23 February 2026

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| | |
|---|---|
| **TO** | Anthony Murr (Director, Project Strategy) |
| **FROM** | William Xie (Transport Engineer, Ason Group) |
| **CC** | James Laidler (Principal Transport Engineer, Ason Group)<br>Masoud Khodadadifard (Transport Engineer, Ason Group) |
| **SUBJECT** | Access Logistics Park, 884-928 Mamre Road, Kemps Creek – SSD 17647189 – MOD 3 |

Dear Anthony,

Ason Group has been commissions by Project Strategy to prepare a Technical Note (TN) to review the traffic and transport implications of the proposed Modification 3 (MOD 3) to the approved Access Logistics Park (SSD-17647189) at 884-928 Mamre Road, Kemps Creek (the Site).

In preparing this TN, Ason Group has referred to the following key document:

- Ason Group, P1509r03vXI, SSD-17647189, 884-928 Mamre Rd, Kemps Creek *Transport Management & Accessibility Plan*, Issue XI, dated 28 February 2023 (TMAP Issue XI)

## Background

Ason Group has previously been involved with the Site, with the preparation of the Transport Management & Accessibility Plan (TMAP) to support the approved State Significant Development (SSD-17647189). The approval includes a masterplan for 15 lots for an industrial estate with a more detailed assessment of Stage 1 (Lot 2). Reference should be made to the TMAP Issue XI for more details.

Subsequent modifications were prepared with changes to this original scheme, with details below in **Table 1**.

**TABLE 1: SUMMARY OF MODIFICATIONS**

| Modification | Status | Proposed Changes |
|---|---|---|
| **Modification 1** | Approved | Realignment of the trunk drainage infrastructure channel |
| **Modification 2** | Approved | • Reduced number of lots through the consolidation of Lots 5-11 into 3 larger lots<br>• Associated internal road reconfiguration, earthworks and landscaping<br>• Removal of subdivision staging component<br>• Cladding on Lot 2 warehouse to incorporate “Barings Blue” |

## Proposed Modification 3 (MOD 3)

MOD 3 proposes amendments to the surrounding road network, without altering the GFA, seeking changes to the approved SSD for the Access Logistics Park, which is detailed below:

- Closure of the connection of the access road which intersects with Mamre Road directly south of Lot 2. This was previously proposed to be under a left in left out (LILO) arrangement. To replace this LILO arrangement, there is a light vehicle turning head proposed at the end of the access road.
- Access for the Site as a result would be through the internal road network of the Site directly north, known as the Aspect Industrial Estate. This site offers an internal road connection up to Mamre Road, known as the Mamre Road / Mirvac Access intersection (proposed under SSD-10448[1]).
- Minor change to the proposed road widening area along Mamre Road.
- It is noted that these changes pertain to the Masterplan and there are no changes to Stage 1 of the proposal.

**Figure 1** shows the proposed MOD 3 layout.

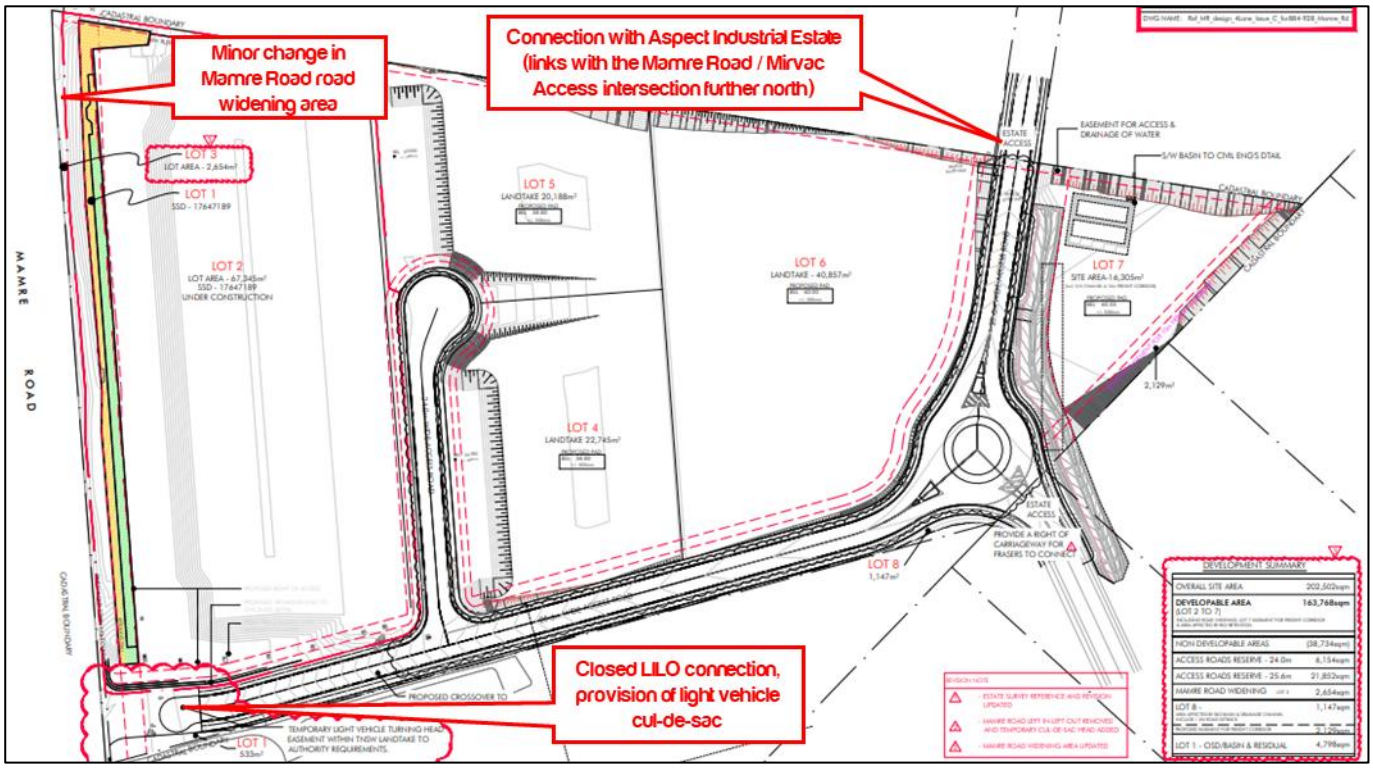



*Figure 1: Proposed MOD 3 Layout*

[1] https://www.planningportal.nsw.gov.au/major-projects/projects/aspect-industrial-estate

## Consultation with Authorities

Commentary has been received by DPHI in response to the submission of the MOD 3 submission. We provide the following responses to those comments.

**TABLE 2: RESPONSE TO DPHI COMMENTS**

| | Comment | Ason Group Response |
|---|---|---|
| 1 | The Traffic Statement states that the LILO intersection is an interim arrangement, however this isn't consistent with the original DA or the DCP road network plan and doesn't reflect the intention of this modification that TfNSW will deliver this intersection as part of the Mamre Road upgrades. Please update the Statement as necessary. | This document has updated the description of the LILO. Additionally, this MOD 3 submission, in part, seeks to amend the original approval by removing condition to provide the LILO. Vehicles would be directed to utilise the signalised intersection at Darrabarra Ave via Berriwerri Dr to access to/from the Site. |
| 2 | The Statement is also unclear on how the modification is consistent with the modelling done as part revised Transport Management Accessibility Plan (TMAP) submitted as part of the original DA – particularly in relation to the Aspect signalised intersection on Mamre Road. The TMAP modelling for the performance of the Aspect intersection appears to have been on the basis that the LILO was also delivered and operational. The Statement should be clear on how it has considered 100% of the traffic of the development accessing the site via the Aspect intersection. | A previous assessment has been undertaken which deferred the construction of the LILO – refer to Attachment 1 – which demonstrates that the intersection of Mamre Rd x Darrabarra Ave can sufficiently accommodate the additional traffic. |

## Traffic Generation & Impacts

As discussed above, there are no changes to GFA for the proposed Site (considering both Stage 1 and the overall Masterplan). As such, there would be no changes to trip generation for the Site.

The Mamre Road / Mirvac Access signalised intersection will be the ultimate access strategy for the Site, with the LILO arrangement being an secondary access. As part of the TMAP supporting the approved SSDA, an assessment, including traffic modelling, was conducted for the signalised intersection of Mamre Road/Mirvac Access. This intersection was forecasted operate acceptable for both the interim and ultimate layouts.

With this MOD 3 proposal, the LILO arrangement would be removed and coincide with the operation of the Mamre Road / Mirvac Access signalised intersection. A turning head accommodating light vehicles is proposed at the end of the access road to turn around as necessary.

Notwithstanding, an assessment was undertaken in 2024 to defer to delivery of the LILO – refer to Attachment 1. This assessment included SIDRA intersection modelling for a 2026 modelling year and demonstrated that the Aspect signalised intersection has capacity to accommodate the cumulative traffic of known 'approved developments', including all traffic associated with the Access Logistics Estate

## Parking Provision

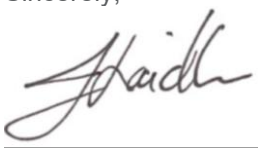
There are no changes to the GFA as a result of this proposal, there would no changes in the requirement for parking spaces within the MOD 3 Proposal. It is therefore evident that the provision of 215 car parking spaces remains acceptable for MOD 3 Proposal. Each remaining lot within the broader Estate would be subject to the minimum requirements as outlined within the Mamre DCP.

Therefore, there would be no material impacts as a result of the MOD 3 proposal and is supportable on parking grounds.

## Conclusions

Our review finds the proposed amendments to the approved SSD-17647189 results in a supportable change in Site access strategy and requires no further changes. Therefore, it is expected that the MOD 3 proposal is supportable from a traffic engineering and transport planning perspective.

Sincerely,



James Laidler
*Principal Traffic Engineer*
E: james.laidler@asongroup.com.au

Attachment 1: Deferred LILO Memo

## Attachment 1: Deferred LILO Memo

4 July 2024

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| | |
|---|---|
| **TO** | Philip Grech; Barings |
| **FROM** | Tim Lewis; Ason Group |
| **SUBJECT** | 884-928 Mamre Road, Kemps Creek (SSD 17647189) – Defer Delivery of LILO Intersection |

Dear Philip,

We refer to the meeting with Transport for NSW (TfNSW) on 07 June 2024 in relation to the future left-in, left-out (LILO) intersection to Mamre Road. It is understood that there is a significant level difference between latest TfNSW designs and those previously adopted by MU Group and earlier Mamre Road Precinct strategic concepts. Furthermore, as Mamre Road Upgrade Stage 2 is still undergoing further design refinement, these levels could continue to change.

To address this issue, it is proposed to defer construction of the LILO intersection to TfNSW as part of the Mamre Road Upgrade Stage 2 works. As such, all access to the Access Logistics Estate shall be via the signalised intersection to Mamre Road (via Aspect Industrial Estate).

The purpose of this advice is to confirm that there is sufficient capacity at that intersection to accommodate the additional flows, prior to alternative access to the Estate being available.

This scenario was modelled during the original Response to Submissions phase of assessment and found to be acceptable. However, we have taken the opportunity to consolidate traffic generated by other 'approved' developments within the Precinct to enable TfNSW to make an informed judgement.

## Baseline Conditions

A 2026 Baseline scenario has been developed which includes known 'approved developments' within the Mamre Road Precinct (MRP), in addition to natural passing background growth within Mamre Road itself.

### Background growth

To determine background growth, midblock (two-way) flows within Mamre Road have been reviewed by comparing 2018 and 2022 tube count surveys. These surveys indicated negative 1% linear growth within Mamre Road during network peak periods.

Accordingly, our Baseline modelling has conservatively adopted nil growth on top of recent 2024 intersection count surveys for the purposes of establishing suitable background flows. This growth rate is also deemed suitable on the basis that approval of localised development and access should not be unduly impacted by external passing traffic.

It should be noted that the recent 2024 surveys already include an element of construction traffic associated with a number of the approved development sites, including early works. Whilst these construction flows may diminish over time, it is deemed suitable to include these in the future model Baseline flows to reflect future construction associated with balance of the MRP which will be ongoing for a number of years.

### Approved Developments

The status and approved GFA for development sites within MRP adopted by this study is summarised in Appendix A.

The resultant traffic flows are presented in Appendix B.

It is worth noting that east-west connectivity between Aldington Road and Mamre Road is not available in this scenario noting that the Frasers Industrial development site (The Edge Estate; 155-217 Aldington Road) within Aldington Road are yet to gain development approval.

The adopted intersection layout and SIDRA movement scenarios are presented in Appendix C1.

## Project Case Scenario

The current proposal seeks to defer building of the LILO intersection on Mamre Road / the Access Logistics Estate. As such, traffic previously assumed to use the future Access LILO will be forced to rely solely upon the AIE signalised access to Mamre Road. The 2026 Project Case modelling adopts the following changes to traffic flows at the critical AIE signalised access.

It should be emphasised that the Access Logistics Estate is already approved and, as such, the Baseline scenario already assumes use of the AIE signals to a certain extent for trips to/from the north. Inbound movements from the north which would have been part of the 'passing' southbound trips will be transferred to the left-turn into AIE. This has limited external implications.

The main change involves the transfer of left-out movements (outbound southbound) from the LILO to the AIE signals.

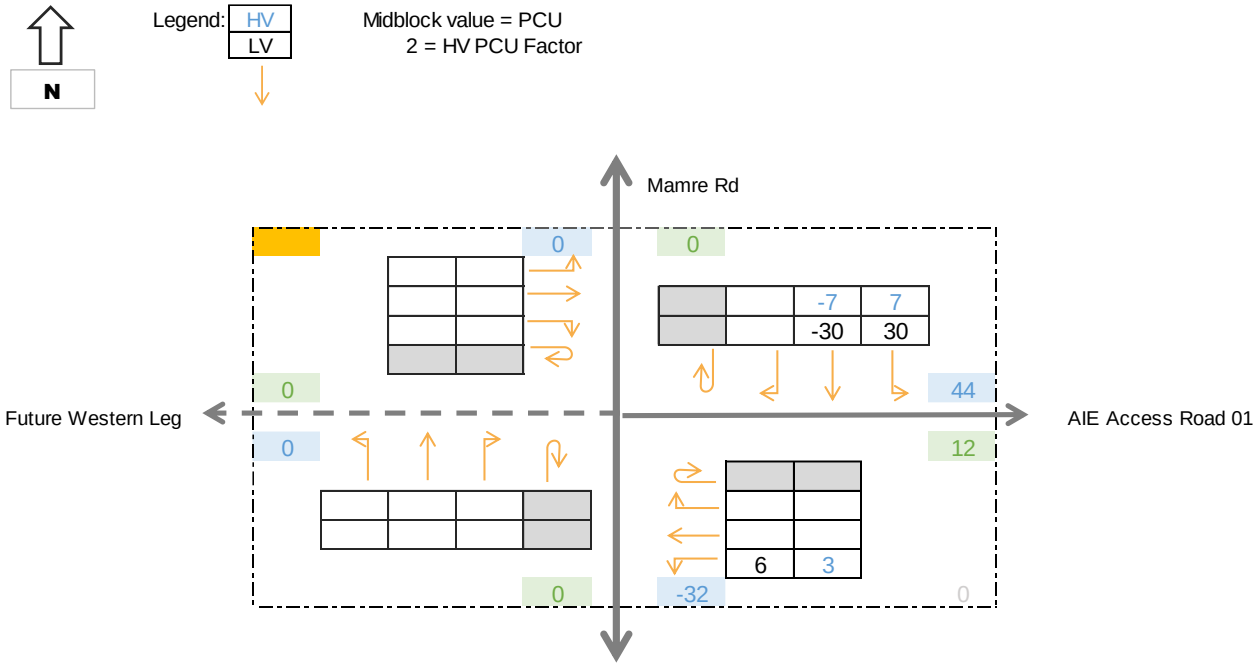


*Figure 1: 2026 Project Case (No LILO) Flow Changes - AM Peak*

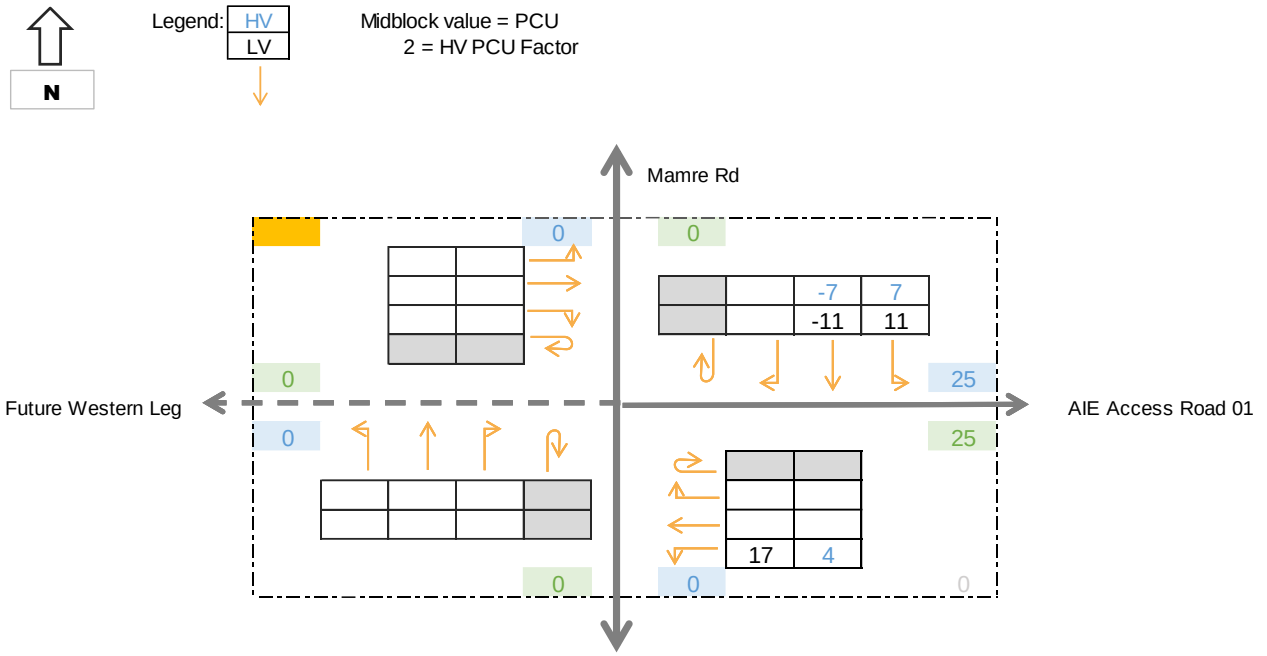


*Figure 2: 2026 Project Case (No LILO) Flow Changes - AM Peak*

## Network Performance

SIDRA (v9.1) movement summaries are provided in Appendix C.

A comparison of modelled SIDRA performance of the AIE signals under each scenario is provided below.

**TABLE 1: 2026 MODELLING RESULTS COMPARISON**

| Intersection | Scenario | Period | Degree of Saturation | Average Delay (sec) | Level of Service |
|---|---|---|---|---|---|
| **Mamre Road / Aspect Signals** | 2026 Baseline | AM | 0.529 | 14.6 | B |
| | | PM | 0.557 | 18.1 | B |
| | 2026 Project Case | AM | 0.517 | 14.5 | A |
| | | PM | 0.554 | 18.0 | B |
| | *Net Change* | *AM* | *-0.012* | *-0.1* | *-*[1] |
| | | *PM* | *-0.003* | *-0.1* | - |

*Note: 1 SIDRA reports the Project Case result as LoS A due to rounding, however the average delay is deemed consistent with LoS B criteria (per Baseline) and, as such, considered to be no change.*

It is evident from review of the SIDRA results that:

- Intersection Level of Service remains unchanged
- Average delay actually reduces as a result of the changes. This is due to increased traffic volumes on movements with relatively lower delays.
- Queue lengths are contained within relevant turning bay lengths

## Summary

In summary, we confirm that the Aspect signalised intersection has capacity to accommodate the cumulative traffic of known 'approved developments', including all traffic associated with the Access Logistics Estate.

Noting that lack of significant background growth observed in Mamre Road, it is considered that the intersection has sufficient 'design life' to defer delivery of the future LILO to TfNSW as part of the Mamre Road Stage 2 upgrade. Further growth would be tied to other development approvals and therefore subject to separate review and assessment by TfNSW which provides a mechanism to monitor network performance as development comes online.

We trust the above is of assistance and please contact the undersigned should you have any queries.

Yours sincerely,

**Tim Lewis**
*Principal Lead* | *Development Assessment & Advisory*
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**M** +61 412 299 692

***Attachments:***

**Appendix A. MRP Approval Register**

**Appendix B. Assumed Network Volumes**

**Appendix C. SIDRA Outputs**

# Appendix A. MRP Approval Register

# Mamre Road Development Approval Register

**Date 25/6/2024**

asongroup

| Reference Number | Site | Landowner | Status | GFA Proposed / Approved (Warehouse, logistics and industrial facilities) | Approved GFA |
|---|---|---|---|---|---|
| 1 | SSD-9522: Kemps Creek Warehouse, Logistics, and Industrial Facilities Hub | Frasers / Barings JV | Latest Mod Determined: MOD 5<br>MOD 6 : under Assessment | MOD 5 (approved): 188,153sqm<br>MOD 6 (proposed): 213,845sqm | 188,153 sqm |
| 2 | SSD-10101987: Kemps Creek Data Centre | ARUP | Determined | 60,943sqm | 60,943 sqm |
| 3 | SSD-10479: 200 Aldington Road Concept Proposal<br>- MOD 1<br>Lot 90<br>- Detailed SSDAs: SSD61212208 / SSD64589711 / SSD64583708 | Stockland & Fife Capital | Determined (Concept Proposal)<br>- MOD 1: under Assessment<br>- SEARs received (detailed SSDAs) | **340,540sqm (approved Concept Proposal)**<br>- 50,300sqm (approved Stage 1)<br>- 326,213sqm (MOD 1 proposed Concept Proposal) | 50,300 sqm |
| 4 | Westlink Industrial Estate<br>- SSD-9138102: Stage 1<br>- SSD-46983729: Stage 2 | ESR | Stage 1: Determined<br>- MOD 5: under Assessment<br>Stage 2: Response to Submissions | Stage 1 (Mod 3 approved): 81,317sqm<br>- No change sought under MOD 5<br>Stage 2 (proposed): 40,720sqm | 81,371 sqm |
| 5 | SSD-30871587: 805-817 Mamre Road, Kemps Creek | 805 Property Trust | Response to Submissions | 25,340sqm | |
| 6 | SSD-17647189: Access Logistics Estate (884-928 Mamre Road, Kemps Creek) | Barings | Determined | 39,161sqm | 39,161 sqm |
| 7 | SSD-23480429: Westgate 253-267 Aldington Road | Icon Oceania | Response to Submissions | 45,530sqm | |
| 8 | SSD-22595032: 1-51 Aldington Road Estate | The Gibb Group Developments Discretionary Trust | SEARs received | 43,310sqm | |
| 9 | SSD-32722834: Dexus Kemps Creek – 113-153 Aldington Road | Dexus Wholesale Management Limited | Response to Submissions | 68,914sqm | |
| 10 | SSD-17552047: The Edge Estate (155-217 Aldington Road Estate) | Frasers Property Industrial | Amended - Response to Submissions | 153,343sqm | |
| 11 | SSD-10272349: Yiribana East Logistics Estate | The GPT Group | Determined | 54,982 sqm | 54,982 sqm |
| 12 | SSD-30628110: Summit at Kemps Creek 706-752 Mamre Road | Aliro and ISPT | Response to Submissions | 244,413sqm | |
| 13 | SSD-25725029: ARDEX Warehouse and Manufacturing Facility | Frasers / Barings JV | Approved | 27,470sqm | 27,470 sqm |
| 14 | DA22/1172: Probiotic Warehouse Facility | Frasers / Barings JV | Approved | 29,768sqm | 29,768 sqm |
| 15 | DA22/0671: Cargoline Warehouse | Frasers / Barings JV | Approved | 30,581 sqm | 30,581 sqm |
| 16 | SSD-10448<br>SSD-46516461 | Mirvac | Approved | WH1: 33,886sqm<br>WH3: 21,535sqm<br>WH9: 66,350sqm | 121,771 sqm |
| 17 | Yiribana West Logistics Estate | The GPT Group | Approved | | 24,953 sqm |
| 18 | 1 Abbotts Rd | ESR | Planned | | |
| 19 | 1080 Mamre Road | The Gibb Group Developments Discretionary Trust | Planned | | |
| 21 | Place of Worship | | Approved | | 3,821 sqm |
| **Total** | | | | | 713,274 sqm |

# Appendix B. Assumed Network Volumes

asongroup

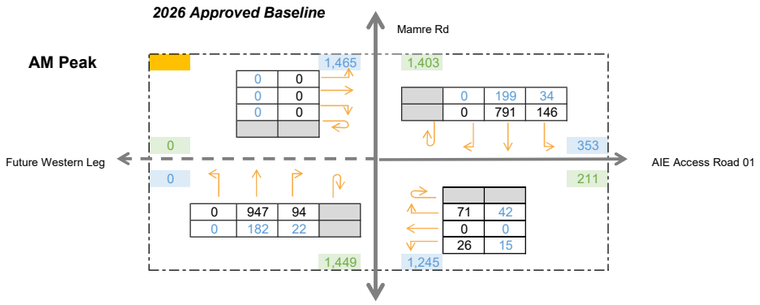
Legend: HV / LV

Midblock value = PCU
2 = HV PCU Factor

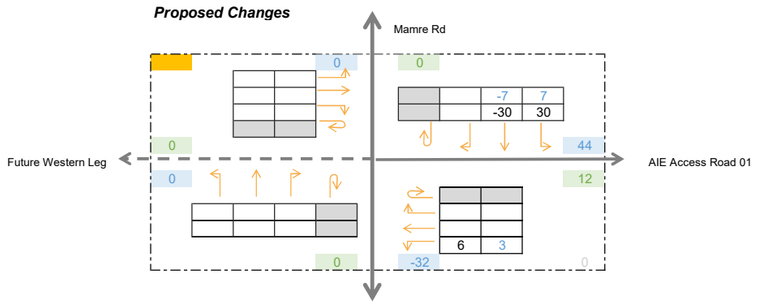
N

### 2026 Approved Baseline

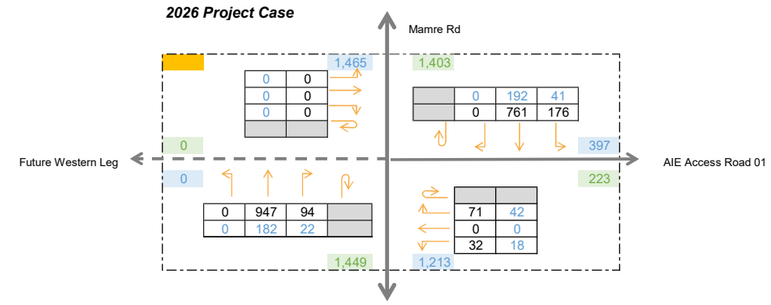
**AM Peak**




### Proposed Changes

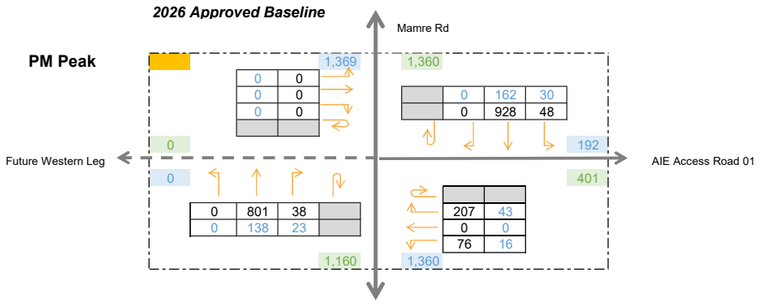



### 2026 Project Case

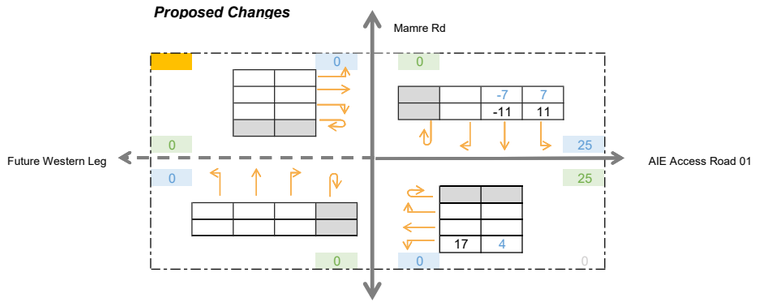



### 2026 Approved Baseline

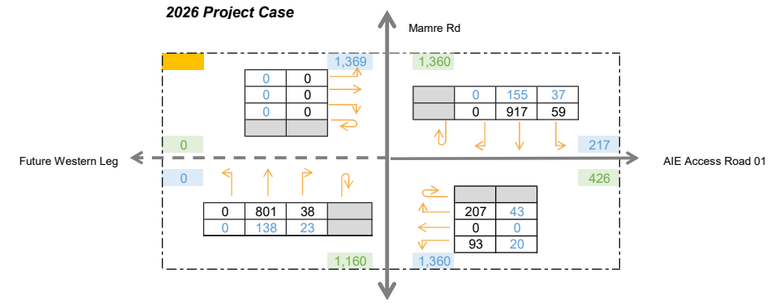
**PM Peak**




### Proposed Changes




### 2026 Project Case



# Appendix C. SIDRA Outputs

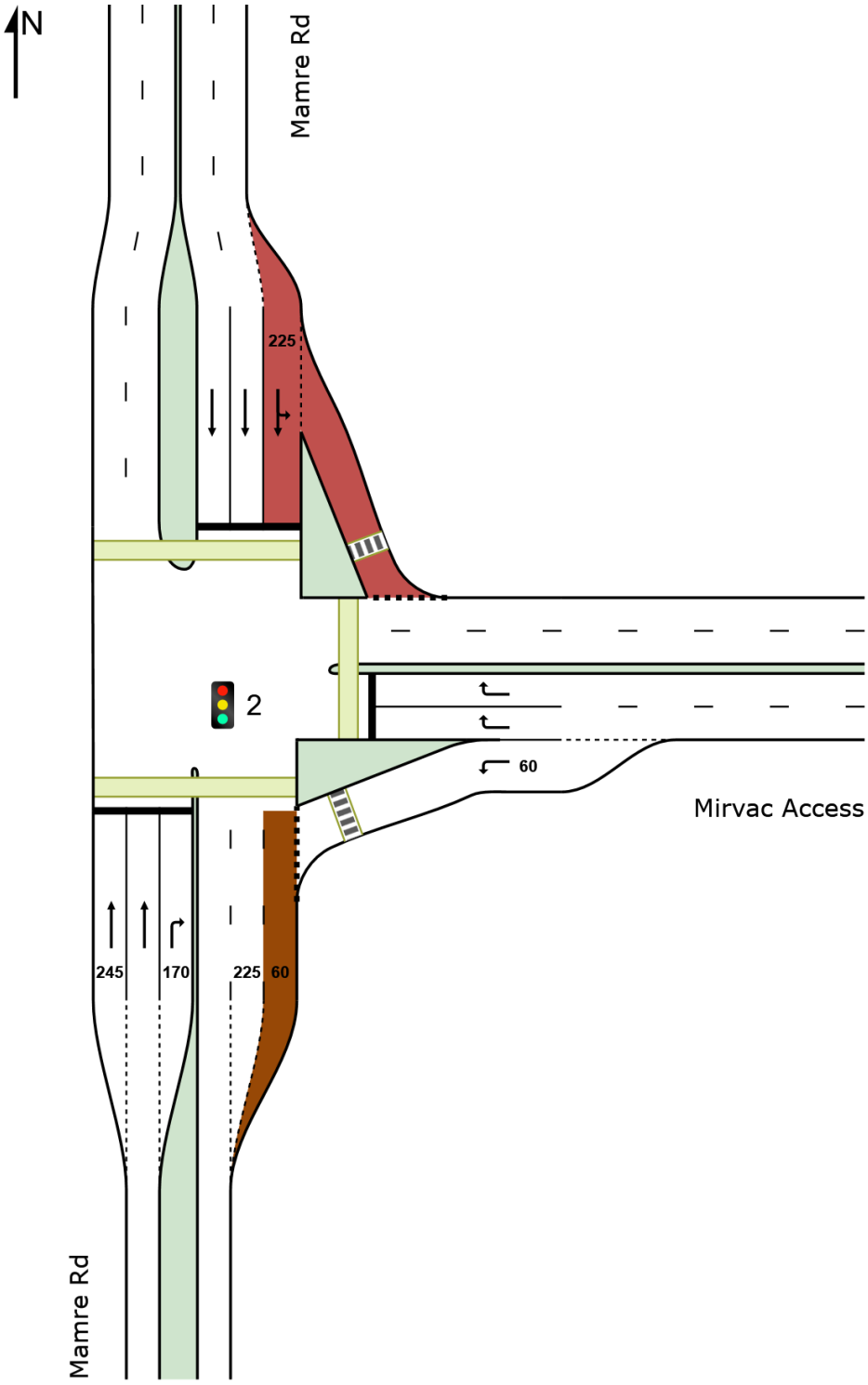
# 2026 Baseline (Approved Development)

# SITE LAYOUT

## Site: 2 [Mamre x Mirvac Access - AM (Site Folder: 2026 Approved Baseline)]

Mamre Road x Mirvac Access
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



# MOVEMENT SUMMARY

## Site: 2 [Mamre x Mirvac Access - AM (Site Folder: 2026 Approved Baseline)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Mamre Road x Mirvac Access
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Mamre Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 1191 | 16.3 | 1191 | 16.3 | 0.439 | 3.9 | LOS A | 10.5 | 83.9 | 0.33 | 0.30 | 0.33 | 76.2 |
| 3 | R2 | All MCs | 122 | 19.0 | 122 | 19.0 | * 0.522 | 59.9 | LOS E | 6.8 | 55.4 | 0.97 | 0.80 | 0.97 | 31.7 |
| Approach | | | 1313 | 16.5 | 1313 | 16.5 | 0.522 | 9.1 | LOS A | 10.5 | 83.9 | 0.39 | 0.35 | 0.39 | 70.5 |
| East: Mirvac Access | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 43 | 36.6 | 43 | 36.6 | 0.070 | 15.4 | LOS B | 0.6 | 5.8 | 0.31 | 0.62 | 0.31 | 47.5 |
| 6 | R2 | All MCs | 119 | 37.2 | 119 | 37.2 | * 0.484 | 65.3 | LOS E | 3.5 | 32.5 | 0.99 | 0.77 | 0.99 | 39.1 |
| Approach | | | 162 | 37.0 | 162 | 37.0 | 0.484 | 52.0 | LOS D | 3.5 | 32.5 | 0.81 | 0.73 | 0.81 | 40.4 |
| North: Mamre Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 189 | 18.9 | 189 | 18.9 | 0.149 | 8.7 | LOS A | 1.6 | 12.7 | 0.19 | 0.65 | 0.19 | 64.2 |
| 8 | T1 | All MCs | 1044 | 20.3 | 1044 | 20.3 | * 0.529 | 16.7 | LOS B | 17.6 | 144.8 | 0.63 | 0.57 | 0.63 | 67.1 |
| Approach | | | 1234 | 20.1 | 1234 | 20.1 | 0.529 | 15.5 | LOS B | 17.6 | 144.8 | 0.56 | 0.58 | 0.56 | 66.6 |
| All Vehicles | | | 2708 | 19.4 | 2708 | 19.4 | 0.529 | 14.6 | LOS B | 17.6 | 144.8 | 0.50 | 0.48 | 0.50 | 66.0 |

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

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Mamre Rd | | | | | | | | | | | | |
| P1 | Full | 10 | 11 | 54.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 220.8 | 200.0 | 0.91 |
| East: Mirvac Access | | | | | | | | | | | | |
| P2 | Full | 10 | 11 | 15.0 | LOS B | 0.0 | 0.0 | 0.50 | 0.50 | 181.7 | 200.0 | 1.10 |
| North: Mamre Rd | | | | | | | | | | | | |
| P3 | Full | 10 | 11 | 54.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 220.8 | 200.0 | 0.91 |
| All Pedestrians | | 30 | 32 | 41.1 | LOS E | 0.0 | 0.0 | 0.80 | 0.80 | 207.8 | 200.0 | 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: 2 [Mamre x Mirvac Access - PM (Site Folder: 2026 Approved Baseline)]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Mamre Road x Mirvac Access
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Mamre Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 991 | 14.9 | 991 | 14.9 | 0.389 | 5.9 | LOS A | 10.3 | 81.4 | 0.39 | 0.35 | 0.39 | 74.3 |
| 3 | R2 | All MCs | 64 | 37.7 | 64 | 37.7 | * 0.525 | 67.6 | LOS E | 3.8 | 35.4 | 1.00 | 0.77 | 1.00 | 29.6 |
| Approach | | | 1055 | 16.3 | 1055 | 16.3 | 0.525 | 9.7 | LOS A | 10.3 | 81.4 | 0.43 | 0.38 | 0.43 | 70.4 |
| East: Mirvac Access | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 97 | 17.4 | 97 | 17.4 | 0.145 | 16.8 | LOS B | 1.6 | 13.2 | 0.36 | 0.65 | 0.36 | 50.4 |
| 6 | R2 | All MCs | 263 | 17.2 | 263 | 17.2 | * 0.554 | 58.3 | LOS E | 7.4 | 59.2 | 0.98 | 0.80 | 0.98 | 41.5 |
| Approach | | | 360 | 17.3 | 360 | 17.3 | 0.554 | 47.2 | LOS D | 7.4 | 59.2 | 0.81 | 0.76 | 0.81 | 42.9 |
| North: Mamre Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 82 | 38.5 | 82 | 38.5 | 0.073 | 8.5 | LOS A | 0.5 | 4.6 | 0.15 | 0.62 | 0.15 | 64.0 |
| 8 | T1 | All MCs | 1149 | 15.0 | 1149 | 15.0 | * 0.557 | 17.5 | LOS B | 19.9 | 157.1 | 0.65 | 0.59 | 0.65 | 66.8 |
| Approach | | | 1232 | 16.6 | 1232 | 16.6 | 0.557 | 16.9 | LOS B | 19.9 | 157.1 | 0.62 | 0.59 | 0.62 | 66.6 |
| All Vehicles | | | 2646 | 16.5 | 2646 | 16.5 | 0.557 | 18.1 | LOS B | 19.9 | 157.1 | 0.57 | 0.53 | 0.57 | 63.6 |

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

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Mamre Rd | | | | | | | | | | | | |
| P1 | Full | 10 | 11 | 54.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 220.8 | 200.0 | 0.91 |
| East: Mirvac Access | | | | | | | | | | | | |
| P2 | Full | 10 | 11 | 15.0 | LOS B | 0.0 | 0.0 | 0.50 | 0.50 | 181.7 | 200.0 | 1.10 |
| North: Mamre Rd | | | | | | | | | | | | |
| P3 | Full | 10 | 11 | 54.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 220.8 | 200.0 | 0.91 |
| All Pedestrians | | 30 | 32 | 41.1 | LOS E | 0.0 | 0.0 | 0.80 | 0.80 | 207.8 | 200.0 | 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.

# 2026 Project Case
# (Approved Development, no Access Logistics LILO)

# MOVEMENT SUMMARY

## Site: 2 [Mamre x Mirvac Access - AM (Site Folder: 2026 Proposed (No Access LILO))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Mamre Road x Mirvac Access
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Mamre Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 1191 | 16.3 | 1191 | 16.3 | 0.439 | 3.9 | LOS A | 10.5 | 83.9 | 0.33 | 0.30 | 0.33 | 76.2 |
| 3 | R2 | All MCs | 122 | 19.0 | 122 | 19.0 | * 0.495 | 58.8 | LOS E | 6.7 | 54.7 | 0.96 | 0.80 | 0.96 | 32.0 |
| Approach | | | 1313 | 16.5 | 1313 | 16.5 | 0.495 | 9.0 | LOS A | 10.5 | 83.9 | 0.39 | 0.35 | 0.39 | 70.6 |
| East: Mirvac Access | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 53 | 36.0 | 53 | 36.0 | 0.082 | 14.8 | LOS B | 0.7 | 6.8 | 0.31 | 0.62 | 0.31 | 47.7 |
| 6 | R2 | All MCs | 119 | 37.2 | 119 | 37.2 | * 0.484 | 65.3 | LOS E | 3.5 | 32.5 | 0.99 | 0.77 | 0.99 | 39.1 |
| Approach | | | 172 | 36.8 | 172 | 36.8 | 0.484 | 49.8 | LOS D | 3.5 | 32.5 | 0.78 | 0.72 | 0.78 | 40.6 |
| North: Mamre Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 228 | 18.9 | 228 | 18.9 | 0.179 | 8.8 | LOS A | 1.9 | 15.8 | 0.20 | 0.65 | 0.20 | 64.1 |
| 8 | T1 | All MCs | 1005 | 20.3 | 1005 | 20.3 | * 0.517 | 16.9 | LOS B | 17.1 | 140.0 | 0.63 | 0.57 | 0.63 | 66.8 |
| Approach | | | 1234 | 20.1 | 1234 | 20.1 | 0.517 | 15.4 | LOS B | 17.1 | 140.0 | 0.55 | 0.59 | 0.55 | 66.3 |
| All Vehicles | | | 2718 | 19.4 | 2718 | 19.4 | 0.517 | 14.5 | LOS A | 17.1 | 140.0 | 0.49 | 0.48 | 0.49 | 65.8 |

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

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Mamre Rd | | | | | | | | | | | | |
| P1 | Full | 10 | 11 | 54.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 220.8 | 200.0 | 0.91 |
| East: Mirvac Access | | | | | | | | | | | | |
| P2 | Full | 10 | 11 | 15.5 | LOS B | 0.0 | 0.0 | 0.51 | 0.51 | 182.2 | 200.0 | 1.10 |
| North: Mamre Rd | | | | | | | | | | | | |
| P3 | Full | 10 | 11 | 54.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 220.8 | 200.0 | 0.91 |
| All Pedestrians | | 30 | 32 | 41.3 | LOS E | 0.0 | 0.0 | 0.80 | 0.80 | 208.0 | 200.0 | 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: 2 [Mamre x Mirvac Access - PM (Site Folder: 2026 Proposed (No Access LILO))]

**Output produced by SIDRA INTERSECTION Version: 9.1.6.228**

Mamre Road x Mirvac Access
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Isolated  Cycle Time = 120 seconds (Site User-Given Cycle Time)

**Vehicle Movement Performance**

| Mov ID | Turn | Mov Class | Demand Flows [ Total veh/h | HV ] % | Arrival Flows [ Total veh/h | HV ] % | Deg. Satn v/c | Aver. Delay sec | Level of Service | 95% Back Of Queue [ Veh. veh | Dist ] m | Prop. Que | Eff. Stop Rate | Aver. No. of Cycles | Aver. Speed km/h |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Mamre Rd | | | | | | | | | | | | | | | |
| 2 | T1 | All MCs | 991 | 14.9 | 991 | 14.9 | 0.389 | 5.9 | LOS A | 10.3 | 81.4 | 0.39 | 0.35 | 0.39 | 74.3 |
| 3 | R2 | All MCs | 64 | 37.7 | 64 | 37.7 | * 0.525 | 67.6 | LOS E | 3.8 | 35.4 | 1.00 | 0.77 | 1.00 | 29.6 |
| Approach | | | 1055 | 16.3 | 1055 | 16.3 | 0.525 | 9.7 | LOS A | 10.3 | 81.4 | 0.43 | 0.38 | 0.43 | 70.4 |
| East: Mirvac Access | | | | | | | | | | | | | | | |
| 4 | L2 | All MCs | 119 | 17.7 | 119 | 17.7 | 0.176 | 16.6 | LOS B | 2.0 | 16.2 | 0.36 | 0.65 | 0.36 | 50.4 |
| 6 | R2 | All MCs | 263 | 17.2 | 263 | 17.2 | * 0.554 | 58.3 | LOS E | 7.4 | 59.2 | 0.98 | 0.80 | 0.98 | 41.5 |
| Approach | | | 382 | 17.4 | 382 | 17.4 | 0.554 | 45.3 | LOS D | 7.4 | 59.2 | 0.78 | 0.75 | 0.78 | 43.1 |
| North: Mamre Rd | | | | | | | | | | | | | | | |
| 7 | L2 | All MCs | 101 | 38.5 | 101 | 38.5 | 0.089 | 8.5 | LOS A | 0.6 | 5.7 | 0.15 | 0.62 | 0.15 | 64.0 |
| 8 | T1 | All MCs | 1131 | 14.6 | 1131 | 14.6 | * 0.546 | 17.3 | LOS B | 19.4 | 152.4 | 0.64 | 0.58 | 0.64 | 66.9 |
| Approach | | | 1232 | 16.6 | 1232 | 16.6 | 0.546 | 16.6 | LOS B | 19.4 | 152.4 | 0.60 | 0.58 | 0.60 | 66.7 |
| All Vehicles | | | 2668 | 16.6 | 2668 | 16.6 | 0.554 | 18.0 | LOS B | 19.4 | 152.4 | 0.56 | 0.53 | 0.56 | 63.5 |

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

* Critical Movement (Signal Timing)

**Pedestrian Movement Performance**

| Mov ID | Crossing | Input Vol. ped/h | Dem. Flow ped/h | Aver. Delay sec | Level of Service | AVERAGE BACK OF QUEUE [ Ped ped | Dist ] m | Prop. Que | Eff. Stop Rate | Travel Time sec | Travel Dist. m | Aver. Speed m/sec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South: Mamre Rd | | | | | | | | | | | | |
| P1 | Full | 10 | 11 | 54.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 220.8 | 200.0 | 0.91 |
| East: Mirvac Access | | | | | | | | | | | | |
| P2 | Full | 10 | 11 | 15.0 | LOS B | 0.0 | 0.0 | 0.50 | 0.50 | 181.7 | 200.0 | 1.10 |
| North: Mamre Rd | | | | | | | | | | | | |
| P3 | Full | 10 | 11 | 54.2 | LOS E | 0.0 | 0.0 | 0.95 | 0.95 | 220.8 | 200.0 | 0.91 |
| All Pedestrians | | 30 | 32 | 41.1 | LOS E | 0.0 | 0.0 | 0.80 | 0.80 | 207.8 | 200.0 | 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.