



4 August 2026

Reference: 260662.01FA

Leyla Hassani
 mbaei81@gmail.com

**REVIEW OF TRAFFIC AND PARKING IMPACTS OF THE PROPOSED
 SENIORS HOUSING DEVELOPMENT AT
 19-25 COLLEGE CRESCENT & 9-15 LINK ROAD, ST IVES**

Dear Leyla,

Reference is made to your request to provide a review of the traffic and parking impacts of the proposed Seniors Housing Development at 19-25 College Crescent & 9-15 Link Road, St Ives under application SSD-98363228. This letter provides a peer review of the EIS documentation relating to traffic and parking and an assessment of the impacts on College Crescent based on the information available.

1 Introduction

The scope of this study includes:

- Outline of the proposed development;
- Review of the existing site context and conditions, including the existing transport network;
- Review of EIS documentation submitted as part of the proposal relevant to traffic and parking.

1.1 Description and Scale of Development

The subject development has the following characteristics relevant to traffic and parking:

- Four (4) buildings comprising of:
 - Building A: **8**-storey building comprising **36** independent living units;
 - Building B: **5**-storey building comprising **48** residential care facility beds;
 - Building C: **5**-storey building comprising **35** independent living units;
 - Building D: **8**-storey building comprising **55** independent living units.
- Two (2) basement parking levels accommodating a total of **260** car spaces, comprising:
 - **178** residential parking spaces;
 - **39** visitor car parking spaces;
 - **39** staff car parking spaces;
 - Three (3) electric vehicle charging bays;
 - One (1) ambulance bay.
- Vehicular and pedestrian access from both Link Road and College Crescent.

1.2 Site Description

The site includes two (2) lots legally identified as Lot 2 DP 616326 and Lot 3 DP616326 which are currently zoned *SP2 – Infrastructure* under the *Ku-ring-gai Council Local Environmental Plan 2015* and has frontages to Link Road to the west and College Crescent to the east. The site is generally surrounded by low density residential developments, with Masada College, Corpus Christi Primary School and Estia Health St Ives located the north of the site, and a place of public worship (Chabad North Shore) located to the south of the site.

1.3 Site Context

The location of the site is shown on an aerial photo and a street map in **Figure 1** and **Figure 2** respectively.



FIGURE 1: SITE CONTEXT - AERIAL PHOTO

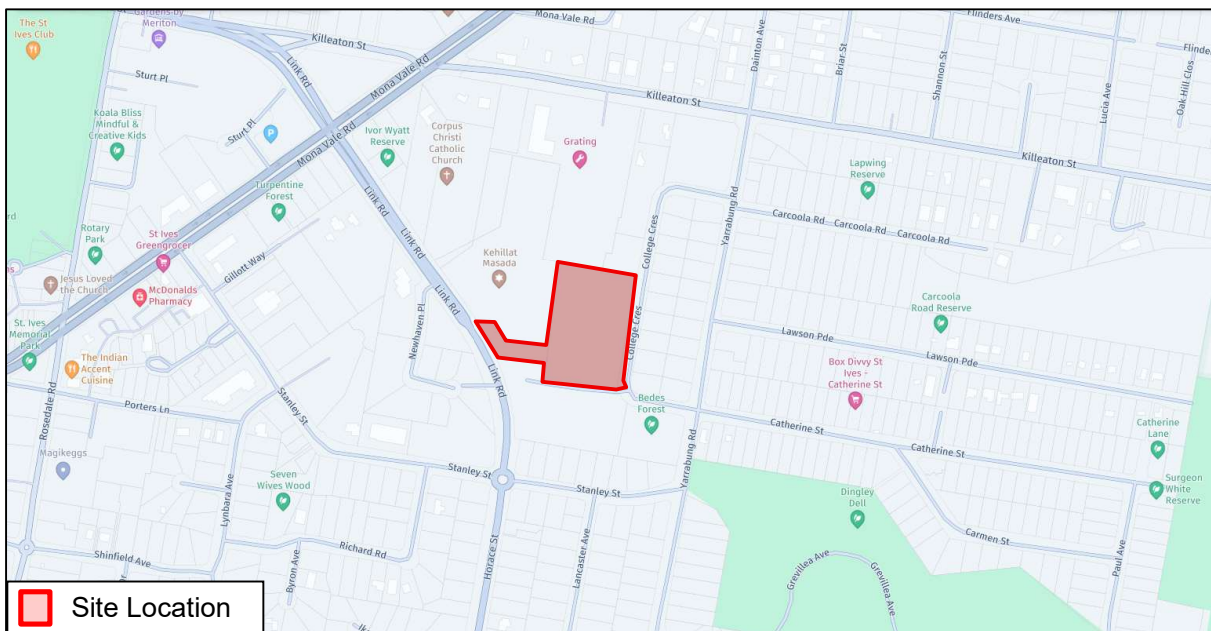


FIGURE 2: SITE CONTEXT - STREET MAP

2 **EXISTING CONDITIONS**

The following sections review the existing transport network that is likely to be impacted by the proposed development. This includes public transport, bicycle, pedestrian road and freight networks.

2.1 **Road Hierarchy**

The road network servicing the site has characteristics as described in the following sub-sections.

2.1.1 College Crescent

- Unclassified Local Road;
- The design of the road most closely relates to a *suburban residential way* under the TfNSW Movement and Place Framework;
- Approximately 7.5m wide carriageway facilitating one (1) traffic flow lane in each direction and kerbside parking on both sides of the road;
- Default 50km/h speed limit;
- Time restricted 2-hour parking from 8:00AM to 4:00PM Mon-Fri along the east side of the road;
- Footpaths are not provided on either side of the road.

2.1.2 Yarrabung Road

- Unclassified Local Road;
- The design of the road most closely relates to a *suburban neighbourhood street* under the TfNSW Movement and Place Framework;
- Approximately 8.5m wide carriageway facilitating one (1) traffic flow lane in each direction and unrestricted kerbside parking on both sides of the road;
- Default 50km/h speed limit;
- Footpath provided on the west side of the road.

2.1.3 Carcoola Road

- Unclassified Local Road;
- The design of the road most closely relates to a *suburban residential way* under the TfNSW Movement and Place Framework;
- Approximately 7m wide carriageway facilitating one (1) traffic flow lane in each direction and unrestricted kerbside parking along both sides of the road;
- Default 50km/h speed limit;
- Footpaths are not provided on either side of the road.

2.1.4 Catherine Street

- Unclassified Local Road;
- The design of the road most closely relates to a *suburban residential way* under the TfNSW Movement and Place Framework;
- Approximately 10m wide carriageway facilitating one (1) traffic flow lane in each direction and unrestricted kerbside parking along both sides of the road;
- Default 50km/h speed limit;
- Footpaths are not provided on either side of the road.

2.1.5 Killeaton Street

- Unclassified Collector Road;
- The design of the road most closely relates to a *suburban collector street* under the TfNSW Movement and Place Framework;
- Approximately 10m wide carriageway facilitating one (1) traffic flow lane in each direction and generally unrestricted kerbside parking along both sides of the road;
- Default 50km/h speed limit;
- Footpaths are not provided on either side of the road.

2.1.6 Link Road

- Classified Regional Road (#2043);
- The design of the road most closely relates to a *suburban collector avenue* under the TfNSW Movement and Place Framework;
- Approximately 15m wide carriageway facilitating two (2) traffic flow lane in each direction and no kerbside parking;
- Signposted 60km/h speed limit;
- 40km/h speed limit applies during school zone hours;
- Footpaths are provided on both sides of the road.

2.2 **Existing Traffic Management**

- “Give Way” linemarked controlled intersection of College Crescent / Carcoola Road / Yarrabung Road;
- “Give Way” linemarked controlled intersection of College Crescent / Catherine Street / Yarrabung Road;
- “Give Way” linemarked controlled intersection of Yarrabung Road / Killeaton Street;
- Roundabout controlled intersection of Link Road / Stanley Street;
- Signal controlled intersection of Link Road / Mona Vale Road.

2.3 Crash Data

The TfNSW website provides crash data statistics for a five (5) year period between 2020 and 2024. The crashes recorded within the vicinity of the site have been summarised in **Table 1** with a diagram of the locations shown in **Figure 3**.

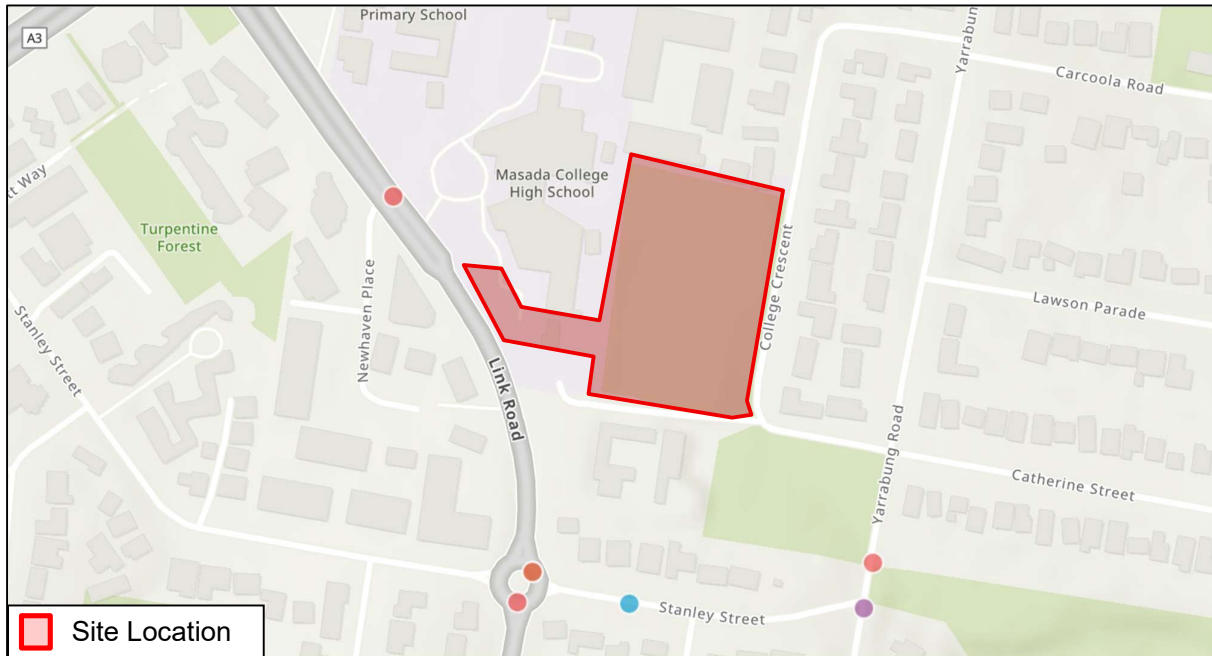


FIGURE 3: TFNSW CRASH STATISTICS

A summary of the crashes within the immediate vicinity of the site has been depicted in **Table 1**.

TABLE 1: CRASH DATA 2020 – 2024

Reporting year	Crash ID	Degree of crash	RUM - description	Type of location	Natural lighting	Street of Crash	Number killed	Number injured
2020	1246782	Non-casualty (towaway)	Perm obstruction	Roundabout	Darkness	HORACE	0	0
2021	1264160	Non-casualty (towaway)	Other same direction	T-junction	Daylight	LINK	0	0
2021	1279682	Non-casualty (towaway)	Left rear	Roundabout	Daylight	HORACE	0	0
2023	1312990	Serious Injury	Right far	Roundabout	Daylight	HORACE	0	1
2023	1338994	Minor/Other Injury	Right near	T-junction	Dawn	YARRABUNG	0	1
2024	1350668	Moderate Injury	Off rd left => obj	2-way undivided	Daylight	STANLEY	0	1
2024	1357937	Non-casualty (towaway)	Off rd left => obj	2-way undivided	Darkness	YARRABUNG	0	0

Notes:

- (1) In this case, the direction of travel of the 'key traffic unit' has been reported.

As shown, during the five (5) year period between 2020 and 2024, a total of seven (7) crashes occurred within the vicinity of the site. Of these crashes, one (1) was classified as serious injury, two (2) were classified as moderate or minor/other injury and the remaining four (4) crashes were classified as non-casualty (towaway).

2.4 Public Transport

The public transport facilities and services available for persons travelling to or from the site have been reviewed, with a summary of each transport mode available below. The site is indicated to have “Low” access to public transport based on the 2024 Public Transport Accessibility Levels (PTAL) published by Transport for NSW.

2.4.1 Rail

Gordon Train Station is located at a 7-minute drive or 20-minute journey via public transport to the west of the site, servicing the T1 – North Shore & Western Line, T9 – Northern Line, and CCN – Central Coast & Newcastle Line. A train service is provided every 5 – 15 minutes in commuter peak periods.

2.4.2 Bus

The site has access to the existing bus stops located on Yarrabung Road and Link Road on Yarrabung Rd after College Cres (ID: 2075100), Yarrabung Rd at Catherine St (ID: 207588), and Masada College, Link Rd (ID: 2075152). The bus stops service the following existing bus routes:

- 582 – Acron Rd at Ayres Rd to Gordon Station;
- 9046 - St Ives North Public School to Gordon Station;
- 194 - Town Hall, Clarence St to St Ives Chase;
- 194X - Town Hall, Clarence St to St Ives Chase (Express Service).

Buses frequent these stops approximately every 5-minutes during the commuter peak periods and are provided by CDC NSW R14.

2.4.3 Summary of Public Transport

The location of the site subject to the surrounding public transport network is shown in **Figure 4**. The site has some access to bus services, but is not within a practicable distance of rail stops.

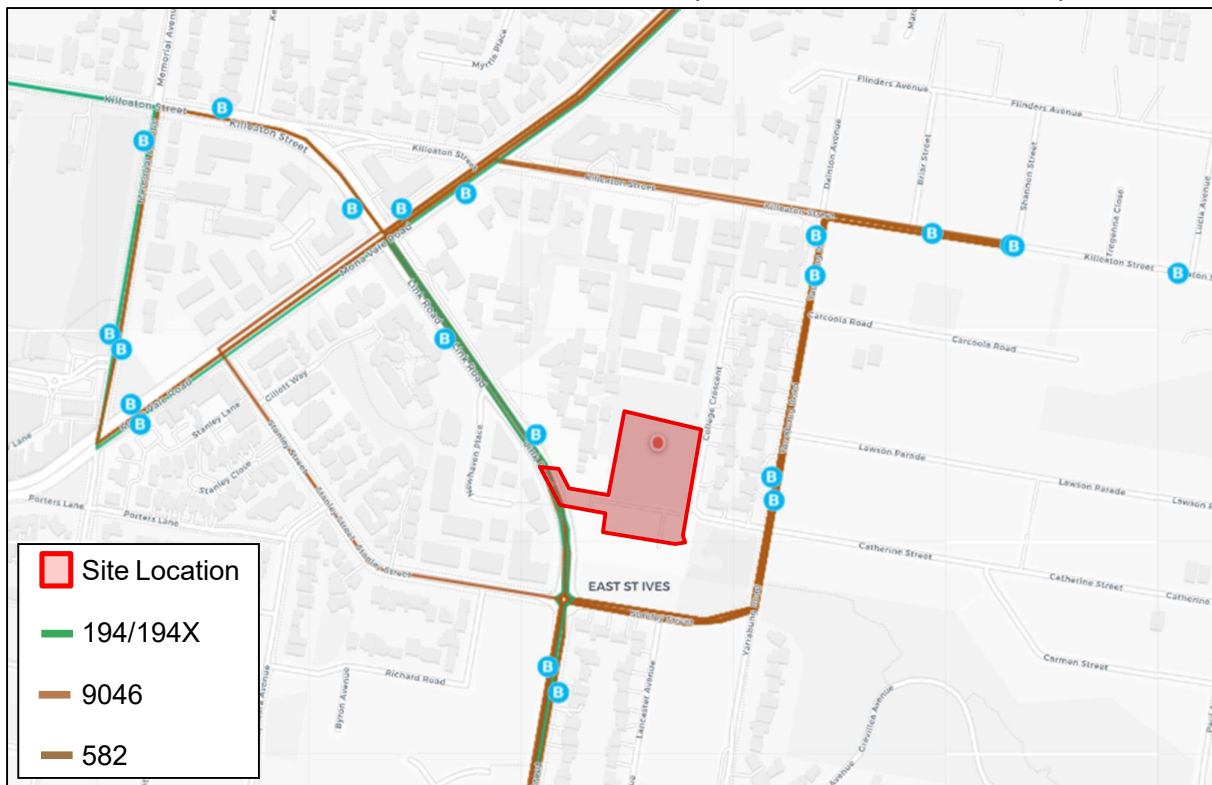


FIGURE 4: PUBLIC TRANSPORT NETWORK MAP

3 PEER REVIEW OF EIS DOCUMENTATION

The following section provides a peer review of the EIS documentation submitted as part of the proposal relevant to traffic and parking, including the architectural plans, transport impact assessment and construction traffic management plan. The key parking, traffic, design, construction and pedestrian safety issues relevant to the proposal are outlined below.

3.1 Parking Issues

3.1.1 Parking Surveys

The *Urbis Transport Impact Assessment (the UTIA)* determined the existing parking demand on College Crescent utilising parking surveys to understand any parking impacts from the adjacent school, Masada College, as well as the two (2) local places of worship, Chabad and Kehillat Masada. However, the chosen dates and time periods of the surveys were found to misalign with the existing peak parking periods.

The dates and time periods of the school parking survey were as follows:

- Thursday 26 March 2026 11am – 2pm;
- Friday 27 March 2026 11am – 2pm.

The 11am – 2pm period does not align with the typical peak student pick-up/drop-off periods, which usually occur from 8am – 9am and from 3pm – 4pm. Additionally, the surveys were undertaken during the last two days of the school term, which typically observe the lowest student attendance. Also, senior students would have already completed classes before the final two days of the school term and are only required to attend the campus when required for examinations. The absence of year 12 senior students from regular classes is likely to have reduced the parking demand relative to a typical school day. As such, the parking surveys do not adequately capture an appropriate peak parking demand from the adjacent school.

Furthermore, the dates and time periods of the place of worship parking survey were as follows:

- Friday 20 March 2026 1:00pm – 6:00pm;
- Saturday 21 March 2026 10:00am – 8:00pm;
- Friday 27 March 2026 1:00pm – 6:00pm;
- Saturday 28 March 2026 10:00am – 8:00pm.

During daylight saving time, which is when the surveys were undertaken, the Chabad Friday Evening Shabbat service begins at 6:30pm. As such, the parking survey data did not capture the peak parking demanded by the Chabad site. Similarly, the Friday evening Mincha service at the synagogue begins at 6pm, while the Shacharit service held at the synagogue on Saturdays begins at 9am. Both services occur outside the parking survey times.

It is noted that the parking restrictions along the eastern side of College Crescent do not apply during the synagogue service times above and that parking on both sides of the road is likely to significantly impact two-way traffic flows along the road.

Therefore, the parking surveys undertaken within the UTIA do not appropriately capture the peak parking demand of the adjacent places of worship and should not be relied upon for any assessment of the impacts of the development.

Photographs taken during school pick-up and drop-off operations are provided in **Annexure A**.

3.1.2 Removal of Parking Spaces

Reference is made to the UTIA which states the following with respect to the loss of parking spaces at Masada College.

Masada College currently has a maximum of 110 staff and 45 Year 12 students on-site at any one time and provides 116 on-site parking spaces to accommodate for this demand. It is acknowledged that the proposed access road between Link Road and the development will impact some of these parking spaces, however any shortfall will be considered in the future Masada College Site Masterplan which is currently being prepared.

As shown, the UTIA fails to quantify the number of parking spaces that will be removed from the school as a result of the development. Since the removal of the school's on-site parking spaces will have direct impacts on the surrounding on-street parking network, deferring resolution of the parking shortfall to a future and uncertain Masada College Site Masterplan is inadequate.

As such, McLaren Traffic Engineering have quantified the number of parking spaces that Masada College will lose as a result of the development, as shown in **Figure 5** below.

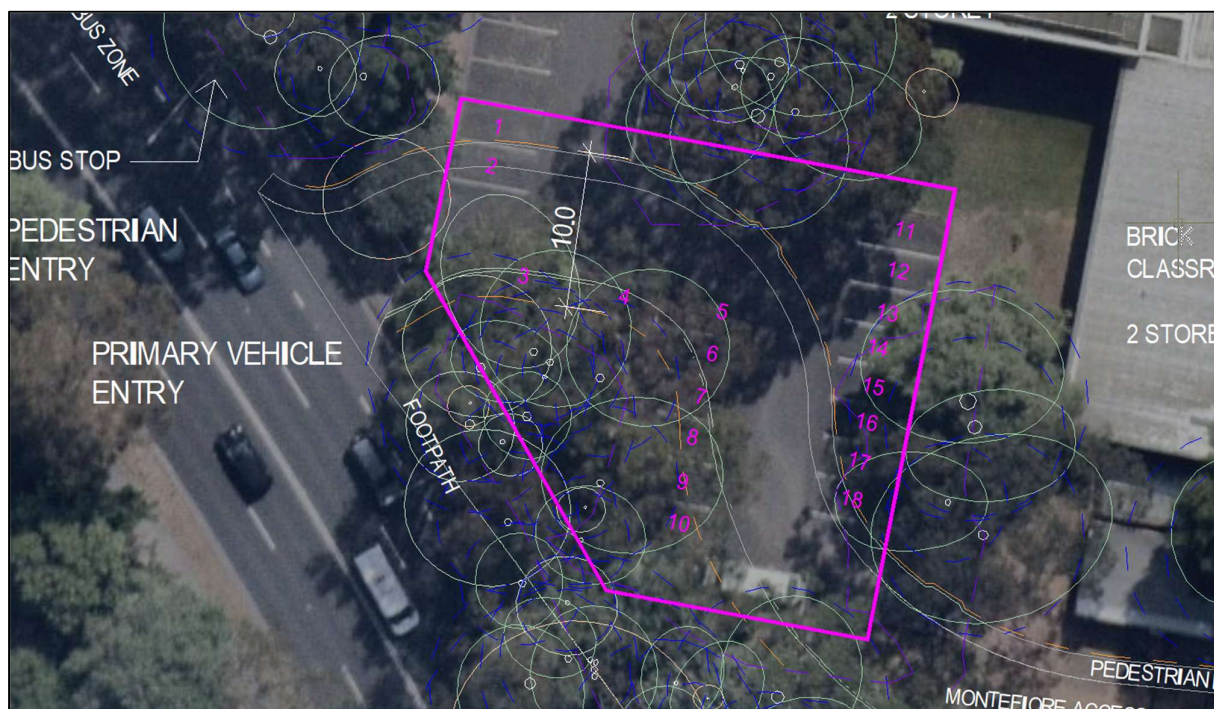


FIGURE 5: LOSS OF PARKING SPACES AT MASADA COLLEGE DUE TO DEVELOPMENT

As shown above, the proposed development will result in a loss of at least **18** car parking spaces at Masada College. Additionally, as part of the proposal, six (**6**) on-street parking spaces along the western side of College Crescent will be removed due to the introduction of 'No Stopping' zones.

Therefore, a total of **24** car parking spaces will be removed as a result of the proposal. However, the UTIA fails to assess the impact of the removal of car parking spaces on the surrounding on-street parking network. The application should assess how equivalent parking capacity will be provided or otherwise appropriately mitigated prior to determination.

The loss of the parking spaces on the school site is likely to result in an overflow of car parking onto College Crescent and surrounding local roads.

However, the existing parking conditions along College Crescent involve vehicles frequently remaining in the 2-hour parking zone on the eastern side of College Crescent beyond the permitted time limit. This indicates that existing parking demand already exceeds the available parking supply and suggests that any further reduction in available parking and any increase in parking demand generated by the development is likely to increase parking pressure on the street.

3.1.3 Bedes Forest Development

Ku-ring-gai council is developing a new park, Bedes Forest, on the corner of Yarrabung Road and Stanley Street. This development will include a playground, basketball court, bicycle circuit, community garden, picnic areas with BBQ facilities and outdoor gym equipment. However, no parking spaces are proposed as part of the development. There are currently existing parking restrictions in place along Stanley Street which limits the availability of parking for future visitors. As a result, it is likely that the proposal will result in an increased demand for car parking along College Crescent. The UTIA does not consider the cumulative parking impacts of the development with the Bedes Forest upgrade, failing to assess the increase in on-street parking demand along College Crescent.

3.1.4 Parking Demand of Allied Health Services

Reference is made to the UTIA which states the following with respect to parking for the allied health services component of the development.

In addition to providing the required visitor parking for RACF visitors, additional visitor parking has been included for visitors of the allied health services (physio and hydrotherapy), given that both will be available to the general public.

The UTIA acknowledges that the allied health services such as physiotherapy and hydrotherapy will be accessible to the general public and, as such, will generate an independent parking demand. However, it does not include a separate assessment of the parking demand or parking requirement associated with the allied health component of the development. Consequently, the number of parking spaces required to adequately service these uses has not been established.

Given that the allied health services are intended to operate as publicly accessible facilities, it is not appropriate to characterise their parking demand as ancillary to the Residential Care Facility (RCF) or Independent Living Units (ILUs). A standalone assessment of the parking demand generated by the allied health component is therefore required to demonstrate that sufficient parking has been provided.

Considering that the health facility (including the gym, physio rooms and hydrotherapy pool) includes approximately 417m² of Gross Floor Area, the Ku-Ring-Gai Development Control Plan requires 11 parking spaces to be provided for this use.

3.1.5 Oversupply of On-Site Parking

The proposed development provides a parking supply that exceeds the minimum requirements of the applicable part of the *State Environmental Planning Policy (Housing) (the Housing SEPP)* by **68** spaces. Based on a typical parking space footprint (including circulation areas), this represents approximately **2,500m²** of additional basement floor area and approximately **8,000m³** of excess excavation. The provision of this excess parking necessitates a corresponding increase in excavation that would not otherwise be required to satisfy the parking demand. The unnecessary increase in excavation results in greater construction impacts, including additional bulk earthworks, spoil generation and removal, construction traffic, and associated environmental impacts. As discussed in **Section 3.2.3**, it is likely that the overprovision of car parking will result in an increased rate of traffic generation compared to the baseline sites relied up on in the UTIA.

3.2 Traffic Issues

3.2.1 Traffic Surveys

Similar to the parking surveys conducted in the UTIA, the traffic surveys undertaken also took place outside of the operating peak. The surveys were undertaken on Tuesday 11 November 2025. The final day of examinations for Year 12 HSC students was Monday 10 November 2025.

As such, the absence of year 12 students from regular classes is likely to have reduced the traffic volumes relative to a typical operating school day. Traffic surveys should be undertaken while year 12 students are attending school in order to capture the likely traffic demand on the surrounding road network.

3.2.2 School & Place of Worship Operations

The UTIA does not assess the impact of the proposal on the existing school pick-up and drop-off operations of Masada College that occurs on College Crescent. During school pick-up and drop-off operations, College Crescent is reduced to one lane due to the high volume of vehicles parked on both sides of the road. The future performance of College Crescent during school peak periods has not been assessed with respect to the increase in traffic volumes and removal of parking spaces resulting from the proposal.

Furthermore, the UTIA does not assess the impact of the proposal during the surrounding places of worship peaks.

Photographs taken during school pick-up and drop-off operations, as well as peak places of worship periods are provided in **Annexure A** for reference.

3.2.3 Comparable Sites Traffic Generation

The UTIA utilises traffic surveys conducted at the following seniors living developments to determine vehicle trip generation rates for the proposed development:

- Estia Health at 1 Yarrabung Road, St Ives;
 - 118 RACF beds.
- Montefiore Randwick at 36 Dangar Street, Randwick;
 - 276 RACF beds;
 - 79 ILUs.

McLaren Traffic Engineering have determined that the above benchmarking sites do not provide a true comparison to the traffic generation of the proposed development. Firstly, Estia Health does not provide any independent living units on site. Similarly, Montefiore Randwick provides significantly more RACF beds than ILUs. Traffic generation rates for residential aged care facilities and independent living units vary in nature, with higher traffic generation rates typical for independent living units. Hence, since the proposal provides more ILUs (126) than RACF beds (48), the benchmarking sites chosen are considered to be an inappropriate comparison to the site.

Furthermore, the Estia Health site only provides 42 car parking spaces on-site. Since the proposal will provide 260 car parking spaces, it is expected to generate a higher traffic demand than the benchmarking site.

Therefore, sites that are more comparable to the proposal with respect to the ILU & RACF split as well as number of car parking spaces should be considered when determining a traffic generation rate for the proposal.

3.2.4 SIDRA Traffic Modelling

Reference is made to the *Guide to Transport Impact Assessment (GTIA 2024)* which states the following with respect to traffic modelling.

Appendix D – TIA report structure outline

Reporting of any transport modelling undertaken including methodology, calibration, validation and results. A summary should be provided within the body of the report.

The UTIA does not provide any details of the calibration and validation of the SIDRA traffic modelling undertaken. As such, without evidence that the traffic models have been appropriately calibrated and validated, there is no basis to verify that the model accurately reflects the existing traffic conditions and hence reliably predicts the impacts of the proposed development.

This reduces confidence in the reported operational performance of the surrounding intersections and questions the validity of the traffic modelling. For instance, information has been provided to McLaren Traffic Engineering by local residents regarding the existing performance of the Link Road / Stanley Street intersection, including the presence of queue lengths extending to Yarrabung Road. Photographs taken of the queue lengths during the AM peak period are provided in **Annexure A**.

Due to the geometry of Yarrabung Road and the lack of parking restrictions to either side of the junctions with College Crescent, kerbside parking along or vehicles queuing into Yarrabung Road can significantly impact sight distances for drivers entering Yarrabung Road from College Crescent. This leads to increased delays which have not been assessed.

Additional traffic and parking demand generated from the development has the potential to worsen these existing conditions. However, these conditions have not been reflected in the traffic modelling due to the absence of validation and calibration.

As such, details of both calibration and validation of the traffic model are required to adequately determine the existing and proposed traffic conditions.

In addition, the following intersections were not assessed within the UTIA:

- Link Road / Proposed Site Driveway;
- Link Road / Mona Vale Road.

The above intersections are critical in accommodating the traffic generated by the proposed development and as such should be assessed to determine the traffic impact on the surrounding road network. Without assessment of these intersections, the consent authority cannot be satisfied that the requirements of Section 2.119 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* are met.

3.2.5 Public Health Services Traffic Generation

As mentioned in **Section 3.1.4**, the UTIA acknowledges that the allied health services such as physiotherapy and hydrotherapy will be accessible to the general public. As such, these facilities will generate an independent traffic demand. However, the UTIA does not assess the traffic generation associated with the allied health facilities, hence underestimating the traffic generation by the site.

As such, McLaren Traffic Engineering has estimated the traffic generation of the allied health component of the site.

The traffic generation rates for the relevant land uses are provided in the *TfNSW Guide to Transport Impact Assessment Version 1.1* (GTIA 2024). The traffic generation rates most relevant to the allied health facilities is a medical centre, with rates as follows:

5.6.9 Health Facilities

Medical Centres (2015)

Weekday – Vehicle trips/centre

<i>Site peak hour</i>	32
<i>Daily</i>	130

Therefore, the estimated **32** vehicle trips generated by the allied health facilities within the proposal during the site peak hour and **130** vehicle trips per day should be included in the traffic models and overall assessment to appropriately assess the total traffic impact of the site.

3.2.6 Cumulative Traffic Impact Assessment

Reference is made to the *NSW Government Cumulative Impact Assessment Guidelines for State Significant Projects 2021* which provides the following applicable to the proposed development:

4. Assessing and evaluating cumulative impacts

During the preparation of the EIS, the proponent must undertake the cumulative impact assessment in accordance with the requirements in the SEARs.

This will involve:

- *assessing the scale and nature of the cumulative impacts, and undertaking standard assessment on each of the assessment matters or issues*
- *identifying and undertaking more detailed assessment of cumulative impacts on key matters (issue-specific CIA and combined CIA)*
- *developing strategies to minimise the project's contribution to any cumulative impacts*
- *evaluating the project as a whole, having regard to:*
 - *the findings of the standard assessment on each of the assessment matters or issues*
 - *the findings of the detailed cumulative impact assessment on each of the key matters (issue-specific CIA)*
 - *the combined effect of these cumulative impacts on key matters (combined CIA)*

The UTIA considers the traffic impacts of the proposed development in isolation and does not assess cumulative impacts arising from the eight (8) developments listed in Table 14 of the UTIA. The UTIA also does not include the approved 88-place child care centre at 27 College Crescent and this may indicate that other nearby DAs have been excluded. Therefore, the assessment does not meet the *NSW Cumulative Impact Assessment Guidelines* requirements.

The developments outlined in Table 14 of the UTIA have the potential to contribute to cumulative traffic and parking impacts within the local road network, which is acknowledged in the UTIA. However, the UTIA provides the following justification.

The majority of these projects are located more than one kilometre away. As a result, the traffic generated by these projects are unlikely to have a cumulative impact on the key intersections analysed as part of this assessment.

This justification is not adequately supported by evidence and does not demonstrate why developments located more than one kilometre away would be unlikely to contribute to cumulative traffic impacts through any traffic assessments, particularly as the site fronts and proposes access to a classified road.

Without the consideration of these developments, the consent authority is unable to fully understand the future operational performance of the surrounding road network or the extent to which the proposal may contribute to broader transport impacts within the area.

This is particularly important as the land is not zoned for this use, with a provision only recently made available in the Housing SEPP which allows for residential aged care development on SP2 zoned land, which indicates that the Council cannot have planned for the proposed outcome.

3.2.7 Modelling of Background Growth

The UTIA includes an assessment of the traffic conditions with and without the development in the expected year of occupation (2030) but does not assess the performance of the road network 10-years after opening as is suggested in Section 3.4.1 of the TfNSW GTIA for large developments. Further assessment is required to demonstrate that the proposal will not trigger the need for upgrades over the reasonable 10-year forecast period.

3.2.8 Impact on 90-Degree Bends

College Crescent includes two 90-degree bends around which the two-way passing of vehicles is not possible when vehicles are parked on either side and sight distances to oncoming traffic is restricted. The UTIA has not assessed the impact of additional traffic and parking demand on the likelihood of vehicles either colliding or needing stop and reverse in these locations.

3.3 Access Design

3.3.1 Swept Path Assessment

The swept path assessment undertaken in the UTIA at the College Crescent driveways do not account for on-street parking along both sides of the road. As such, McLaren Traffic Engineering has undertaken swept path testing with consideration to College Crescent on-street parking, with results shown in **Figure 6** and **Figure 7**.

As shown below, vehicle two-way passing is not achievable at both the northern and southern College Crescent driveway when cars are parked on both sides of the road. Therefore, opposing vehicles would be required to give way or wait for one another, resulting in delays, reduced traffic efficiency and increased potential for vehicle conflicts at the site access.

Additionally, the UTIA does not provide swept paths to demonstrate two-way passing along the Link Road access driveway. Successful swept paths demonstrating that the two-way passing can occur along the entire length of the access driveway are therefore required to demonstrate an acceptable outcome which complies with the relevant Australian Standards.



FIGURE 6: B85 PASSING B99 AT COLLEGE CRESCENT NORTHERN DRIVEWAY

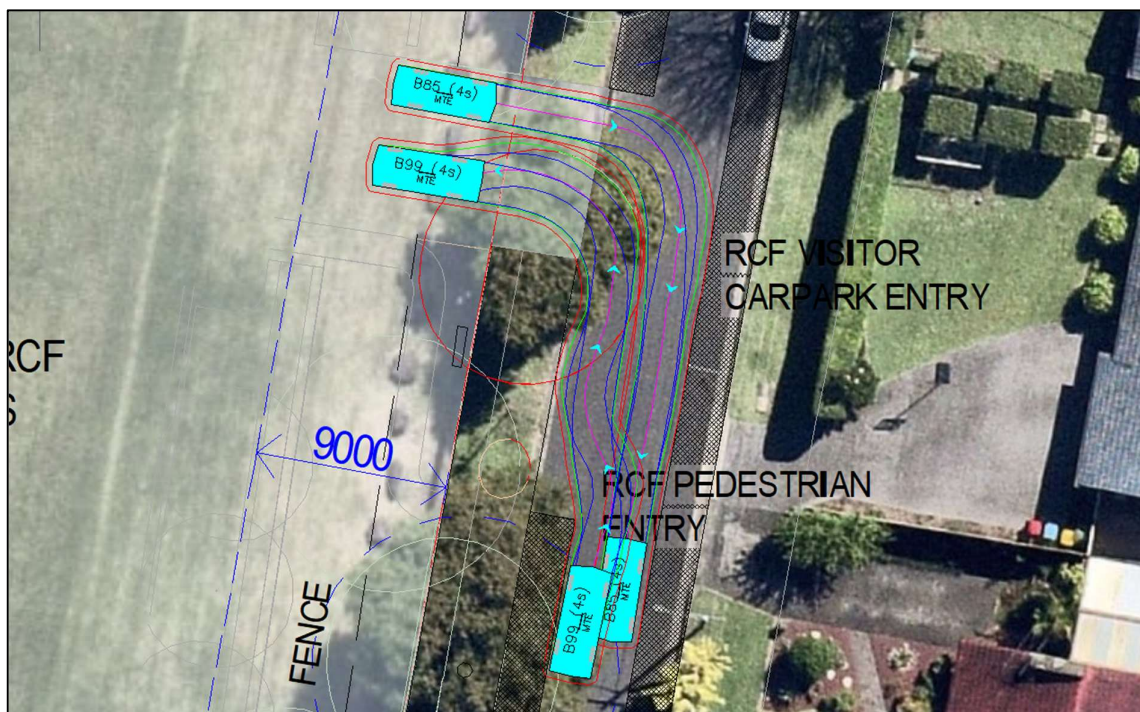


FIGURE 7: B85 PASSING B99 AT COLLEGE CRESCENT SOUTHERN DRIVEWAY

3.3.2 Sight Line Assessment

The UTIA does not provide a sight distance assessment for vehicles exiting driveways onto both Link Road and College Crescent, which is essential in assessing safety impacts of the development. This is required to ensure exiting vehicles have adequate visibility when entering the road network in order to reduce the likelihood of collisions.

In particular, the southern driveway located on College Crescent is located at the end of a horizontal curve in the road at 20-22 College Crescent, which has the potential to restrict available sight distance between exiting vehicles and approaching traffic. Without a detailed assessment demonstrating that the required sight distance can be achieved in accordance with AS2890.1:2004, it cannot be concluded that the proposed southern access driveway will operate safely.

3.3.3 Impact on Residential Driveways

The proposed access driveways on College Crescent are located opposite the residential properties of 16 and 20 College Crescent. However, the UTIA does not consider the impact of the proposed driveway locations on the existing residential driveways with respect to opposing turning conflicts or interference with driveway access. These impacts are required to be addressed as part of the proposal.

It is relevant to note that no justification has been provided within the UTIA regarding the need for two (2) driveways from College Crescent. It is commonly best practice to limit the number of access driveways to reduce the number of points of conflict. As such, adequate justification for both driveways should be provided, otherwise the number of driveways provided from College Crescent should be reduced to a maximum of one (1) driveway.

3.3.4 Link Road Access Driveway Location

The proposed primary access driveway on Link Road is located within an existing bus zone, creating the potential for conflicts between buses entering or departing the stop and vehicles accessing the site. This arrangement has the following potential impacts:

- Reduces the operational efficiency by increasing delays to public transport services;
- Creates constraints to bus manoeuvrability which has the potential to obstruct traffic flows on Link Road;
- Induces sight line issues for vehicles exiting the driveway whilst a bus is stopped within the bus zone;
- Prevents vehicles from entering the site when a bus is parked, typically buses stop for at least two minutes.
- Creates additional conflict points between buses, vehicles and pedestrians.

The location of the access driveway within the bus zone has not been justified by the UTIA, which otherwise states that *“the proposed site access does not impede on the existing bus stop,”* contradicting the architectural plans. A detailed assessment demonstrating the safety and operation of the bus stop will not be adversely affected by the driveway location is therefore required.

3.3.5 Waste Collection and Servicing

The loading and waste collection swept paths presented in the UTIA demonstrating MRV manoeuvring is unsuccessful, with paths encroaching columns and walls, as shown in **Figure 8**.

No swept path testing or assessment has been provided demonstrating that a service vehicle will be able to pass other vehicles arriving or departing the site or that the proposal complies with AS2890.2 – 2018.

Successful swept paths demonstrating that the loading area can accommodate MRV manoeuvring are therefore required to demonstrate an acceptable outcome which complies with the relevant Australian Standards.

Furthermore, it has been proposed that waste servicing for the independent living units will be undertaken by a private waste contractor. However, the proposal has not addressed the potential need for council to provide domestic waste collection services should the private arrangement cease. Under the *Local Government Act 1993*, council has an obligation to provide a domestic waste management service to eligible residential properties, with residents contributing to the service through domestic waste management charge levied as part of council rates.

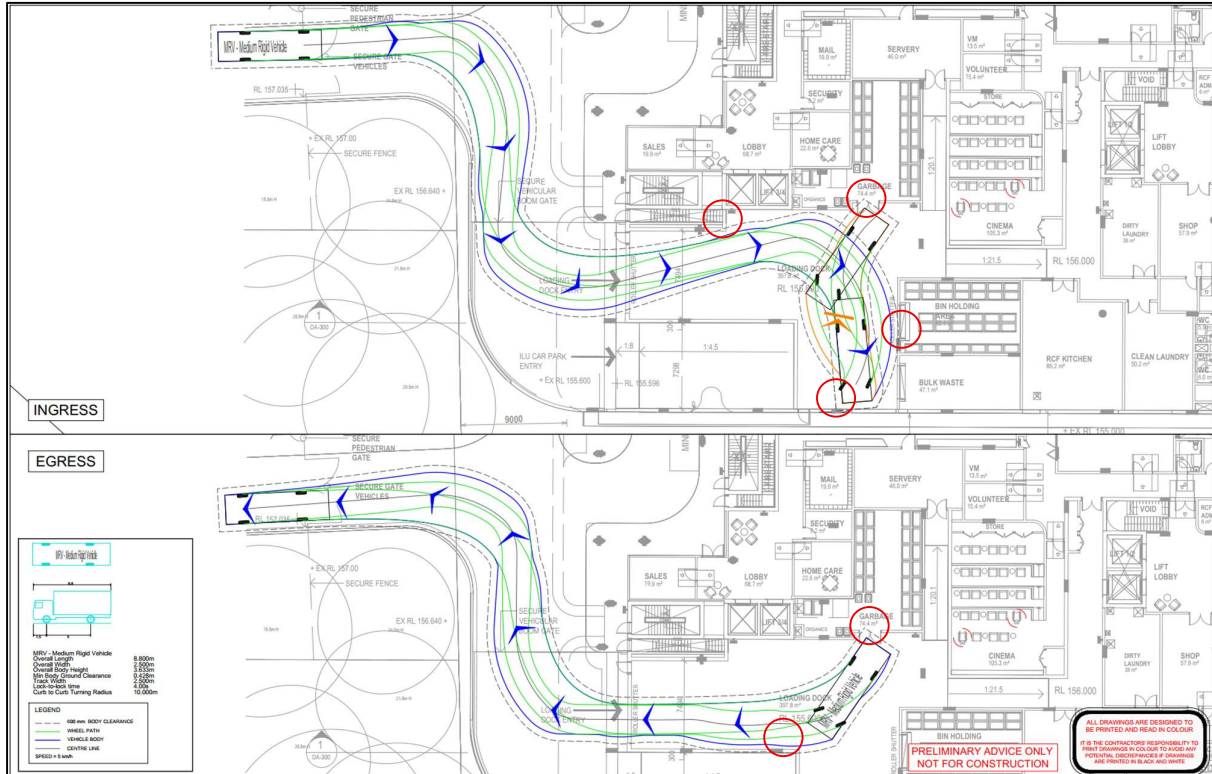


FIGURE 8: MRV LOADING SWEEP PATH (UTIA EXTRACT)

In the absence of an assessment demonstrating that council's waste collection vehicle can access and service the development, it cannot be confirmed that the proposal is capable of accommodating council waste collection arrangements if required in the future.

3.3.6 Emergency Vehicle Access

The UTIA outlines that the most efficient access to the Ambulance Bay is via the southern access driveway from College Crescent. However, the report does not assess the effect that existing traffic congestion and on-street parking conditions on College Crescent may have on emergency vehicle access and response times.

In particular, no assessment has been undertaken of the cumulative effects of school drop-off and pick-up periods, peak activity associated with nearby places of worship, and the frequent occurrence of parking on both sides of the street, which can reduce the carriageway to a single traffic lane.

These existing conditions, when combined with additional traffic generated by the development, have the potential to impede ambulance movements and delay emergency access which represents a significant risk to life. Accordingly, the UTIA should demonstrate that emergency vehicles can safely and efficiently access and egress the site under peak traffic and parking conditions.

Additionally, the fire truck swept paths presented in the UTIA are unsuccessful, with paths encroaching footpaths and over kerbs, as shown in **Figure 9**.

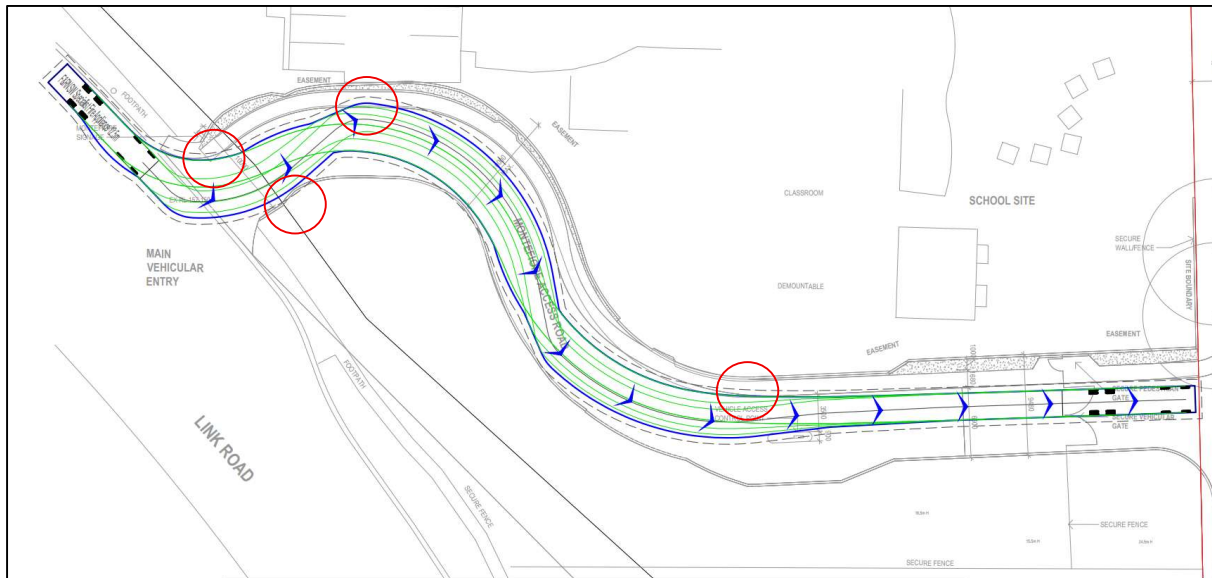


FIGURE 9: FIRE TRUCK ENTRY SWEEP PATH (UTIA EXTRACT)

Successful swept paths demonstrating that the Link Road access driveway can accommodate fire truck manoeuvring are therefore required by the proposal.

3.3.7 Navigation Systems and Wayfinding

The UTIA identifies the Link Road access as the principal vehicular access. However, it does not explain how the development's formal address, signage, visitor communications, wayfinding systems and navigation-platform information will direct visitors, service vehicles and deliveries to Link Road rather than College Crescent. These measures should be documented and secured before approval to ensure that all non-residential traffic, including staff, allied health patrons, service vehicles and deliveries is consistently directed to the Link Road access.

This is particularly important given that the College Crescent access is intended to primarily serve ILU residents and RCF visitors. Without appropriate wayfinding and navigation controls, there is a significant risk that external traffic will continue to use College Crescent, increasing traffic volumes on the local road more than what is intended by the proposal.

3.3.8 Section 93 of the Housing SEPP

No assessment has been provided to demonstrate that the site satisfies the requirements in Section 93 of the State Environmental Planning Policy (Housing) which states:

(1) Development consent must not be granted for development for the purposes of an independent living unit unless the consent authority has considered whether residents will have adequate access to facilities and services—

- (a) by a transport service that complies with subsection (2), or*
- (b) on-site.*

(2) The transport service must—

- (a) take the residents to a place that has adequate access to facilities and services, and*
- (b) for development on land in the Eastern Harbour City, Central River City, Western Parkland City or Central Coast City—*

- (i) not be an on-demand booking service for the transport of passengers for a fare, and*
 - (ii) be available both to and from the site at least once between 8am and 12pm each day and at least once between 12pm and 6pm each day, and*
 - (c) for development on other land—be available both to and from the site during daylight hours at least once each weekday.*
- (3) For the purposes of subsections (1) and (2), access is adequate if—*
 - (a) the facilities and services are, or the transport service is, located at a distance of not more than 400m from the site, and*
 - (b) the distance is accessible by means of a suitable access pathway, and*
 - (c) the gradient along the pathway complies with subsection (4)(c).*
- (4) In subsection (3)—*
 - (a) a suitable access pathway is a path of travel by means of a sealed footpath or other similar and safe means that is suitable for access by means of an electric wheelchair, motorised cart or the like, and*
 - (b) the distance is to be measured by reference to the length of the pathway, and*
 - (c) the overall average gradient must be not more than 1:14 and the gradients along the pathway must be not more than—*
 - (i) 1:12 for a maximum length of 15m at a time, or*
 - (ii) 1:10 for a maximum length of 5m at a time, or*
 - (iii) 1:8 for a maximum length of 1.5m at a time.*

Access to the surrounding bus stops as required to both depart and return to the site does not appear to be connected by suitable path facilities or exceeds the maximum 400m distance and the site may be unsuitable for the proposed development.

3.4 Construction

3.4.1 Haulage Routes & Construction Traffic

The UTIA acknowledges that parked vehicles frequently reduce College Crescent to a single traffic lane. The introduction of regular construction haulage and other heavy vehicle movements into this constrained environment would be expected to increase congestion, impede the passage of opposing traffic and create additional safety risks for pedestrians and motorists. Given the greater width and turning requirements of heavy vehicles, their operation on College Crescent would further reduce the effective carriageway width and may prevent vehicles from passing where parking occurs on both sides of the street.

The construction management plan provided within the UTIA does not assess these operational impacts or identify appropriate management measures to minimise them. Accordingly, all construction haulage and heavy vehicle access should be restricted to the Link Road access, thereby avoiding unnecessary heavy vehicle movements on College Crescent.

3.4.2 Construction Staff Parking

The construction management plan provided within UTIA does not address the provision of construction worker parking during the excavation and basement construction phases, when on-site parking is unlikely to be available. In the absence of adequate on-site worker parking, construction staff are likely to utilise on-street parking within the surrounding residential streets, particularly College Crescent, thereby increasing parking demand and competing with residents, school staff and parents for a limited supply of on-street parking.

To minimise these impacts, the Construction Traffic Management Plan should expressly prohibit construction worker parking on surrounding residential streets, identify the location of off-site parking facilities for construction workers, specify monitoring and enforcement measures to ensure compliance, and include a complaints management and corrective action process to address any parking-related issues that arise during construction.

3.5 Safety

3.5.1 Vehicle and Pedestrian Safety on College Crescent

College Crescent presents existing vehicle and pedestrian safety issues, particularly during school drop-off and pick-up periods. The street is not provided with continuous pedestrian footpaths or formal pedestrian crossing facilities, resulting in students regularly walking on the roadway and crossing between parked and queued vehicles. These conditions reduce driver visibility and increase the risk of vehicle-pedestrian conflicts.

During peak school periods, local residents of College Crescent also experience difficulty safely entering and exiting their driveways due to restricted sight lines created by vehicles parked on both sides of the street, congestion arising from vehicles attempting to pass on the narrow carriageway, and the movements of students crossing between queued vehicles.

The introduction of additional traffic associated with the proposed development has the potential to exacerbate these existing safety and operational issues. The UTIA fails to address these existing safety constraints or assess how the additional traffic generated by the development may affect pedestrian safety and vehicle operations during peak school periods.

3.6 General Issues

3.6.1 Removal of Sporting Fields

The proposal will be located on the existing sporting field located at Masada College. The UTIA has not addressed the impacts that removing this field will have on school operations. For example, the use of buses will be needed to transport students to external sporting fields when required for sporting activities. Any operational changes to the school may require assessment which has not been completed and the net environmental impacts of the development have not been adequately assessed.

4 Independent Assessment of Likely Impacts on College Crescent

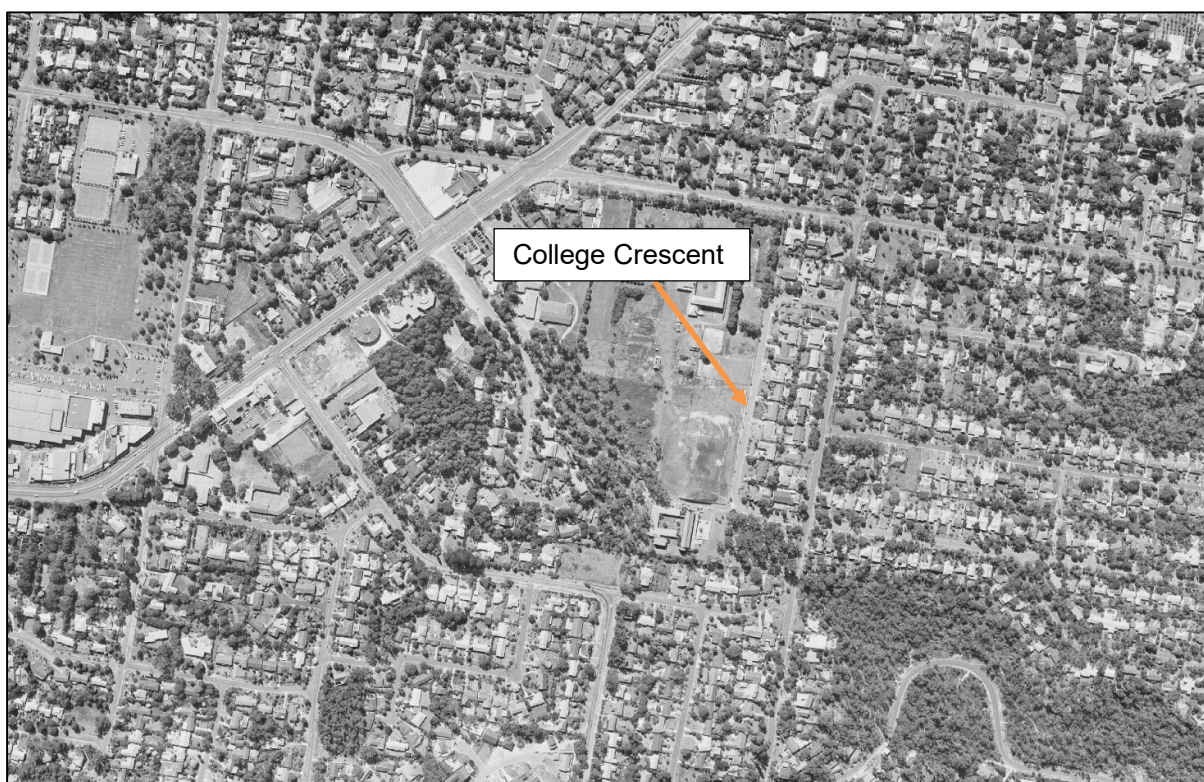
In the absence of a comprehensive assessment of the likely impacts of the proposal on College Crescent and considering the significant number of omissions identified in the UTIA, M^CLaren Traffic Engineering has undertaken an independent assessment of the likely impacts of the development based on publicly available information, including:

- a) The documents provided as part of the EIS;
- b) Publicly available documents on the Ku-Ring-Gai DA Tracker regarding the intensity of other development surrounding the site;
- c) Relevant controls and guidelines provided by Ku-Ring-Gai Council.

The outcomes of this assessment are outlined in the following **Sections**.

4.1 History of Development

College Crescent is approximately 7.5m in width and (based on historical mapping) was constructed sometime between 1965 and 1971. Other than the building now occupied by Chabad North Shore at 27 College Crescent, which was constructed in 1968 as a staff training college for the Commonwealth Banking Corporation, the road was constructed for access to low-density dwellings only. An aerial image from 1978 is provided as **Figure 10** showing that College Crescent was relied upon for access by 12 residential dwellings and the training centre, with the training centre only relying on the 85m length running east-west between itself and Yarrabung Road.



Source: NSW Historical Image Viewer (Image Dated 29/03/1978)

FIGURE 10: HISTORICAL IMAGE SHOWING COLLEGE CRESCENT

In the intervening years, there has been a significant intensification in the traffic and parking demand reliant on College Crescent including:

- Use by the 600-place Masada College for student pick-up, drop-off operations and parking by year 12 students;
- Access to and use as overflow car parking for the Kehillat Masada Synagogue;
- Access to and use as overflow car parking for the Chabad North Shore Synagogue;
- Access to medium density residential premises including approximately 40 dwellings constructed at the north-western end of College Crescent.
- Future access to the approved 88-place child care centre at 27 College Crescent.

4.2 Road Capacity

The Ku-Ring-Gai Subdivision Code sets out the road width requirements for new roads in the Local Government area as follows:

- a) Blind roads up to about 95 metres long: Width Overall – 12 metres Minimum width between Kerb – 7.5 metres*
- b) Blind roads up to about 215 metres long: Width overall – 16 metres Width between kerbs – 8.5 metres*
- c) Through roads of purely residential significance or blind road over 215 metres long: Width overall – Minimum 16 metres Width between kerbs - Minimum 8.5 metres*
- d) Through roads carrying more than residential traffic: Width overall – 18 or 20 metres Width between kerbs - 9 or 12 according to likely volume of traffic*

College Crescent is constructed to the minimum width of 7.5m between kerbs permitted under the Ku-Ring-Gai Subdivision Code, and this road type is only recommended for cul-de-sacs of up to 95m in length. Assuming that along a 95m long road and that each property could have a frontage width of 10m, this road type would cater for up to 20 dwellings or 15 trips in the peak hour and approximately 162 trips per day.

This is reasonably consistent with the guidance provided in the TfNSW Design of Roads and Streets Manual (DORAS), which indicates that a road of a similar width (a Residential Way) should have a typical annual average daily traffic of less than 1,000 trips per day assuming that parking is either *only on one side or intermittent*. The following description of Residential Ways is provided in the DORAS:

Residential ways are traditionally used in residential areas as edge streets to open space or a cul de sac or similar low movement function.

Residential ways are either one or two-way, very low volume routes that usually require yield driving behaviours. Carriageways are approximately 5.5–6m (Figure 8.2.3.1) with either unstructured parking or parking on one side.

Due to the narrow width of the carriageway and the presence of car parking on both sides of the road, the safe capacity is *significantly lower than 1,000 trips per day* and is likely to approach a ceiling of *300 trips per day* as outlined for an access street in AMCORD as parked vehicles along the road constrain traffic flow to a single lane. This type of road is only contemplated to serve residential traffic and land uses that generate pronounced peaks in traffic generation will have a disproportionate impact on the function of the road due to its constrained width.

High traffic volumes can result in congestion and unsafe manoeuvring as a result of vehicles reversing to yield to oncoming traffic. This already occurs during peak times during school drop-off/pick-up and when the nearby Synagogues are holding services, indicating that the road is at or near its safe capacity.

4.3 Existing and Approved Traffic Volumes

Based on the traffic surveys undertaken by the applicant's traffic consultant, College Crescent experienced at least 333 trips in the seven hours surveyed in November 2025. Due to the timing of these surveys on a Tuesday in November, there was no or very minimal traffic associated with the synagogues or no traffic associated with year 12 students at Masada College captured.

It is not possible to determine from the type of survey undertaken the total number of movements on the road, as the College Crescent connects to Yarrabung at two locations and the addition of vehicle trips into and out of College Crescent at both ends would result in some double counting. Consequently, the estimate has been taken by taking the sum of all vehicle trips entering and exiting College Crescent at the southernmost junction with Yarrabung Road.

Based on the traffic generation estimates provided in the Traffic and Parking Assessment Report by Varga Traffic Planning which was submitted in support of the Place of Worship Development Application at 27 College Crescent (DA0358/15), at least another 100 daily trips could be expected excluding any trips associated with events or services.

Assuming that the seven hours surveyed includes 50% of the daily residential trips (40 medium density and 12 low density dwellings), an additional 103 trips per day are expected.

Once the approved 88-place child care centre is completed at 27 College Crescent, the number of trips on College Crescent will increase by approximately 270 trips per day.

Trips and parking demand associated with visitors to the upgraded Bedes Forest park are unknown, but will be increased compared to existing conditions.

The total existing daily trip demand is summarised in **Table 2**.

TABLE 2: ESTIMATE OF EXISTING DAILY TRIP VOLUMES ON COLLEGE CRESCENT

Trip Type	Trip Quantity
Recorded by Survey	333
Chabad Synagogue	Minimum 100, excluding services
Kehillat Synagogue	Unknown (not included in survey)
Residential, Outside of Surveyed Times	103
Masada Year 12 Students	Unknown (not included in survey)
Future Child Care Centre	270
Bedes Forest Park	Unknown
Total	806 Known Trips

As summarised above, the existing known number of trips indicates that College Crescent is already operating in excess of its planned capacity on a regular weekday, even without consideration of larger weekly services at the synagogues, year 12 student demand or the traffic associated with the park upgrade.

4.4 Impact of Proposed Development

Noting the nature and scale of the proposal, the proposed development is likely to:

- Increase the number of trips along College Crescent;
- Increase the parking demand along College Crescent by reducing the number of parking spaces available at Masada College and introducing a new demand on on-street parking from visitors to residents;
- Require the removal of at least six (6) car parking from the western side of College Crescent to facilitate new driveways.
- Require a significant number of emergency trips by ambulances, as is typical for aged care facilities.

As outlined in **Section 4.3**, College Crescent is already operating beyond its practical capacity and an increase in the parking and trip demand along the road is likely to further degrade the safety and efficiency of the road. Further, it is likely that any emergency vehicles needing to travel to or from the site during the hours around school activities, child care peak times or synagogue services could be significantly delayed by congestion along the road.

4.5 Consideration of Practicability of Access

The site has an alternative road frontage to Link Road and proposes vehicle access via a driveway through Masada College. Noting that Link Road is a classified regional road, the consent authority must consider section 2.119 (2) (a) of the State Environmental Planning Policy (Transport and Infrastructure) which states:

(2) The consent authority must not grant consent to development on land that has a frontage to a classified road unless it is satisfied that—

(a) where practicable and safe, vehicular access to the land is provided by a road other than the classified road, and

In this circumstance, and with reference to the findings of the assessment above, access to College Crescent is not practicable as that road is at capacity under existing conditions and any further traffic or parking demand would cause a further and unacceptable deterioration in the safety of, and efficient operation of the road.

Consequently, any vehicle access to the site should be gained via Link Road.

The UTIA does not provide any assessment of whether the connection to Link Road will adversely affect the safety or efficiency of that road and this must be demonstrated before consent can be granted. If access to Link Road cannot be established without adverse impacts, it is likely that the site is unsuitable or that the scale of the proposal is excessive.

5 **CONCLUSIONS**

A review of the EIS documentation submitted as part the proposal to construct seniors housing at 19-25 College Crescent & 9-15 Link Road, St Ives has been undertaken, with the following findings relevant to traffic and parking impacts.

The key parking issues are as follows:

- The dates and time periods of the parking surveys were found to misalign with the existing peak parking periods caused by the adjacent school and places of worship.
- A total of **24** car parking spaces will be removed by the proposal. The UTIA fails to assess the impact of the removal of car parking spaces on the surrounding on-street parking network.
- The UTIA does not consider cumulative parking impacts with the Bedes Forest upgrade, failing to assess the increase in on-street parking demand along College Crescent.
- The allied health services are intended to operate as publicly accessible facilities, therefore are not ancillary to the RCF or ILUs. A standalone assessment of the parking demand generated by the allied health component is therefore required to demonstrate that sufficient parking has been provided.
- The proposal exceeds the minimum parking requirements of the Housing SEPP by 68 spaces. This represents approximately 8,000m³ of excess excavation, resulting in greater construction and traffic impacts.

The key traffic issues are as follows:

- The dates and time periods of the traffic surveys were found to misalign with the existing peak traffic periods caused by the adjacent school.
- The UTIA does not assess the impact of the proposal on the existing school pick-up and drop-off operations of Masada College or the existing place of worship operations that occur on College Crescent.
- The benchmarking traffic generation sites used in the UTIA do not provide a true comparison to the traffic generation of the proposed development due to the mismatch in scale and parking numbers between the proposed development and benchmarked sites.
- The UTIA does not provide any details of the calibration and validation of the SIDRA traffic modelling undertaken, reducing confidence in the reported operational performance of the surrounding intersections.
- Two (2) intersections were not assessed within the UTIA which are critical in accommodating the traffic generated by the proposed development and as such should be assessed to determine the traffic impact on the surrounding road network.
- The UTIA does not assess the traffic generation associated with the allied health facilities, hence underestimating the traffic generation by the site. An estimated 32 vehicle trips generated by the allied health facilities within the proposal during the site peak hour and 130 vehicle trips per day should be included in the traffic models.
- The UTIA considers the traffic impacts of the proposed development in isolation and does not assess cumulative impacts arising from the surrounding eight (8) developments, failing to meet the NSW Cumulative Impact Assessment Guidelines requirements.
- The UTIA does not assess the performance of the road network 10-years after opening as is suggested in Section 3.4.1 of the TfNSW GTIA for large developments.

The key access design issues are as follows:

- The UTIA does not provide swept paths to demonstrate two-way passing along the Link Road access driveway or at the College Crescent driveways when considering on-street parking,
- The southern driveway located on College Crescent is located at the end of a horizontal curve in the road, which has the potential to restrict available sight distance between exiting vehicles and approaching traffic. A detailed sight line assessment is therefore required to demonstrate a safe and compliant outcome.
- The proposed primary access driveway on Link Road is located within an existing bus zone, creating the potential for conflicts between buses entering or departing the stop and vehicles accessing the site.
- Servicing vehicle and fire truck swept paths provided within the UTIA are unsuccessful.
- The UTIA does not demonstrate that emergency vehicles can safely and efficiently access and egress the site under peak traffic and parking conditions.
- The UTIA does not explain how the development's formal address, signage, visitor communications, wayfinding systems and navigation-platform information will direct visitors, service vehicles and deliveries to Link Road rather than College Crescent.
- Access to the surrounding bus stops as required to both depart and return to the site does not appear to be connected by suitable path facilities or exceeds the maximum 400m distance set out in the Housing SEPP and the site may be unsuitable for the proposed development.
- The introduction of regular construction haulage and other heavy vehicle movements onto College Crescent would be expected to increase congestion, impede the passage of opposing traffic and create additional safety risks. This has not been addressed in the UTIA.
- In the absence of adequate on-site worker parking, construction staff are likely to utilise on-street parking within the surrounding residential streets, particularly College Crescent, thereby increasing parking demand. This has not been addressed in the UTIA.

The key safety and general issues are as follows:

- College Crescent presents existing vehicle and pedestrian safety issues, particularly during school drop-off and pick-up periods. The introduction of additional traffic associated with the proposed development has the potential to exacerbate existing safety and operational issues.
- The UTIA has not addressed the impacts that removing the Masada College sporting field will have on school operations such as the use of buses will be needed to transport students to external sporting fields and their associated impacts.

The independent assessment of the likely impacts on College Crescent provides the following conclusions:

- College Crescent was constructed to serve a small number of single dwellings to the minimum road width permitted in the Ku-Ring-Gai Subdivision Code and has a limited capacity for daily vehicles approaching 300 vehicles per day.
- Based on an assessment of publicly available documents, College Crescent is likely to experience more than 806 trips per day considering existing and approved development, but not including traffic associated with year 12 students, services at the two synagogues or traffic associated with the Bedes Forest Park upgrade. Consequently, it is clear that the road is already at its practical and safe capacity.

- Reliance of the proposal on College Crescent will exacerbate the existing issues along the road and will lead to unsafe outcomes for both future residents of the site and for existing users.
- Consequently, all vehicle access to the site should be made from Link Road, subject to an appropriate assessment which demonstrates that that access can be made without affecting the safety and efficiency of that road.

Please contact Isabella Currao or the undersigned on 9521 7199 should you require further information or assistance.

Yours faithfully,

McLaren Traffic Engineering



Tom Steal

Associate Traffic Engineer

BE Civil MIEAust

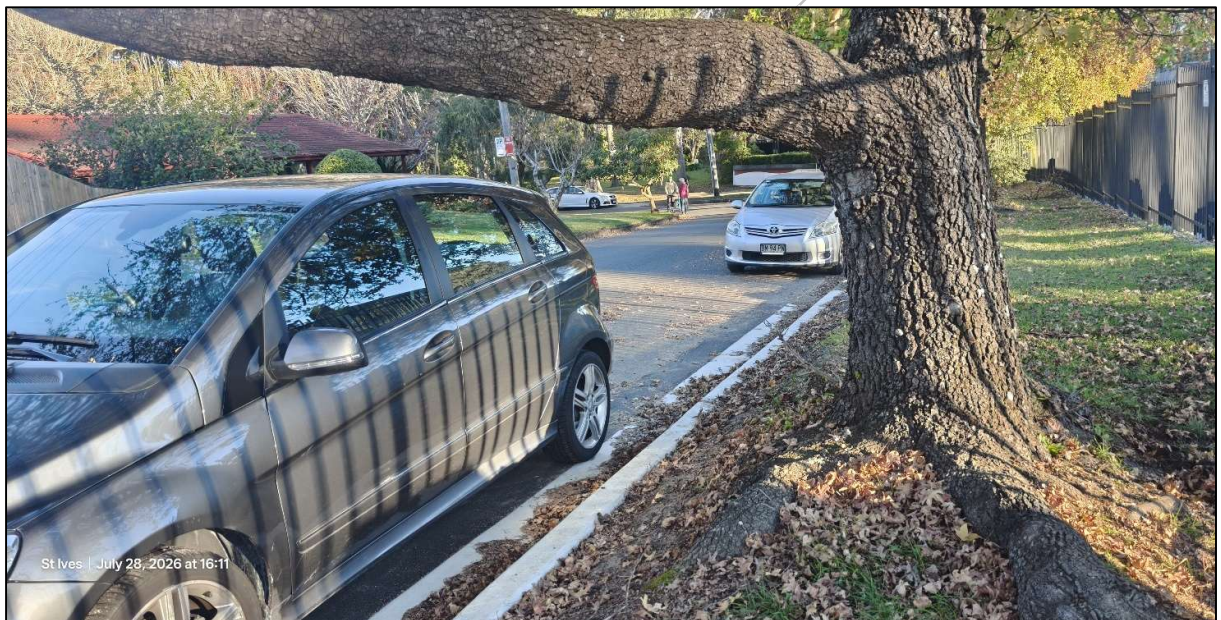
TfNSW Accredited Level 3 Road Safety Auditor



ANNEXURE A: PHOTOGRAPHS
(5 SHEETS)



**Bus located at proposed driveway location
Tuesday 28 July 2026 at 3:13pm**



**Sight line from proposed southern driveway on College Crescent
Tuesday 28 July 2026 at 4:11pm**



**Parking at capacity along both sides of College Crescent reducing traffic to one lane
Thursday 26 March 2026 at 9:02am**



**Vehicles parked along both sides of College Crescent during Chabad event
Sunday 26 July 2026 at 2:45pm**



**Parking at capacity along the western side of College Crescent (unrestricted parking)
Thursday 30 July 2026 at 10:39am**



**Vehicles parked on both sides of the road along College Crescent
Saturday 25 July 2026, 10:21**



**Link Road / Stanley Street queueing to Yarrabung Road
Monday 3 August 2026 at 8:47am**



**ANNEXURE B: CURRICULUM VITAE
(1 SHEET)**

Thomas Steal

(Associate Traffic Engineer)

Thomas is a consulting traffic engineer with extensive experience in consulting with the public and private sectors on matters of transport planning, construction traffic management, traffic impact assessment, road & car park design and road safety auditing.

Thomas appears regularly as an expert witness in the Land and Environment Court to provide evidence on matters related to the traffic, parking and road safety impacts of development.



Thomas is an expert in the development and application of data, technical methods and the findings of contemporary research to provide for an evidence-based assessment of traffic, parking and road safety impacts.

Qualification and Affiliations

Bachelor of Civil Engineering, University of Sydney, 2015

Registered Professional Engineer

Accredited Level 3 Road Safety Auditor

Engineers Australia - Member

Experience:

McLAREN TRAFFIC ENGINEERING

2015 to date, roles including:

- | | | |
|---|---|--|
| - Road Safety Auditing | - Concept Road and Parking Design | - Development of Traffic Engineering Methodology |
| - Construction Traffic Management Plans | - Expert Witness | - Transport Planning |
| - Traffic Impact Assessment | - SIDRA and Aimsun Modelling | - Expert Advice at Public Meetings |
| - Staff Training | - Reviewing and Approval of Documents and Plans | - Operational Management Plans |
-