	107.8	0.53	0.75	0.64	37.8
West: Omiston Road												
11	T1	428	7.6	0.303	13.8	LOS B	4.7	35.2	0.48	0.40	0.48	42.1
12	R2	232	0.0	0.891	52.2	LOS D	12.2	85.6	1.00	0.93	1.23	29.0
Approach		660	4.9	0.891	27.2	LOS C	12.2	85.6	0.66	0.59	0.74	36.3
All Vehicles		2735	1.5	0.905	29.2	LOS C	40.8	285.3	0.66	0.77	0.79	35.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
P4	West Full Crossing	53	44.3	LOS E	0.1	0.1	0.94	0.94
All Pedestrians		105	44.3	LOS E			0.94	0.94

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.

Te Irirangi Drive / Florence Carter Avenue – AM Peak

MOVEMENT SUMMARY

Site: 101 [Te Irirangi Drive / Subdivision - AM - 2026 Consented]

Te Irirangi Drive / Subdivision
Site Category: AM - 2026 - Consented
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Te Irirangi Drive												
1	L2	211	0.0	0.113	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
2	T1	1373	4.1	0.361	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1583	3.6	0.361	0.8	NA	0.0	0.0	0.00	0.08	0.00	59.0
West: Subdivision												
10	L2	140	0.0	0.181	9.1	LOS A	0.7	4.9	0.59	0.83	0.59	50.9
Approach		140	0.0	0.181	9.1	LOS A	0.7	4.9	0.59	0.83	0.59	50.9
All Vehicles		1723	3.3	0.361	1.5	NA	0.7	4.9	0.05	0.14	0.05	58.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Te Irirangi Drive / Florence Carter Avenue – PM Peak

MOVEMENT SUMMARY

▽ Site: 101 [Te Irirangi Drive / Subdivision - PM - 2026 Consented]

Te Irirangi Drive / Subdivision
Site Category: PM - 2026 - Consented
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Te Irirangi Drive												
1	L2	348	0.0	0.188	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
2	T1	1411	4.8	0.373	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1759	3.8	0.373	1.1	NA	0.0	0.0	0.00	0.11	0.00	58.5
West: Subdivision												
10	L2	378	0.0	0.504	11.7	LOS B	3.0	21.2	0.70	1.00	1.09	49.2
Approach		378	0.0	0.504	11.7	LOS B	3.0	21.2	0.70	1.00	1.09	49.2
All Vehicles		2137	3.2	0.504	3.0	NA	3.0	21.2	0.12	0.27	0.19	56.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Te Irirangi Drive / Ormiston Road – AM Peak – Consented Development

MOVEMENT SUMMARY

Site: 101 [Ormiston Rd / Te Irirangi Dr - AM - 2026 - Consented]

Te Irirangi Rd / Ormiston Rd Intersection
Site Category: AM - 2026 - Consented
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Te Irirangi Dr												
1	L2	140	7.9	0.149	10.2	LOS B	1.4	10.3	0.15	0.58	0.15	50.6
2	T1	1155	2.9	1.050	103.2	LOS F	61.4	440.2	1.00	1.32	1.54	22.1
3	R2	114	8.8	0.761	81.8	LOS F	4.2	31.5	1.00	0.80	1.13	25.5
Approach		1409	3.8	1.050	92.2	LOS F	61.4	440.2	0.92	1.20	1.37	23.7
East: Ormiston Rd												
4	L2	352	1.7	0.336	6.2	LOS A	0.7	5.0	0.03	0.56	0.03	53.8
5	T1	854	2.1	1.049	105.5	LOS F	40.6	289.4	0.89	1.21	1.47	21.9
6	R2	409	2.4	1.041	106.8	LOS F	37.3	266.3	0.91	1.10	1.46	21.6
Approach		1615	2.1	1.049	84.2	LOS F	40.6	289.4	0.71	1.04	1.16	25.1
North: Te Irirangi Dr												
7	L2	76	5.3	0.053	5.8	LOS A	0.1	0.6	0.02	0.55	0.02	53.9
8	T1	1126	1.0	0.912	39.5	LOS D	40.0	282.1	0.92	0.91	1.03	36.5
9	R2	265	1.1	1.007	105.8	LOS F	11.6	81.9	1.00	1.04	1.54	21.8
Approach		1467	1.2	1.007	49.8	LOS D	40.0	282.1	0.89	0.91	1.07	33.0
West: Ormiston Rd												
10	L2	37	13.5	0.062	6.3	LOS A	0.1	0.4	0.02	0.55	0.02	53.3
11	T1	257	6.6	0.506	55.2	LOS E	7.8	57.9	0.92	0.74	0.92	31.6
12	R2	228	6.1	0.997	96.3	LOS F	19.7	145.1	1.00	1.04	1.44	23.2
Approach		522	6.9	0.997	69.7	LOS E	19.7	145.1	0.89	0.86	1.08	28.0
All Vehicles		5013	2.8	1.050	74.9	LOS E	61.4	440.2	0.84	1.03	1.18	26.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P2	East Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		211	64.3	LOS F			0.96	0.96

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.

Te Irirangi Drive / Ormiston Road – PM Peak – Consented Development

MOVEMENT SUMMARY

Site: 101 [Ormiston Rd / Te Irirangi Dr - PM - 2026 - Consented]

Te Irirangi Rd / Ormiston Rd Intersection
Site Category: PM - 2026 - Consented
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Te Irirangi Dr												
1	L2	47	6.4	0.046	7.4	LOS A	0.2	1.4	0.06	0.56	0.06	52.7
2	T1	1302	3.6	1.051	100.6	LOS F	66.1	476.9	1.00	1.32	1.53	22.5
3	R2	148	9.5	0.744	78.3	LOS E	5.3	40.2	1.00	0.81	1.10	26.1
Approach		1497	4.3	1.051	95.4	LOS F	66.1	476.9	0.97	1.25	1.44	23.3
East: Ormiston Rd												
4	L2	296	0.0	0.272	6.0	LOS A	0.5	3.5	0.03	0.56	0.03	54.0
5	T1	715	0.7	1.060	119.7	LOS F	36.7	258.6	0.96	1.27	1.61	20.1
6	R2	353	5.9	1.050	118.1	LOS F	34.2	251.4	0.97	1.14	1.58	20.2
Approach		1364	1.9	1.060	94.6	LOS F	36.7	258.6	0.76	1.08	1.26	23.3
North: Te Irirangi Dr												
7	L2	96	9.4	0.073	6.0	LOS A	0.1	0.9	0.02	0.55	0.02	53.7
8	T1	1009	1.7	0.738	23.2	LOS C	25.2	178.6	0.71	0.63	0.71	43.5
9	R2	384	0.3	1.036	119.7	LOS F	18.3	128.4	1.00	1.09	1.60	19.9
Approach		1489	1.8	1.036	47.0	LOS D	25.2	178.6	0.74	0.74	0.89	33.7
West: Ormiston Rd												
10	L2	42	16.7	0.069	6.8	LOS A	0.1	0.9	0.04	0.55	0.04	52.8
11	T1	467	3.6	0.909	66.2	LOS E	17.2	124.2	1.00	0.95	1.20	28.9
12	R2	275	0.4	1.039	118.1	LOS F	26.7	187.2	1.00	1.11	1.58	20.2
Approach		784	3.2	1.039	81.3	LOS F	26.7	187.2	0.95	0.99	1.27	25.7
All Vehicles		5134	2.8	1.060	79.0	LOS E	66.1	476.9	0.85	1.02	1.21	26.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P2	East Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		211	64.3	LOS F			0.96	0.96

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.

ATTACHMENT 2

2026 SIDRA Intersection Analysis Results – Plan Change

Ormiston Road / Florence Carter Avenue - AM Peak

MOVEMENT SUMMARY

Site: 18274-1 [Omiston Rd / Subdivision Int - AM - 2026 Plan Change - Height]

18274 - Omiston Road / New Subdivision - AM Peak
Site Category: AM - 2026 - Plan Change - Height
Signals - Fixed Time Coordinated Cycle Time = 50 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Subdivision Road												
1	L2	109	0.0	0.116	9.0	LOS A	1.1	7.9	0.54	0.65	0.54	44.6
3	R2	234	0.0	0.786	30.8	LOS C	6.4	44.7	1.00	0.97	1.32	35.0
Approach		343	0.0	0.786	23.9	LOS C	6.4	44.7	0.85	0.87	1.07	37.6
East: Omiston Road												
4	L2	357	0.0	0.254	4.6	LOS A	0.1	0.9	0.03	0.50	0.03	47.2
5	T1	1168	2.9	0.848	13.6	LOS B	13.5	96.7	0.87	0.87	1.03	42.1
Approach		1525	2.2	0.848	11.5	LOS B	13.5	96.7	0.67	0.79	0.79	43.2
West: Omiston Road												
11	T1	401	12.1	0.185	0.2	LOS A	0.1	0.9	0.03	0.02	0.03	49.8
12	R2	71	0.0	0.316	25.9	LOS C	1.6	11.1	0.89	0.73	0.89	36.7
Approach		472	10.3	0.316	4.1	LOS A	1.6	11.1	0.15	0.13	0.15	47.3
All Vehicles		2340	3.5	0.848	11.8	LOS B	13.5	96.7	0.60	0.67	0.70	43.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88
P4	West Full Crossing	53	19.4	LOS B	0.1	0.1	0.88	0.88
All Pedestrians		105	19.4	LOS B			0.88	0.88

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.

Ormiston Road / Florence Carter Avenue – PM Peak

MOVEMENT SUMMARY

Site: 18274-1 [Omiston Rd / Subdivision Int - PM - 2026 PlanChange - Height]

18274 - Omiston Road / New Subdivision - PM Peak
Site Category: PM - 2026 - Plan Change - Height
Signals - Fixed Time Coordinated Cycle Time = 150 seconds (Site Practical Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Subdivision Road												
1	L2	145	0.0	0.104	9.0	LOS A	2.7	18.7	0.29	0.58	0.29	44.6
3	R2	806	0.0	0.923	52.7	LOS D	58.6	410.1	0.90	0.95	1.04	28.9
Approach		952	0.0	0.923	46.0	LOS D	58.6	410.1	0.80	0.89	0.92	30.6
East: Omiston Road												
4	L2	559	0.0	0.370	4.9	LOS A	0.9	6.6	0.03	0.54	0.10	47.0
5	T1	602	1.6	0.902	58.6	LOS E	27.1	192.2	0.95	0.93	1.10	27.7
Approach		1161	0.8	0.902	32.7	LOS C	27.1	192.2	0.51	0.74	0.62	34.6
West: Omiston Road												
11	T1	428	7.6	0.298	19.6	LOS B	6.8	50.6	0.47	0.40	0.47	39.4
12	R2	229	0.0	0.883	72.0	LOS E	17.4	122.1	1.00	0.90	1.15	25.1
Approach		658	5.0	0.883	37.8	LOS D	17.4	122.1	0.65	0.57	0.71	32.9
All Vehicles		2771	1.5	0.923	38.5	LOS D	58.6	410.1	0.64	0.75	0.74	32.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	69.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		105	69.3	LOS F			0.96	0.96

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.

Te Irirangi Drive / Florence Carter Avenue – AM Peak

MOVEMENT SUMMARY

Site: 101 [Te Irirangi Drive / Subdivision - AM - 2026 Plan Change - Height]

Te Irirangi Drive / Subdivision
Site Category: AM - 2026 - Plan Change - Height
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Te Irirangi Drive												
1	L2	263	0.0	0.142	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
2	T1	1373	4.1	0.361	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1636	3.5	0.361	0.9	NA	0.0	0.0	0.00	0.09	0.00	58.8
West: Subdivision												
10	L2	158	0.0	0.204	9.2	LOS A	0.8	5.5	0.60	0.83	0.60	50.9
Approach		158	0.0	0.204	9.2	LOS A	0.8	5.5	0.60	0.83	0.60	50.9
All Vehicles		1794	3.2	0.361	1.7	NA	0.8	5.5	0.05	0.16	0.05	58.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Te Irirangi Drive / Florence Carter Avenue – PM Peak

MOVEMENT SUMMARY

▽ Site: 101 [Te Irirangi Drive / Subdivision - PM - 2026 Plan Change - Height]

Te Irirangi Drive / Subdivision
Site Category: PM - 2026 - Plan Change - Height
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Te Irirangi Drive												
1	L2	344	0.0	0.185	5.6	LOS A	0.0	0.0	0.00	0.58	0.00	53.6
2	T1	1411	4.8	0.373	0.1	LOS A	0.0	0.0	0.00	0.00	0.00	59.9
Approach		1755	3.8	0.373	1.1	NA	0.0	0.0	0.00	0.11	0.00	58.5
West: Subdivision												
10	L2	396	0.0	0.528	11.9	LOS B	3.3	23.0	0.71	1.01	1.14	49.0
Approach		396	0.0	0.528	11.9	LOS B	3.3	23.0	0.71	1.01	1.14	49.0
All Vehicles		2151	3.1	0.528	3.1	NA	3.3	23.0	0.13	0.28	0.21	56.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Te Irirangi Drive / Ormiston Road – AM Peak

MOVEMENT SUMMARY

Site: 101 [Ormiston Rd / Te Irirangi Dr - AM - 2026 - Plan Change - Height]

Te Irirangi Rd / Ormiston Rd Intersection
Site Category: AM - 2026 - Plan Change - Height
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Te Irirangi Dr												
1	L2	140	7.9	0.149	10.2	LOS B	1.4	10.3	0.15	0.58	0.15	50.6
2	T1	1171	2.8	1.063	113.0	LOS F	64.6	462.9	1.00	1.37	1.60	20.9
3	R2	115	8.7	0.767	81.9	LOS F	4.2	31.8	1.00	0.80	1.14	25.4
Approach		1426	3.8	1.063	100.4	LOS F	64.6	462.9	0.92	1.24	1.42	22.5
East: Ormiston Rd												
4	L2	352	1.7	0.337	6.2	LOS A	0.7	5.0	0.03	0.56	0.03	53.8
5	T1	887	2.0	1.097	141.9	LOS F	48.7	346.6	0.90	1.37	1.69	17.9
6	R2	409	2.4	1.067	125.9	LOS F	40.4	288.5	0.92	1.16	1.58	19.4
Approach		1648	2.1	1.097	109.0	LOS F	48.7	346.6	0.72	1.14	1.31	21.3
North: Te Irirangi Dr												
7	L2	76	5.3	0.053	5.8	LOS A	0.1	0.6	0.02	0.55	0.02	53.9
8	T1	1126	1.0	0.892	35.9	LOS D	37.9	267.5	0.90	0.87	0.98	37.9
9	R2	299	1.0	1.032	119.1	LOS F	14.0	99.2	1.00	1.08	1.61	20.0
Approach		1501	1.2	1.032	50.9	LOS D	37.9	267.5	0.87	0.89	1.06	32.6
West: Ormiston Rd												
10	L2	39	12.8	0.064	6.3	LOS A	0.1	0.4	0.02	0.55	0.02	53.4
11	T1	263	6.5	0.518	55.3	LOS E	8.0	59.3	0.92	0.74	0.92	31.6
12	R2	244	5.7	1.064	136.8	LOS F	25.4	186.3	1.00	1.16	1.69	18.2
Approach		546	6.6	1.064	88.2	LOS F	25.4	186.3	0.89	0.91	1.20	24.3
All Vehicles		5121	2.8	1.097	87.4	LOS F	64.6	462.9	0.84	1.07	1.26	24.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P2	East Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	64.3	LOS F	0.2	0.2	0.96	0.96
All Pedestrians		211	64.3	LOS F			0.96	0.96

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.

Te Irirangi Drive / Ormiston Road – PM Peak

MOVEMENT SUMMARY

Site: 101 [Ormiston Rd / Te Irirangi Dr - PM - 2026 - Plan Change - Height]

Te Irirangi Rd / Ormiston Rd Intersection
Site Category: PM - 2026 - Plan Change - Height
Signals - Fixed Time Coordinated Cycle Time = 130 seconds (Site Optimum Cycle Time - Minimum Delay)
Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Te Irirangi Dr												
1	L2	47	6.4	0.045	7.0	LOS A	0.1	1.1	0.06	0.56	0.06	53.0
2	T1	1318	3.6	1.074	115.6	LOS F	68.5	493.9	1.00	1.44	1.68	20.6
3	R2	149	9.4	0.795	75.0	LOS E	5.1	38.3	1.00	0.83	1.16	26.7
Approach		1514	4.2	1.074	108.2	LOS F	68.5	493.9	0.97	1.35	1.58	21.5
East: Ormiston Rd												
4	L2	296	0.0	0.276	6.0	LOS A	0.5	3.3	0.03	0.56	0.03	54.0
5	T1	713	0.7	1.072	125.7	LOS F	36.7	258.3	0.98	1.33	1.73	19.4
6	R2	353	5.9	1.080	137.5	LOS F	35.8	263.2	0.99	1.23	1.78	18.2
Approach		1362	1.9	1.080	102.8	LOS F	36.7	263.2	0.78	1.13	1.37	22.1
North: Te Irirangi Dr												
7	L2	96	9.4	0.074	6.0	LOS A	0.1	0.8	0.02	0.55	0.02	53.7
8	T1	1009	1.7	0.739	21.8	LOS C	23.5	166.6	0.71	0.63	0.71	44.3
9	R2	379	0.3	1.022	106.7	LOS F	16.4	115.1	1.00	1.08	1.59	21.6
Approach		1484	1.8	1.022	42.5	LOS D	23.5	166.6	0.74	0.74	0.89	35.2
West: Ormiston Rd												
10	L2	44	15.9	0.069	6.8	LOS A	0.1	0.9	0.04	0.55	0.04	52.9
11	T1	477	3.6	0.856	56.7	LOS E	15.5	111.6	1.00	0.91	1.13	31.2
12	R2	297	0.3	1.097	155.8	LOS F	32.3	226.6	1.00	1.25	1.87	16.6
Approach		818	3.1	1.097	90.0	LOS F	32.3	226.6	0.95	1.02	1.34	24.0
All Vehicles		5178	2.7	1.097	85.1	LOS F	68.5	493.9	0.85	1.07	1.29	24.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate
P1	South Full Crossing	53	59.3	LOS E	0.2	0.2	0.96	0.96
P2	East Full Crossing	53	59.3	LOS E	0.2	0.2	0.96	0.96
P3	North Full Crossing	53	59.3	LOS E	0.2	0.2	0.96	0.96
P4	West Full Crossing	53	59.3	LOS E	0.2	0.2	0.96	0.96
All Pedestrians		211	59.3	LOS E			0.96	0.96

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.

ATTACHMENT 3

Traffic Generation Threshold Trigger Condition

Traffic Generation Threshold Condition

Once a traffic generation of 2,300 traffic movements per hour has been reached for the activities on the site, it will be necessary to upgrade the traffic signal-controlled intersection of Ormiston Road and Florence Carter Avenue to provide an additional right turn lane on the Florence Carter Avenue approach to the intersection.

In order to establish whether the activities or cumulative activities on the subject site exceed the traffic generation threshold, any proposed activity or activities must be assessed in terms of the matrix provided below. This will indicate whether the mitigation measures at the intersection of Ormiston Road and Florence Carter Avenue are required.

Process to be followed in the calculation of the Traffic Generation Threshold Test:

(i) Calculate generation figure for any existing development on the site using the table below;
(ii) Calculate generation figures for the proposed activity/activities, using the table below;
(iii) Add both generation figures together;
(iv) If the total generation figure is less than 2,300 traffic movements per hour during the weekday PM commuter Peak Hour, then the traffic generation threshold control is deemed to have been met and no mitigation works are required.
(v) If the total generation figure exceeds 2,300 traffic movements per hour during the weekday PM commuter Peak Hour, then the applicant shall carry out mitigation measures in the form of providing an additional right turn exit lane at the intersection of Florence carter Avenue and Ormiston Road, and/or implement Travel Demand Management measures to reduce commuter peak hour vehicle trips.

Activity	Size (GFA or units)	Traffic Generation Factor (Vehicles per hr per unit)	Estimated Generation
Care centres or rest homes		x 0.007 m^2 GFA	=
Community welfare facilities		x 0.01 m^2 GFA	=
Healthcare services		x 0.04 m^2 GFA	=
Restaurants, cafes and other eating places		x 0.05 m^2 GFA	=
Drive-through restaurants		X 0.5 m^2 GFA	
Slow trade retail		x 0.015 m^2 GFA	=
Supermarket		x 0.116 m^2 GFA	=
Speciality retail		x 0.034 m^2 GFA	=
Office		x 0.02 m^2 GFA	=
Large format hardware		x 0.048 m^2 GFA	=
Integrated Housing Development		0.5 vehicles per unit	=
Visitor accommodation		0.4 vehicles per unit	=
Residential units		0.65 vehicles per unit	=
Retirement village		0.25 vehicles per unit	=
Travellers' accommodation		0.4 vehicles per unit	=
Hotel		0.6 vehicles per unit	=
Light manufacturing		x 0.01 m^2 GFA	
Warehousing		x 0.005 m^2 GFA	
Tertiary education facility		0.31 vehicles per EFTS	
TOTAL			