10 December 2021

Frasers Property Australia & Altis Property Partners (Joint Venture)
(via Email)

Attn: Paul Solomon and Stephen O'Connor

info@asongroup.com.au
+61 2 9083 6601
Suite 17.02, Level 17,
1 Castlereagh Street,
Sydney, NSW 2000
ABN: 81 168 423 872

RE: 657-703 Mamre Road, Kemps Creek (SSD-9522) Modification 2 – Response to Submission - Transport Statement

Dear Paul and Stephen,

Reference has been made to Transport for New South Wales' (TfNSW) response sent on 6 December 2021. In this regard, the Joint Venture (JV) has commissioned Ason Group to prepare a response in support of the Modification 2 (MOD 2) for SSD-9522 at 657-703 Mamre Road, Kemps Creek (the Site).

As such, the comments raised by TfNSW are reproduced in **Table 1** with Ason Group's response outlined in the respective sections.

TABLE 1: RESPONSE TO TFNSW'S COMMENTS

Item	TfNSW's Comments	Ason Group's Response
1	It is noted that the report has analysed the traffic impacts for the Estate-wide traffic based on the Gross Floor Area (GFA) being 421,820 m^2 and some potential developments to the south of Mamre South Precinct (MSP) (also called the 'Southern Lots'). Whilst it is stated that the report has included the 'southern lots' in the analysis, it is unclear what the 'southern lots' assumed GFA is and whether this was included in the overall assessment of the intersections. Clarification is required to understand what the assumed GFA is of the 'southern lots' and whether the traffic yield was included in the model.	The assumed GFA for the 'southern lots' is 20,000m^2, as referred in the Response to Submissions traffic addendum[1] supporting the approved Concept Plan (SSD-9522) submission. Traffic associated with this Southern Lots yield was included in the model for years 2026, 2031 and 2036 for Sequence 1A.
2	The TIA states that at the request of DPIE modelling has been undertaken for the approved Modified Sequence 1A for the years of 2026, 2031 and 2036. Whilst TfNSW appreciates the modelling applied to date, it is unclear what growth rate was applied to the future year models. It is recommended that further clarification is provided as to what growth rates were applied for the years of 2026, 2031 and 2036.	The following background growth rates have been adopted for the purpose of the future year models: • 2% per annum on Mamre Road; and • 1% per annum on Bakers Lane (and Southern Link Road (SLR) in latter access Sequences). The traffic profiles for the above growth rates have been shown within figures 5 – 7 of the submitted Technical Note by Ason Group (P1780r01v7 TN_Kemps Creek SSD-9522 MOD 2). The adopted growth rate is consistent with what has been done previously within the approved SSD-9522 Ason Group TA and the approved SSD-9522-MOD 1 Ason Group TA.
3	The TIA provides some modelling summary tables however it is unclear from these summaries what the model inputs are. There is no SIDRA movement summaries which provide summarised information in reviewing models. However TfNSW were provided the SIDRA (sid.) files and outputs based on the TIA dated 6 September 2021.	After the meeting with TfNSW held on 14 October 2021, Ason Group provided TfNSW with the SIDRA modelling results (as a zipped file) for the years 2025, 2026, 2031 and 2036 for Sequence 1A. (A copy of the modelling outputs is again provided in **Attachment A** following changes to model labels, per separate comments below).

[1] https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=EXH-1192%2120200811T071428.404%20GMT

4	In this regard TfNSW provides the following comments on the model provided from the abovementioned TIA: i. The SIDRA movement summaries show that not all demand in the AM peak are able to pass through the network as indicated by the highlighted values. The actual delays / DoS / queues may be worse if they were accounted for. The primary issue appears to be the substantial number of vehicles travelling along Mamre Road. There appears to be almost 1900 vehicles at the North Approach of Mamre Road / Bakers Lane. To provide some perspective, accounting for the 17% HV on this approach would result in a mid-block LoS of E (or even F) at 80km/h using density based LoS from the HCM for freeways It is suggested that the consultant determine whether the capacity of the road is even able to sustain the forecast demand using HCM / AustRoads prior to modelling.	It is acknowledged that mid-block demands will increase over time and, accordingly, TfNSW has identified the need to widen Mamre Road to 4 lanes in the near future with the provision of up to 6 lanes in the longer term. Certainly, broader upgrades to Mamre Road and delivery of other key connections like the Southern Link Road are welcomed in acknowledgement of the future demands forecast. However, delivery of these broader road upgrades is ultimately a matter for TfNSW in its role as the roads authority and is not something that a single Applicant should be reasonably burdened with. Rather than forming a requirement for this specific development in isolation, it is proposed that these broader upgrades to Mamre Road being undertaken as part of the staged infrastructure delivery to support the broader Mamre Road Precinct. Importantly, the removal of Sequence 1B does not compromise the operation of the approved Sequence 1A intersection.
5	ii. Further to the abovementioned point, as there are clear Mid-block capacity constraints, further justification is needed to understand why the removal of the midblock widening under Sequence 1b is no longer considered necessary.	In addition to the comment above with regards to the infrastructure development under Sequence 1B, it is noted that there are significant challenges and costs associated with widening Mamre Road towards the north as there is an existing Sydney Water Pipeline along with other existing infrastructure within the surrounding area. Due to the high costs of delivery, it is proposed that this cost be reasonably distributed across the Mamre Road Precinct development, so that a single Applicant is not unreasonably burdened by this upgrade, which serves not just the MRP and this Site but also the broader area noting the regional role that Mamre Road serves. Importantly, the removal of Sequence 1B does not compromise the operation of the approved Sequence 1A intersection. In our opinion, the removal of that commitment from the Applicant is reasonable. That is not to say that those upgrades should not still be progressed in a timely manner to support future network traffic growth; certainly the intent of the many landowners within the broader precinct. It is just that such an upgrade should be reasonably apportioned for the delivery at a broader precinct level as opposed to by this one development.
6	iii. The SIDRA model labelling should be updated to include labels for each lane movement for clarity. In addition model headings should accurately detail what model is being presented.	The SIDRA model has been amended, as per TfNSW's request and has been shown within **Attachment A** for review. It is noted that this includes renaming of the models to aid review but no material changes to the model inputs.
7	iv. The cycletimes shown in the movement summary are not consistent. The cycletimes in this area are linked and therefore should be modelled with this consideration. In this regard as per previous discussions TfNSW would accept a maximum cycletime of 120 seconds for this area. Fixed Time Coordinated / Isolated / optimum etc cycletimes will not be supported.	It is noted that the cycletimes provided within the modelling supporting the approved Sequence 1A (for the year 2025) have not been changed for the future years 2026, 2031 and 2036. As the proposed models for year 2026, 2031 and 2036 are consistent with the approved Sequence 1A (for the year 2025) — with the exception of the background growth factor — additional modelling (with changed cycletimes) for years 2026, 2031 and 2036 is not required. Importantly, the removal of Sequence 1B does not compromise the operation of the approved Sequence 1A intersection.
8	It is recommended that SIDRA referred to in the TIA dated 6 October 2021 be provided for review (including the Base models). In addition should the SIDRA analysis be consistent with the outputs provided in 6 September 2021 the model is to be updated to consider the above.	As mentioned above in response to Item 3. After the meeting with TfNSW held on 14 October 2021 (where the reviewal process for the Ason Group TIA dated 6 October 2021 had taken place), Ason Group provided TfNSW with the SIDRA modelling results (as a zipped file) for years 2025, 2026, 2031 and 2036 for review. Importantly, the removal of Sequence 1B does not compromise the operation of the approved Sequence 1A intersection. Nevertheless, further SIDRA models are provided as part of this response — with updated model names per Item 6 — to aid review.

9	This should include SIDRA output and raw SIDRA (.sip) files. This will enable our modelling and traffic teams to undertake a detailed review of the model to ensure that the inputs are accurate and supported. Further comments can be provided following the review of the models which may require the assessment to be updated.	Previous SIDRA files and SIDRA modelling outputs have been provided to TfNSW for review. The updated SIDRA modelling output results (with the amended labelling) will be provided to TfNSW within **Attachment A** for review, with the updated SIDRA output files provided separately to TfNSW within an email.

We trust the above is of assistance and if you have any questions, please do not hesitate to contact the undersigned or Dr Ali Rasouli.

Yours sincerely,

Osama Hashmi

Traffic Engineer

E Osama.hashmi@asongroup.com.au

M +61 405 889 732

Attachment A

Amended SIDRA Modelling Results for Years 2026, 2031 and 2036

MOVEMENT SUMMARY

Site: 102 [2026 Mamre Road x Erskine Park Road_AM]

Network: N101 [AM Network]

Config: 2026 Modified Sequence 1A
Traffic: 2018 Survey + 2026 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (300m)														
2	T1	767	15.6	767	15.6	0.280	2.5	LOS A	2.4	19.3	0.28	0.25	0.28	72.3
3	R2	841	18.0	841	18.0	0.929	39.8	LOS C	11.5	93.3	0.99	0.98	1.29	36.8
Approach		1608	16.9	1608	16.9	0.929	22.0	LOS B	11.5	93.3	0.66	0.63	0.81	44.3
East: Erskine Park Road (590m)														
4	L2	1123	20.1	1123	20.1	0.886	43.6	LOS D	17.1	140.8	0.95	0.99	1.24	31.2
6	R2	284	18.1	284	18.1	1.158	199.4	LOS F	9.1	73.3	1.00	1.44	3.17	11.8
Approach		1407	19.7	1407	19.7	1.158	75.1	LOS F	17.1	140.8	0.96	1.08	1.63	22.1
North: Mamre Road (200m)														
7	L2	641	4.8	641	4.8	0.638	15.9	LOS B	9.0	65.6	0.69	0.81	0.74	52.0
8	T1	1341	13.5	1341	13.5	0.929	42.9	LOS D	21.6	169.0	0.96	1.10	1.35	15.1
Approach		1982	10.7	1982	10.7	0.929	34.2	LOS C	21.6	169.0	0.87	1.01	1.15	27.5
All Vehicles		4998	15.2	4998	15.2	1.158	41.8	LOS C	21.6	169.0	0.83	0.91	1.18	29.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	34.3	LOS D	0.1	0.1	0.93	0.93
P2	East Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
P2S	East Slip/Bypass Lane Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		158	34.3	LOS D			0.93	0.93

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: 103 [2026 Mamre Road x James Erskine Drive_AM]

Network: N101 [AM Network]

Config: 2026 Modified Sequence 1A
Traffic: 2018 Survey + 2026 Growth + MWP1 + MP2 + SL (v3)
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (520m)														
2	T1	1488	13.6	1488	13.6	0.715	1.8	LOS A	5.0	39.0	0.19	0.18	0.19	74.6
3	R2	100	22.1	100	22.1	0.831	54.9	LOS D	2.8	23.0	1.00	0.92	1.47	27.4
Approach		1588	14.2	1588	14.2	0.831	5.1	LOS A	5.0	39.0	0.24	0.22	0.27	65.4
East: James Erskine Drive (170m)														
4	L2	38	55.6	38	55.6	0.582	26.6	LOS B	1.9	20.0	0.96	0.82	1.01	18.3
6	R2	101	55.2	101	55.2	0.582	32.8	LOS C	1.9	20.0	0.97	0.80	1.06	15.7
Approach		139	55.3	139	55.3	0.582	31.1	LOS C	1.9	20.0	0.97	0.81	1.05	16.3
North: Mamre Road (300m)														
7	L2	320	18.4	291	17.9	0.223	8.6	LOS A	0.9	7.0	0.20	0.66	0.20	49.8
8	T1	2096	16.4	1894	16.1	0.900	26.9	LOS B	25.9	206.2	0.83	0.92	1.04	27.6
Approach		2416	16.6	2185 N1	16.3	0.900	24.5	LOS B	25.9	206.2	0.75	0.89	0.93	30.2
All Vehicles		4143	17.0	3912 N1	18.0	0.900	16.9	LOS B	25.9	206.2	0.55	0.61	0.67	41.5

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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	34.3	LOS D	0.1	0.1	0.93	0.93
P2	East Full Crossing	53	10.0	LOS B	0.1	0.1	0.50	0.50
All Pedestrians		105	22.2	LOS C			0.71	0.71

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: 105v [2026 Mamre Road x Distribution Drive_AM]

Network: N101 [AM Network]

Config: 2026 Modified Sequence 1A
Traffic: 2018 Survey + 2026 Growth + MWP1 + MP2 + SL (v3)
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Arrival Flows Total veh/h	Arrival Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mamre Road (750m)														
1	L2	111	31.4	111	31.4	0.513	11.7	LOS A	5.2	41.5	0.57	0.56	0.57	63.4
2	T1	1619	13.5	1619	13.5	0.616	11.4	LOS A	9.7	76.1	0.70	0.64	0.70	59.6
Approach		1729	14.6	1729	14.6	0.616	11.4	LOS A	9.7	76.1	0.69	0.64	0.69	60.0
North: Mamre Road (520m)														
8	T1	1976	15.9	1887	15.8	0.729	5.8	LOS A	14.4	114.6	0.63	0.59	0.63	64.3
9	R2	186	31.1	179	30.9	0.670	43.2	LOS D	4.2	36.8	0.96	0.83	1.02	37.3
Approach		2162	17.2	2066 N1	17.1	0.729	9.0	LOS A	14.4	114.6	0.66	0.61	0.67	57.8
West: Distribution Drive														
10	L2	62	30.5	62	30.5	0.180	10.7	LOS A	0.8	7.4	0.43	0.67	0.43	45.0
12	R2	37	31.4	37	31.4	0.180	10.7	LOS A	0.8	7.4	0.43	0.67	0.43	45.0
Approach		99	30.9	99	30.9	0.180	10.7	LOS A	0.8	7.4	0.43	0.67	0.43	45.0
All Vehicles		3991	16.4	3894 N1	16.8	0.729	10.1	LOS A	14.4	114.6	0.67	0.62	0.67	58.6

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate
P4	West Full Crossing	53	11.6	LOS B	0.1	0.1	0.54	0.54
All Pedestrians		53	11.6	LOS B			0.54	0.54

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: 104 [2026 Mamre Road x Bakers Lane_AM]

Network: N101 [AM Network]

Config: 2026 Modified Sequence 1A
Traffic: 2018 Survey + 2026 Growth + MWP1 + MP2 + SL (v3)
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mamre Road (1,000m)														
1	L2	298	31.1	298	31.1	0.305	19.7	LOS B	5.5	49.0	0.48	0.75	0.48	55.6
2	T1	1060	15.7	1060	15.7	0.610	22.0	LOS B	12.7	101.2	0.63	0.56	0.63	54.0
3	R2	86	2.4	86	2.4	0.273	61.8	LOS E	3.0	21.4	0.86	0.76	0.86	38.8
Approach		1444	18.1	1444	18.1	0.610	23.9	LOS B	12.7	101.2	0.61	0.61	0.61	52.8
East: Bakers Lane (440m)														
4	L2	46	2.3	46	2.3	0.128	53.3	LOS D	1.6	11.4	0.84	0.73	0.84	40.7
5	T1	1	0.0	1	0.0	0.128	47.7	LOS D	1.6	11.4	0.84	0.73	0.84	31.2
6	R2	421	4.3	421	4.3	0.899	84.5	LOS F	10.0	72.6	1.00	0.98	1.34	14.9
Approach		468	4.0	468	4.0	0.899	81.4	LOS F	10.0	72.6	0.98	0.96	1.29	17.8
North: Mamre Road (750m)														
7	L2	676	3.3	654	3.4	0.561	22.2	LOS B	15.2	109.3	0.61	0.80	0.61	51.2
8	T1	759	19.7	733	19.7	0.432	24.8	LOS B	9.8	80.4	0.70	0.61	0.70	61.0
9	R2	509	31.0	483	31.0	0.917	88.7	LOS F	12.0	106.0	1.00	0.97	1.37	29.2
Approach		1944	16.9	1870 N1	16.9	0.917	40.4	LOS C	15.2	109.3	0.75	0.77	0.84	46.8
West: Bakers lane														
10	L2	217	31.1	217	31.1	0.620	57.4	LOS E	8.2	72.9	0.95	0.83	0.95	21.1
11	T1	1	0.0	1	0.0	0.620	51.5	LOS D	8.2	72.9	0.95	0.83	0.95	30.1
12	R2	128	31.1	128	31.1	0.650	71.0	LOS F	5.3	47.2	1.00	0.82	1.03	35.7
Approach		346	31.0	346	31.0	0.650	62.4	LOS E	8.2	72.9	0.97	0.83	0.98	28.5
All Vehicles		4203	17.1	4129 N1	17.4	0.917	41.1	LOS C	15.2	109.3	0.75	0.74	0.82	43.0

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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.

MOVEMENT SUMMARY

Site: 102 [2026 Mamre Road x Erskine Park Road_PM]

Network: N101 [PM Network]

Config: 2026 Modified Sequence 1A
Traffic: 2018 Survey + 2026 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 90 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (300m)														
2	T1	942	15.1	942	15.1	0.379	5.5	LOS A	5.0	39.4	0.42	0.37	0.42	64.8
3	R2	1172	20.0	1172	20.0	0.854	39.1	LOS C	15.7	128.4	0.94	0.93	1.07	36.9
Approach		2114	17.8	2114	17.8	0.854	24.1	LOS B	15.7	128.4	0.70	0.68	0.78	42.7
East: Erskine Park Road (590m)														
4	L2	894	25.8	894	25.8	0.437	15.7	LOS B	5.8	49.3	0.52	0.75	0.52	51.5
6	R2	528	9.0	528	9.0	0.913	62.8	LOS E	8.8	66.1	1.00	1.00	1.49	28.2
Approach		1422	19.5	1422	19.5	0.913	33.2	LOS C	8.8	66.1	0.70	0.85	0.88	37.8
North: Mamre Road (200m)														
7	L2	225	10.7	225	10.7	0.512	18.7	LOS B	5.7	44.4	0.74	0.74	0.74	50.0
8	T1	698	17.0	698	17.0	0.745	33.2	LOS C	7.5	59.9	0.94	0.86	1.02	18.2
Approach		923	15.5	923	15.5	0.745	29.6	LOS C	7.5	59.9	0.89	0.83	0.95	27.7
All Vehicles		4459	17.9	4459	17.9	0.913	28.2	LOS B	15.7	128.4	0.74	0.76	0.85	38.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
P2S	East Slip/Bypass Lane Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		158	39.3	LOS D			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.

MOVEMENT SUMMARY

Site: 103 [2026 Mamre Road x James Erskine Drive_PM]

Network: N101 [PM Network]

Config: 2026 Modified Sequence 1A
Traffic: 2018 Survey + 2026 Growth + MWP1 + MP2 + SL (v3)
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 90 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (520m)														
2	T1	1631	18.9	1631	18.9	0.650	3.5	LOS A	7.1	57.6	0.31	0.28	0.31	69.8
3	R2	29	57.1	29	57.1	0.335	55.5	LOS D	0.8	8.6	0.98	0.73	0.98	26.5
Approach		1660	19.6	1660	19.6	0.650	4.4	LOS A	7.1	57.6	0.32	0.29	0.32	67.3
East: James Erskine Drive (170m)														
4	L2	117	8.1	117	8.1	0.742	27.2	LOS B	4.7	36.5	0.99	0.91	1.14	17.8
6	R2	332	17.8	332	17.8	0.742	39.1	LOS C	4.9	39.6	0.99	0.90	1.15	13.6
Approach		448	15.3	448	15.3	0.742	36.0	LOS C	4.9	39.6	0.99	0.90	1.15	14.5
North: Mamre Road (300m)														
7	L2	154	56.8	154	56.8	0.137	8.8	LOS A	0.4	3.9	0.17	0.64	0.17	45.5
8	T1	1405	19.0	1405	19.0	0.688	12.5	LOS A	11.9	96.8	0.65	0.60	0.65	42.6
Approach		1559	22.8	1559	22.8	0.688	12.1	LOS A	11.9	96.8	0.61	0.60	0.61	43.0
All Vehicles		3667	20.4	3667	20.4	0.742	11.6	LOS A	11.9	96.8	0.52	0.50	0.54	48.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	53	12.3	LOS B	0.1	0.1	0.52	0.52
All Pedestrians		105	25.8	LOS C			0.73	0.73

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: 105v [2026 Mamre Road x Distribution Drive_PM]

Network: N101 [PM Network]

Config: 2026 Modified Sequence 1A
Traffic: 2018 Survey + 2026 Growth + MWP1 + MP2 + SL (v3)
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 90 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (750m)														
1	L2	38	30.6	38	30.6	0.581	19.5	LOS B	8.5	67.7	0.72	0.66	0.77	57.8
2	T1	1791	14.2	1791	14.2	0.697	16.2	LOS B	13.0	102.0	0.79	0.72	0.80	54.2
Approach		1828	14.5	1828	14.5	0.697	16.2	LOS B	13.0	102.0	0.79	0.71	0.80	54.3
North: Mamre Road (520m)														
8	T1	1551	18.5	1551	18.5	0.732	8.7	LOS A	12.3	99.5	0.56	0.51	0.56	58.5
9	R2	64	31.1	64	31.1	0.634	53.6	LOS D	1.8	16.1	0.99	0.78	1.06	33.8
Approach		1615	19.0	1615	19.0	0.732	10.5	LOS A	12.3	99.5	0.58	0.52	0.58	55.5
West: Distribution Drive														
10	L2	192	31.3	192	31.3	0.502	16.3	LOS B	5.2	45.9	0.71	0.79	0.71	39.6
12	R2	113	30.8	113	30.8	0.502	16.3	LOS B	5.2	45.9	0.71	0.79	0.71	39.6
Approach		304	31.1	304	31.1	0.502	16.3	LOS B	5.2	45.9	0.71	0.79	0.71	39.6
All Vehicles		3747	17.8	3747	17.8	0.732	13.8	LOS A	13.0	102.0	0.69	0.64	0.70	53.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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
P4	West Full Crossing	53	13.4	LOS B	0.1	0.1	0.55	0.55
All Pedestrians		53	13.4	LOS B			0.55	0.55

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: 104 [2026 Mamre Road x Bakers Lane_PM]

Network: N101 [PM Network]

Config: 2026 Modified Sequence 1A
Traffic: 2018 Survey + 2026 Growth + MWP1 + MP2 + SL (v3)
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (1,000m)														
1	L2	95	31.1	95	31.1	0.081	11.8	LOS A	1.0	8.6	0.27	0.68	0.27	60.4
2	T1	865	14.0	865	14.0	0.599	31.6	LOS C	12.3	96.4	0.74	0.65	0.74	47.3
3	R2	28	0.0	28	0.0	0.236	76.9	LOS F	1.2	8.1	0.97	0.72	0.97	34.9
Approach		988	15.2	988	15.2	0.599	31.0	LOS C	12.3	96.4	0.70	0.66	0.70	48.1
East: Bakers Lane (440m)														
4	L2	56	5.7	56	5.7	0.222	63.5	LOS E	2.1	15.6	0.92	0.75	0.92	37.7
5	T1	1	0.0	1	0.0	0.222	57.9	LOS E	2.1	15.6	0.92	0.75	0.92	28.5
6	R2	552	5.2	552	5.2	0.853	74.2	LOS F	12.3	90.2	1.00	0.94	1.19	16.4
Approach		608	5.2	608	5.2	0.853	73.2	LOS F	12.3	90.2	0.99	0.92	1.17	19.0
North: Mamre Road (750m)														
7	L2	193	9.8	193	9.8	0.177	18.9	LOS B	3.3	25.4	0.45	0.73	0.45	53.3
8	T1	1198	16.0	1198	16.0	0.839	44.7	LOS D	23.8	189.5	0.97	0.92	1.03	51.2
9	R2	160	31.6	160	31.6	0.812	86.4	LOS F	3.7	32.8	1.00	0.88	1.31	29.7
Approach		1551	16.8	1551	16.8	0.839	45.8	LOS D	23.8	189.5	0.91	0.89	0.99	48.6
West: Bakers lane														
10	L2	373	31.1	373	31.1	0.839	63.3	LOS E	16.1	142.8	1.00	0.93	1.13	19.8
11	T1	2	0.0	2	0.0	0.839	57.4	LOS E	16.1	142.8	1.00	0.93	1.13	28.6
12	R2	220	31.1	220	31.1	0.446	46.4	LOS D	7.3	64.6	0.84	0.80	0.84	42.5
Approach		595	31.0	595	31.0	0.839	57.0	LOS E	16.1	142.8	0.94	0.88	1.02	29.9
All Vehicles		3742	16.8	3742	16.8	0.853	48.1	LOS D	23.8	189.5	0.87	0.83	0.95	40.7

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

MOVEMENT SUMMARY

Site: 102 [2031 Mamre Road x Erskine Park Road_AM]

Network: N101 [AM Network]

Config: 2031 Modified Sequence 1A
Traffic: 2018 Survey + 2031 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (300m)														
2	T1	819	15.3	819	15.3	0.298	2.5	LOS A	2.6	20.9	0.29	0.25	0.29	72.2
3	R2	896	17.7	896	17.7	0.988	57.2	LOS E	15.2	122.4	1.00	1.07	1.55	30.8
Approach		1715	16.6	1715	16.6	0.988	31.1	LOS C	15.2	122.4	0.66	0.68	0.94	38.4
East: Erskine Park Road (590m)														
4	L2	1182	19.8	1182	19.8	0.859	39.4	LOS C	15.5	127.1	0.97	0.96	1.18	33.1
6	R2	304	18.0	304	18.0	1.239	267.1	LOS F	11.7	94.6	1.00	1.60	3.68	9.2
Approach		1486	19.4	1486	19.4	1.239	86.0	LOS F	15.5	127.1	0.98	1.09	1.69	20.0
North: Mamre Road (200m)														
7	L2	697	4.8	697	4.8	0.668	17.5	LOS B	8.9	64.7	0.73	0.85	0.83	50.2
8	T1	1426	13.1	1426	13.1	0.961	55.2	LOS D	26.0	202.0	1.00	1.23	1.53	12.3
Approach		2123	10.4	2123	10.4	0.961	42.9	LOS D	26.0	202.0	0.91	1.10	1.30	23.8
All Vehicles		5324	14.9	5324	14.9	1.239	51.1	LOS D	26.0	202.0	0.85	0.96	1.29	26.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	34.3	LOS D	0.1	0.1	0.93	0.93
P2	East Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
P2S	East Slip/Bypass Lane Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		158	34.3	LOS D			0.93	0.93

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: 103 [2031 Mamre Road x James Erskine Drive_AM] Network: N101 [AM Network]

Config: 2031 Modified Sequence 1A
Traffic: 2018 Survey + 2031 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (520m)														
2	T1	1586	13.3	1586	13.3	0.760	2.8	LOS A	6.8	53.4	0.24	0.23	0.26	71.7
3	R2	109	22.1	109	22.1	0.910	60.8	LOS E	3.2	27.0	1.00	1.00	1.74	25.8
Approach		1696	13.8	1696	13.8	0.910	6.5	LOS A	6.8	53.4	0.29	0.28	0.35	62.4
East: James Erskine Drive (170m)														
4	L2	41	53.8	41	53.8	0.641	26.1	LOS B	2.0	20.7	0.97	0.85	1.08	18.6
6	R2	111	55.2	111	55.2	0.641	32.7	LOS C	2.0	20.7	0.97	0.83	1.14	15.7
Approach		152	54.9	152	54.9	0.641	30.9	LOS C	2.0	20.7	0.97	0.84	1.12	16.4
North: Mamre Road (300m)														
7	L2	347	18.2	287	17.1	0.220	8.9	LOS A	1.2	9.6	0.27	0.67	0.27	49.4
8	T1	2215	15.9	1804	15.2	0.840	17.2	LOS B	19.0	150.7	0.77	0.78	0.86	36.2
Approach		2562	16.2	2091 N1	15.5	0.840	16.1	LOS B	19.0	150.7	0.70	0.76	0.78	38.2
All Vehicles		4409	16.6	3939 N1	18.6	0.910	12.5	LOS A	19.0	150.7	0.53	0.56	0.61	47.3

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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	34.3	LOS D	0.1	0.1	0.93	0.93
P2	East Full Crossing	53	10.0	LOS B	0.1	0.1	0.50	0.50
All Pedestrians		105	22.2	LOS C			0.71	0.71

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: 105v [2031 Mamre Road x Distribution Drive_AM]

Network: N101 [AM Network]

Config: 2031 Modified Sequence 1A
Traffic: 2018 Survey + 2031 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mamre Road (750m)														
1	L2	111	31.4	111	31.4	0.535	11.7	LOS A	5.1	41.1	0.58	0.57	0.58	63.4
2	T1	1732	13.1	1732	13.1	0.642	11.2	LOS A	10.5	81.6	0.71	0.65	0.71	59.9
Approach		1842	14.2	1842	14.2	0.642	11.2	LOS A	10.5	81.6	0.70	0.64	0.70	60.2
North: Mamre Road (520m)														
8	T1	2099	15.5	1844	15.3	0.710	4.5	LOS A	11.6	91.9	0.51	0.48	0.51	67.2
9	R2	186	31.1	165	30.6	0.667	44.0	LOS D	3.8	34.0	0.95	0.83	1.02	37.0
Approach		2285	16.8	2009 N1	16.5	0.710	7.8	LOS A	11.6	91.9	0.55	0.50	0.56	59.9
West: Distribution Drive														
10	L2	62	30.5	62	30.5	0.187	11.1	LOS A	0.9	7.8	0.45	0.67	0.45	44.5
12	R2	37	31.4	37	31.4	0.187	11.1	LOS A	0.9	7.8	0.45	0.67	0.45	44.5
Approach		99	30.9	99	30.9	0.187	11.1	LOS A	0.9	7.8	0.45	0.67	0.45	44.5
All Vehicles		4226	16.0	3950 N1	17.1	0.710	9.5	LOS A	11.6	91.9	0.62	0.57	0.62	59.7

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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
P4	West Full Crossing	53	11.0	LOS B	0.1	0.1	0.53	0.53
All Pedestrians		53	11.0	LOS B			0.53	0.53

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: 104 [2031 Mamre Road x Bakers Lane_AM]

Network: N101 [AM Network]

Config: 2031 Modified Sequence 1A
Traffic: 2018 Survey + 2031 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mamre Road (1,000m)														
1	L2	298	31.1	298	31.1	0.305	19.7	LOS B	5.5	49.0	0.48	0.75	0.48	55.6
2	T1	1135	15.5	1135	15.5	0.662	23.6	LOS B	14.7	116.5	0.68	0.61	0.68	52.8
3	R2	91	2.3	91	2.3	0.286	62.0	LOS E	3.2	22.5	0.87	0.77	0.87	38.8
Approach		1523	17.8	1523	17.8	0.662	25.1	LOS B	14.7	116.5	0.65	0.65	0.65	52.0
East: Bakers Lane (440m)														
4	L2	48	2.2	48	2.2	0.132	53.3	LOS D	1.7	11.9	0.84	0.74	0.84	40.7
5	T1	1	0.0	1	0.0	0.132	47.7	LOS D	1.7	11.9	0.84	0.74	0.84	31.1
6	R2	440	4.1	440	4.1	0.889	82.4	LOS F	10.3	74.8	1.00	0.97	1.30	15.2
Approach		489	3.9	489	3.9	0.889	79.5	LOS F	10.3	74.8	0.98	0.95	1.26	18.1
North: Mamre Road (750m)														
7	L2	706	3.1	656	3.2	0.563	22.2	LOS B	15.2	109.6	0.61	0.80	0.61	51.2
8	T1	819	19.7	763	19.9	0.457	25.8	LOS B	10.5	86.0	0.72	0.63	0.72	60.4
9	R2	511	30.9	472	30.9	0.896	84.5	LOS F	11.3	100.4	1.00	0.95	1.32	30.1
Approach		2036	16.8	1891 N1	16.9	0.896	39.2	LOS C	15.2	109.6	0.75	0.77	0.83	47.5
West: Bakers lane														
10	L2	217	31.1	217	31.1	0.620	57.4	LOS E	8.2	72.9	0.95	0.83	0.95	21.1
11	T1	1	0.0	1	0.0	0.620	51.5	LOS D	8.2	72.9	0.95	0.83	0.95	30.1
12	R2	128	31.1	128	31.1	0.616	69.3	LOS E	5.2	46.4	0.99	0.81	1.00	36.1
Approach		346	31.0	346	31.0	0.620	61.8	LOS E	8.2	72.9	0.96	0.82	0.97	28.7
All Vehicles		4395	16.8	4250 N1	17.4	0.896	40.6	LOS C	15.2	116.5	0.76	0.75	0.83	43.2

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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.

MOVEMENT SUMMARY

Site: 102 [2031 Mamre Road x Erskine Park Road_PM]

Network: N101 [PM Network]

Config: 2031 Modified Sequence 1A
Traffic: 2018 Survey + 2031 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 90 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (300m)														
2	T1	1000	14.6	1000	14.6	0.401	5.7	LOS A	5.5	43.4	0.43	0.38	0.43	64.5
3	R2	1234	19.6	1234	19.6	0.897	45.2	LOS D	18.4	150.6	0.98	0.97	1.19	34.6
Approach		2234	17.4	2234	17.4	0.897	27.5	LOS B	18.4	150.6	0.73	0.71	0.85	40.5
East: Erskine Park Road (590m)														
4	L2	959	25.7	959	25.7	0.468	16.0	LOS B	6.4	54.5	0.54	0.76	0.54	51.2
6	R2	572	8.8	572	8.8	0.987	85.5	LOS F	11.5	86.3	1.00	1.12	1.81	23.1
Approach		1531	19.4	1531	19.4	0.987	42.0	LOS C	11.5	86.3	0.71	0.89	1.01	33.4
North: Mamre Road (200m)														
7	L2	245	10.7	245	10.7	0.548	20.0	LOS B	6.7	52.1	0.76	0.76	0.76	48.8
8	T1	747	16.8	747	16.8	0.797	35.3	LOS C	8.4	66.9	0.95	0.89	1.09	17.3
Approach		993	15.3	993	15.3	0.797	31.5	LOS C	8.4	66.9	0.90	0.86	1.01	26.7
All Vehicles		4757	17.6	4757	17.6	0.987	33.0	LOS C	18.4	150.6	0.76	0.80	0.93	35.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
P2S	East Slip/Bypass Lane Crossing	53	39.3	LOS D	0.1	0.1	0.94	0.94
All Pedestrians		158	39.3	LOS D			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.

MOVEMENT SUMMARY

Site: 103 [2031 Mamre Road x James Erskine Drive_PM]

Network: N101 [PM Network]

Config: 2031 Modified Sequence 1A
Traffic: 2018 Survey + 2031 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 90 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (520m)														
2	T1	1718	18.4	1718	18.4	0.694	4.2	LOS A	8.7	70.4	0.36	0.33	0.36	68.1
3	R2	33	58.1	33	58.1	0.373	55.7	LOS D	0.9	9.6	0.98	0.73	0.98	26.4
Approach		1751	19.2	1751	19.2	0.694	5.2	LOS A	8.7	70.4	0.37	0.34	0.37	65.6
East: James Erskine Drive (170m)														
4	L2	127	8.3	127	8.3	0.758	30.6	LOS C	5.4	42.2	0.99	0.95	1.22	16.4
6	R2	359	17.6	359	17.6	0.758	40.7	LOS C	5.4	43.7	1.00	0.92	1.19	13.1
Approach		486	15.2	486	15.2	0.758	38.1	LOS C	5.4	43.7	0.99	0.93	1.20	13.9
North: Mamre Road (300m)														
7	L2	166	57.0	166	57.0	0.149	8.9	LOS A	0.5	4.9	0.19	0.64	0.19	45.4
8	T1	1505	18.8	1505	18.8	0.767	14.6	LOS B	14.0	114.0	0.74	0.68	0.74	39.5
Approach		1672	22.6	1672	22.6	0.767	14.0	LOS A	14.0	114.0	0.68	0.67	0.69	40.2
All Vehicles		3908	20.1	3908	20.1	0.767	13.1	LOS A	14.0	114.0	0.58	0.56	0.61	45.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	39.3	LOS D	0.1	0.1	0.94	0.94
P2	East Full Crossing	53	12.8	LOS B	0.1	0.1	0.53	0.53
All Pedestrians		105	26.1	LOS C			0.73	0.73

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: 105v [2031 Mamre Road x Distribution Drive_PM]

Network: N101 [PM Network]

Config: 2031 Modified Sequence 1A
Traffic: 2018 Survey + 2031 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 90 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (750m)														
1	L2	38	30.6	38	30.6	0.618	20.5	LOS B	9.6	75.8	0.74	0.69	0.80	57.1
2	T1	1908	13.8	1908	13.8	0.741	16.9	LOS B	14.4	112.4	0.82	0.74	0.84	53.4
Approach		1946	14.1	1946	14.1	0.741	17.0	LOS B	14.4	112.4	0.82	0.74	0.83	53.5
North: Mamre Road (520m)														
8	T1	1660	18.2	1660	18.2	0.782	9.2	LOS A	14.1	114.2	0.60	0.55	0.60	57.8
9	R2	64	31.1	64	31.1	0.634	53.7	LOS D	1.8	16.2	0.99	0.78	1.06	33.7
Approach		1724	18.7	1724	18.7	0.782	10.8	LOS A	14.1	114.2	0.61	0.56	0.62	55.0
West: Distribution Drive														
10	L2	192	31.3	192	31.3	0.510	17.6	LOS B	5.4	48.2	0.74	0.80	0.74	38.6
12	R2	113	30.8	113	30.8	0.510	17.5	LOS B	5.4	48.2	0.74	0.80	0.74	38.6
Approach		304	31.1	304	31.1	0.510	17.6	LOS B	5.4	48.2	0.74	0.80	0.74	38.6
All Vehicles		3975	17.4	3975	17.4	0.782	14.3	LOS A	14.4	114.2	0.72	0.67	0.73	52.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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
P4	West Full Crossing	53	13.4	LOS B	0.1	0.1	0.55	0.55
All Pedestrians		53	13.4	LOS B			0.55	0.55

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: 104 [2031 Mamre Road x Bakers Lane_PM]

Network: N101 [PM Network]

Config: 2031 Modified Sequence 1A
Traffic: 2018 Survey + 2031 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (1,000m)														
1	L2	95	31.1	95	31.1	0.097	17.9	LOS B	1.5	13.3	0.41	0.71	0.41	56.6
2	T1	934	13.9	934	13.9	0.623	30.3	LOS C	13.2	103.4	0.73	0.65	0.73	48.1
3	R2	29	0.0	29	0.0	0.244	77.0	LOS F	1.2	8.4	0.97	0.72	0.97	34.9
Approach		1058	15.0	1058	15.0	0.623	30.5	LOS C	13.2	103.4	0.71	0.66	0.71	48.3
East: Bakers Lane (440m)														
4	L2	58	5.5	58	5.5	0.120	46.5	LOS D	1.8	13.5	0.79	0.73	0.79	42.9
5	T1	1	0.0	1	0.0	0.120	40.9	LOS C	1.8	13.5	0.79	0.73	0.79	33.2
6	R2	576	4.9	576	4.9	0.889	78.9	LOS F	13.5	98.1	1.00	0.97	1.26	15.7
Approach		635	5.0	635	5.0	0.889	75.9	LOS F	13.5	98.1	0.98	0.95	1.22	18.5
North: Mamre Road (750m)														
7	L2	201	9.4	201	9.4	0.180	18.1	LOS B	3.4	25.5	0.44	0.73	0.44	53.8
8	T1	1284	15.8	1284	15.8	0.868	47.2	LOS D	26.7	212.5	0.99	0.96	1.07	50.2
9	R2	160	31.6	160	31.6	0.812	86.4	LOS F	3.7	32.8	1.00	0.88	1.31	29.7
Approach		1645	16.6	1645	16.6	0.868	47.4	LOS D	26.7	212.5	0.92	0.92	1.02	48.0
West: Bakers lane														
10	L2	373	31.1	373	31.1	0.882	71.2	LOS F	17.3	153.4	1.00	0.96	1.21	18.3
11	T1	2	0.0	2	0.0	0.882	65.3	LOS E	17.3	153.4	1.00	0.96	1.21	26.9
12	R2	220	31.1	220	31.1	0.802	71.4	LOS F	9.5	84.6	1.00	0.91	1.15	35.6
Approach		595	31.0	595	31.0	0.882	71.2	LOS F	17.3	153.4	1.00	0.94	1.18	26.4
All Vehicles		3933	16.5	3933	16.5	0.889	51.1	LOS D	26.7	212.5	0.89	0.86	0.99	39.7

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

MOVEMENT SUMMARY

Site: 102 [2036 Mamre Road x Erskine Park Road_AM]

Network: N101 [AM Network]

Config: 2036 Modified Sequence 1A
Traffic: 2018 Survey + 2036 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (300m)														
2	T1	869	15.0	869	15.0	0.316	2.7	LOS A	3.0	23.4	0.30	0.27	0.30	71.9
3	R2	953	17.6	953	17.6	1.049	94.3	LOS F	20.7	166.8	1.00	1.22	1.95	22.7
Approach		1822	16.3	1822	16.3	1.049	50.6	LOS D	20.7	166.8	0.67	0.77	1.16	29.7
East: Erskine Park Road (590m)														
4	L2	1242	19.5	1242	19.5	0.901	46.1	LOS D	18.2	149.0	1.00	1.02	1.31	29.4
6	R2	322	17.6	322	17.6	1.309	327.3	LOS F	14.1	113.5	1.00	1.72	4.09	7.7
Approach		1564	19.1	1564	19.1	1.309	104.0	LOS F	18.2	149.0	1.00	1.16	1.88	17.1
North: Mamre Road (200m)														
7	L2	752	4.8	752	4.8	0.724	18.8	LOS B	9.6	69.8	0.78	0.88	0.91	49.1
8	T1	1512	12.7	1512	12.7	1.031	93.6	LOS F	36.3	281.5	1.00	1.49	1.95	7.7
Approach		2263	10.0	2263	10.0	1.031	68.8	LOS E	36.3	281.5	0.93	1.29	1.61	16.8
All Vehicles		5649	14.6	5649	14.6	1.309	72.6	LOS F	36.3	281.5	0.86	1.09	1.54	20.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	34.3	LOS D	0.1	0.1	0.93	0.93
P2	East Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
P2S	East Slip/Bypass Lane Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		158	34.3	LOS D			0.93	0.93

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: 103 [2036 Mamre Road x James Erskine Drive_AM] Network: N101 [AM Network]

Config: 2036 Modified Sequence 1A
Traffic: 2018 Survey + 2036 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (520m)														
2	T1	1685	12.9	1685	12.9	0.819	6.0	LOS A	11.4	88.8	0.35	0.35	0.40	64.0
3	R2	117	21.6	117	21.6	0.830	54.0	LOS D	3.2	26.6	1.00	0.93	1.44	27.7
Approach		1802	13.5	1802	13.5	0.830	9.1	LOS A	11.4	88.8	0.39	0.39	0.46	57.7
East: James Erskine Drive (170m)														
4	L2	44	54.8	44	54.8	0.619	26.1	LOS B	2.2	22.4	0.97	0.84	1.04	18.6
6	R2	118	55.4	118	55.4	0.619	32.5	LOS C	2.2	22.4	0.97	0.82	1.10	15.8
Approach		162	55.2	162	55.2	0.619	30.8	LOS C	2.2	22.4	0.97	0.83	1.08	16.4
North: Mamre Road (300m)														
7	L2	375	18.3	292	16.8	0.226	8.9	LOS A	1.2	9.9	0.28	0.68	0.28	49.4
8	T1	2334	15.5	1789	14.6	0.870	22.8	LOS B	22.0	173.3	0.83	0.87	0.98	30.8
Approach		2708	15.9	2081 N1	14.9	0.870	20.8	LOS B	22.0	173.3	0.75	0.84	0.88	33.3
All Vehicles		4673	16.3	4045 N1	18.8	0.870	16.0	LOS B	22.0	173.3	0.60	0.64	0.70	42.9

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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	34.3	LOS D	0.1	0.1	0.93	0.93
P2	East Full Crossing	53	11.0	LOS B	0.1	0.1	0.53	0.53
All Pedestrians		105	22.7	LOS C			0.73	0.73

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: 105v [2036 Mamre Road x Distribution Drive_AM]

Network: N101 [AM Network]

Config: 2036 Modified Sequence 1A
Traffic: 2018 Survey + 2036 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Arrival Flows Total veh/h	Arrival Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Aver. Back of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mamre Road (750m)														
1	L2	111	31.4	111	31.4	0.555	12.1	LOS A	5.2	41.6	0.58	0.57	0.60	63.2
2	T1	1842	12.8	1842	12.8	0.666	11.1	LOS A	11.2	87.0	0.71	0.66	0.72	60.1
Approach		1953	13.9	1953	13.9	0.666	11.1	LOS A	11.2	87.0	0.71	0.65	0.71	60.3
North: Mamre Road (520m)														
8	T1	2221	15.2	1806	14.7	0.693	4.1	LOS A	10.3	81.3	0.47	0.44	0.47	68.3
9	R2	186	31.1	153	30.2	0.669	41.4	LOS C	3.6	31.6	0.96	0.82	1.01	38.0
Approach		2407	16.4	1959 N1	15.9	0.693	7.0	LOS A	10.3	81.3	0.51	0.47	0.52	61.3
West: Distribution Drive														
10	L2	62	30.5	62	30.5	0.195	11.6	LOS A	0.9	8.1	0.47	0.68	0.47	44.0
12	R2	37	31.4	37	31.4	0.195	11.5	LOS A	0.9	8.1	0.47	0.68	0.47	44.0
Approach		99	30.9	99	30.9	0.195	11.6	LOS A	0.9	8.1	0.47	0.68	0.47	44.0
All Vehicles		4459	15.6	4011 N1	17.3	0.693	9.1	LOS A	11.2	87.0	0.61	0.56	0.61	60.3

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate
P4	West Full Crossing	53	10.5	LOS B	0.1	0.1	0.51	0.51
All Pedestrians		53	10.5	LOS B			0.51	0.51

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: 104 [2036 Mamre Road x Bakers Lane_AM]

Network: N101 [AM Network]

Config: 2036 Modified Sequence 1A
Traffic: 2018 Survey + 2036 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	Aver. Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mamre Road (1,000m)														
1	L2	298	31.1	298	31.1	0.302	19.2	LOS B	5.4	48.0	0.48	0.75	0.48	55.8
2	T1	1208	15.2	1208	15.2	0.704	24.3	LOS B	16.4	129.9	0.71	0.64	0.71	52.2
3	R2	94	2.2	94	2.2	0.309	63.1	LOS E	3.3	23.7	0.88	0.77	0.88	38.4
Approach		1600	17.4	1600	17.4	0.704	25.7	LOS B	16.4	129.9	0.68	0.67	0.68	51.7
East: Bakers Lane (440m)														
4	L2	51	2.1	51	2.1	0.141	54.3	LOS D	1.8	12.5	0.85	0.74	0.85	40.4
5	T1	1	0.0	1	0.0	0.141	48.7	LOS D	1.8	12.5	0.85	0.74	0.85	30.9
6	R2	459	3.9	459	3.9	0.880	80.5	LOS F	10.6	77.0	1.00	0.96	1.28	15.4
Approach		511	3.7	511	3.7	0.880	77.9	LOS F	10.6	77.0	0.99	0.94	1.23	18.4
North: Mamre Road (750m)														
7	L2	737	3.0	652	3.1	0.552	21.6	LOS B	14.8	106.2	0.60	0.80	0.60	51.6
8	T1	878	19.5	779	20.0	0.467	26.0	LOS B	10.8	88.5	0.72	0.64	0.72	60.3
9	R2	511	30.9	449	30.9	0.888	83.7	LOS F	10.7	94.5	1.00	0.94	1.31	30.2
Approach		2125	16.5	1880 N1	16.7	0.888	38.2	LOS C	14.8	106.2	0.75	0.77	0.82	48.0
West: Bakers lane														
10	L2	217	31.1	217	31.1	0.639	58.4	LOS E	8.3	73.6	0.96	0.83	0.96	20.9
11	T1	1	0.0	1	0.0	0.639	52.5	LOS D	8.3	73.6	0.96	0.83	0.96	29.8
12	R2	128	31.1	128	31.1	0.585	68.1	LOS E	5.2	45.9	0.98	0.81	0.98	36.4
Approach		346	31.0	346	31.0	0.639	62.0	LOS E	8.3	73.6	0.97	0.82	0.97	28.6
All Vehicles		4582	16.5	4337 N1	17.5	0.888	40.2	LOS C	16.4	129.9	0.77	0.76	0.83	43.4

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

N1 Arrival Flow value is reduced due to capacity constraint at oversaturated upstream lanes.

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.

MOVEMENT SUMMARY

Site: 102 [2036 Mamre Road x Erskine Park Road_PM]

Network: N101 [PM Network]

Config: 2036 Modified Sequence 1A
Traffic: 2018 Survey + 2036 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Actuated Coordinated Cycle Time = 80 seconds (Network Site User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (300m)														
2	T1	1060	14.3	1060	14.3	0.410	4.8	LOS A	4.9	38.6	0.41	0.37	0.41	66.5
3	R2	1296	19.2	1296	19.2	0.933	40.0	LOS C	17.4	141.8	1.00	0.95	1.15	36.6
Approach		2356	17.0	2356	17.0	0.933	24.1	LOS B	17.4	141.8	0.74	0.69	0.82	42.8
East: Erskine Park Road (590m)														
4	L2	1023	25.6	1023	25.6	0.504	15.3	LOS B	6.3	53.9	0.53	0.76	0.53	52.0
6	R2	616	8.9	616	8.9	1.091	132.5	LOS F	15.1	113.7	1.00	1.24	2.18	16.5
Approach		1639	19.3	1639	19.3	1.091	59.3	LOS E	15.1	113.7	0.71	0.94	1.15	26.7
North: Mamre Road (200m)														
7	L2	264	10.8	264	10.8	0.556	21.5	LOS B	7.2	55.7	0.75	0.74	0.75	47.5
8	T1	797	16.5	797	16.5	0.809	29.7	LOS C	7.5	60.1	0.93	0.81	0.93	19.7
Approach		1061	15.1	1061	15.1	0.809	27.7	LOS B	7.5	60.1	0.88	0.79	0.88	29.0
All Vehicles		5056	17.3	5056	17.3	1.091	36.3	LOS C	17.4	141.8	0.76	0.79	0.94	33.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	34.3	LOS D	0.1	0.1	0.93	0.93
P2	East Full Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
P2S	East Slip/Bypass Lane Crossing	53	34.3	LOS D	0.1	0.1	0.93	0.93
All Pedestrians		158	34.3	LOS D			0.93	0.93

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: 103 [2036 Mamre Road x James Erskine Drive_PM]

Network: N101 [PM Network]

Config: 2036 Modified Sequence 1A
Traffic: 2018 Survey + 2036 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (520m)														
2	T1	1807	18.1	1807	18.1	0.753	6.0	LOS A	11.2	90.5	0.52	0.48	0.52	64.2
3	R2	35	57.6	35	57.6	0.352	47.4	LOS D	0.8	8.7	0.95	0.73	0.95	28.9
Approach		1842	18.8	1842	18.8	0.753	6.7	LOS A	11.2	90.5	0.53	0.49	0.53	62.3
East: James Erskine Drive (170m)														
4	L2	138	8.4	138	8.4	0.772	32.6	LOS C	6.1	47.6	0.99	0.99	1.32	15.6
6	R2	387	17.7	387	17.7	0.772	39.3	LOS C	6.1	47.6	0.99	0.95	1.26	13.5
Approach		525	15.2	525	15.2	0.772	37.5	LOS C	6.1	47.6	0.99	0.96	1.28	14.0
North: Mamre Road (300m)														
7	L2	180	57.3	180	57.3	0.165	8.9	LOS A	0.5	4.7	0.20	0.65	0.20	45.3
8	T1	1606	18.6	1606	18.6	0.891	30.3	LOS C	22.4	181.5	0.91	0.98	1.13	25.6
Approach		1786	22.5	1786	22.5	0.891	28.1	LOS B	22.4	181.5	0.84	0.95	1.04	27.3
All Vehicles		4154	19.9	4154	19.9	0.891	19.8	LOS B	22.4	181.5	0.72	0.74	0.84	37.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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	34.3	LOS D	0.1	0.1	0.93	0.93
P2	East Full Crossing	53	13.8	LOS B	0.1	0.1	0.59	0.59
All Pedestrians		105	24.1	LOS C			0.76	0.76

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: 105v [2036 Mamre Road x Distribution Drive_PM]

Network: N101 [PM Network]

Config: 2036 Modified Sequence 1A
Traffic: 2018 Survey + 2036 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 80 seconds (Network User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (750m)														
1	L2	38	30.6	38	30.6	0.702	21.8	LOS B	10.3	81.3	0.82	0.76	0.90	56.2
2	T1	2025	13.4	2025	13.4	0.842	22.6	LOS B	17.3	135.3	0.91	0.89	1.02	48.1
Approach		2063	13.7	2063	13.7	0.842	22.5	LOS B	17.3	135.3	0.91	0.88	1.02	48.3
North: Mamre Road (520m)														
8	T1	1772	18.0	1772	18.0	0.871	17.5	LOS B	21.9	177.4	0.83	0.82	0.91	46.1
9	R2	64	31.1	64	31.1	0.563	47.8	LOS D	1.6	14.2	0.98	0.77	1.02	35.6
Approach		1836	18.5	1836	18.5	0.871	18.6	LOS B	21.9	177.4	0.83	0.82	0.92	45.2
West: Distribution Drive														
10	L2	192	31.3	192	31.3	0.496	17.9	LOS B	4.8	42.7	0.75	0.79	0.75	38.3
12	R2	113	30.8	113	30.8	0.496	17.9	LOS B	4.8	42.7	0.75	0.79	0.75	38.3
Approach		304	31.1	304	31.1	0.496	17.9	LOS B	4.8	42.7	0.75	0.79	0.75	38.3
All Vehicles		4203	17.1	4203	17.1	0.871	20.5	LOS B	21.9	177.4	0.86	0.85	0.96	46.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network 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
P4	West Full Crossing	53	13.8	LOS B	0.1	0.1	0.59	0.59
All Pedestrians		53	13.8	LOS B			0.59	0.59

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: 104 [2036 Mamre Road x Bakers Lane_PM]

Network: N101 [PM Network]

Config: 2036 Modified Sequence 1A
Traffic: 2018 Survey + 2036 Growth + MWP1 + MP2 + SL
Site Category: (None)
Signals - Fixed Time Coordinated Cycle Time = 140 seconds (Site User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total	HV	Arrival Flows Total	HV	Deg. Satn	Average Delay	Level of Service	Aver. Back of Queue Vehicles	Distance	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed
		veh/h	%	veh/h	%	v/c	sec		veh	m				km/h
South: Mamre Road (1,000m)														
1	L2	95	31.1	95	31.1	0.080	11.6	LOS A	0.9	8.3	0.26	0.68	0.26	60.5
2	T1	1002	13.8	1002	13.8	0.680	32.2	LOS C	15.1	117.8	0.78	0.70	0.78	47.0
3	R2	32	0.0	32	0.0	0.393	82.2	LOS F	1.4	9.5	1.00	0.72	1.00	33.7
Approach		1128	14.8	1128	14.8	0.680	31.8	LOS C	15.1	117.8	0.74	0.69	0.74	47.5
East: Bakers Lane (440m)														
4	L2	60	5.3	60	5.3	0.273	66.0	LOS E	2.4	17.2	0.94	0.76	0.94	37.0
5	T1	1	0.0	1	0.0	0.273	60.4	LOS E	2.4	17.2	0.94	0.76	0.94	27.9
6	R2	600	4.7	600	4.7	0.885	76.8	LOS F	13.8	100.9	1.00	0.97	1.25	16.0
Approach		661	4.8	661	4.8	0.885	75.8	LOS F	13.8	100.9	0.99	0.95	1.22	18.5
North: Mamre Road (750m)														
7	L2	209	9.0	209	9.0	0.181	16.9	LOS B	3.3	25.1	0.42	0.72	0.42	54.7
8	T1	1369	15.6	1369	15.6	0.908	54.9	LOS D	31.3	248.1	1.00	1.03	1.15	47.3
9	R2	160	31.6	160	31.6	0.914	95.8	LOS F	3.9	35.0	1.00	0.95	1.55	28.0
Approach		1739	16.3	1739	16.3	0.914	54.1	LOS D	31.3	248.1	0.93	0.99	1.10	45.6
West: Bakers lane														
10	L2	373	31.1	373	31.1	0.904	76.5	LOS F	18.1	160.1	1.00	0.98	1.26	17.4
11	T1	2	0.0	2	0.0	0.904	70.6	LOS F	18.1	160.1	1.00	0.98	1.26	25.8
12	R2	220	31.1	220	31.1	0.446	46.4	LOS D	7.3	64.6	0.84	0.80	0.84	42.5
Approach		595	31.0	595	31.0	0.904	65.3	LOS E	18.1	160.1	0.94	0.91	1.10	27.8
All Vehicles		4123	16.2	4123	16.2	0.914	53.1	LOS D	31.3	248.1	0.89	0.89	1.02	39.1

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