



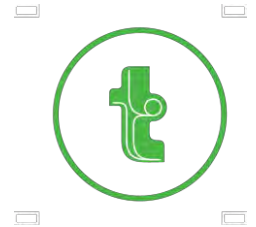
Traffic Impact Assessment

**Proposed Expansion to the Dover Heights Shule
Cnr Napier Street and Blake Street, Dover Heights.**

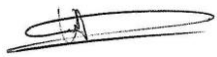
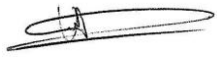
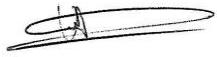
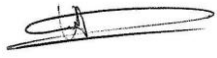
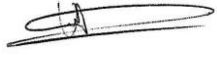
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Date: November 2016

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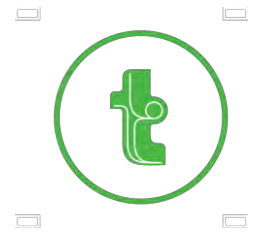


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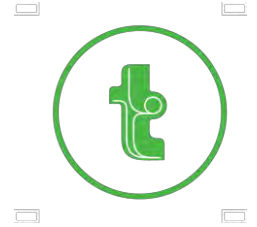


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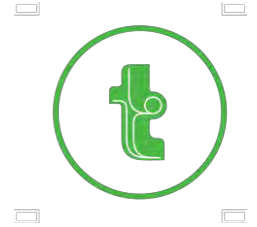


1. Introduction

TRAFFIX has been commissioned by the Dover Heights Shule to undertake a Traffic Impact Assessment in support of a Planning Proposal relating to the expansion of the existing Shule located on the corner of Napier Street and Blake Street, Dover Heights to accommodate an additional 164 seats. The subject site is located within the Waverley Council LGA and has been assessed under that Council's controls.

This report documents the findings of our investigations and should be read in the context of the Statement of Environmental Effects (SEE) prepared separately. The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Describes the proposed development
- Section 5: Assesses the parking requirements
- Section 6: Assesses traffic impacts
- Section 7: Discusses access and internal design aspects
- Section 8: Presents the overall study conclusions.



2. Location and Site

The site is situated approximately 3.6 kilometres north-east of Bondi Junction and approximately 7.1 kilometres north-east of the Sydney CBD. More specifically, the site is situated adjacent to the Kesser Torah College and Rodney Reserve in Dover Heights and on the corner of Blake Street and Napier Street.

The site is irregular in configuration and has a total area of approximately 1295m². It currently accommodates the Dover Heights Shule. It has a western frontage of approximately 60 metres to Napier Street with a northern boundary of approximately 18 metres to the Kesser Torah College and residential properties, an eastern boundary of approximately 60 metres to the Kesser Torah College and a southern boundary of approximately 17 metres to The Kesser Torah College carpark.

Vehicular access is currently provided via a 6.9 metre wide driveway onto Blake Street, which serves the Kesser Torah College car park and Shule car park which currently accommodates eight (8) off-street parking spaces.

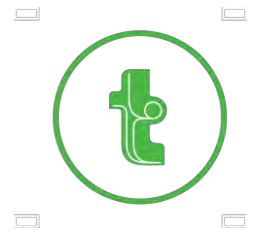
A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2**. Reference should also be made to the Photographic Record presented in **Appendix A**, which provides an appreciation of the general character of roads and other key attributes in proximity to the site.



Figure 1: Location Plan



Figure 2: Site Plan

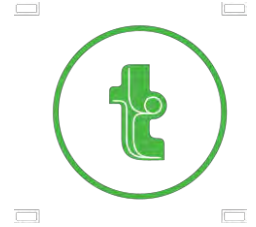


3. Existing Traffic Conditions

3.1 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

- ➊ Old South Head Road: an RMS classified Main Road (MR 339) that runs in a north-south direction between Watsons Bay in the north and Bondi Junction in the south. It forms an intersection with Blake Street to the west of the subject site. Old South Head Road carries in the order of approximately 23,000 vehicles per a day to the south of Dover Road.
- ➋ Dover Road: a local collector road that runs in an east-west direction between New South Head Road in the east and Military Road in the west. The road is subject to a 50km/h speed limit. Dover Road carries two lanes of traffic, one in each direction on a 6 metre undivided carriageway. Unrestricted parallel parking is permissible on both sides of the road.
- ➌ Victory Street: a collector road that runs in a north-east south-west direction between Blake Street in the north-east and Dover Road in the south west. The street is subject to a 50 km/h speed limit. Victory Street carries two lanes of traffic, one in each direction on a 9.5 metre undivided carriageway. Unrestricted parallel parking is permissible on both sides of the street.
- ➍ Military Road: a collect road that runs in a north-south direction between Hastings Parade in the south and Old South head Road in the north. The road is subject to a 50km/h speed limit. The street carries two traffic lanes, one in each direction on an 8.5 metre carriageway. Unrestricted parallel parking is permissible on both sides of the street.
- ➎ Napier Street: a local road which traverses in a north-south direction between Dover Street in the south and forming a cul-de-sac in the north, adjacent to the subject site. Napier Street has a 50km/h speed limit however, is



subject to a 40km/h 'School Zone' speed restrictions between 8:00am to 9:30am and 2:30pm to 4:00pm on school days. The street has two traffic lanes, one in each direction on a 7 metre, undivided carriageway. Unrestricted parallel parking is permissible on both sides of the street.

 Blake Street:

a local road that traverses in an east-west direction between Old South Head Road in the west and Rodney Street in the east. Blake Street has a 50km/h speed limit however, is subject a 40km/h 'School Zone' speed restrictions between 8:00am to 9:30am and 2:30pm to 4:00pm on school days. The street has two traffic lanes, one in each direction on a 9.5 metre, undivided carriageway. Generally, unrestricted parallel parking is permissible on both sides of the street.

It can be seen from **Figure 3** that the site is conveniently located with respect to the arterial and local road systems serving the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts.

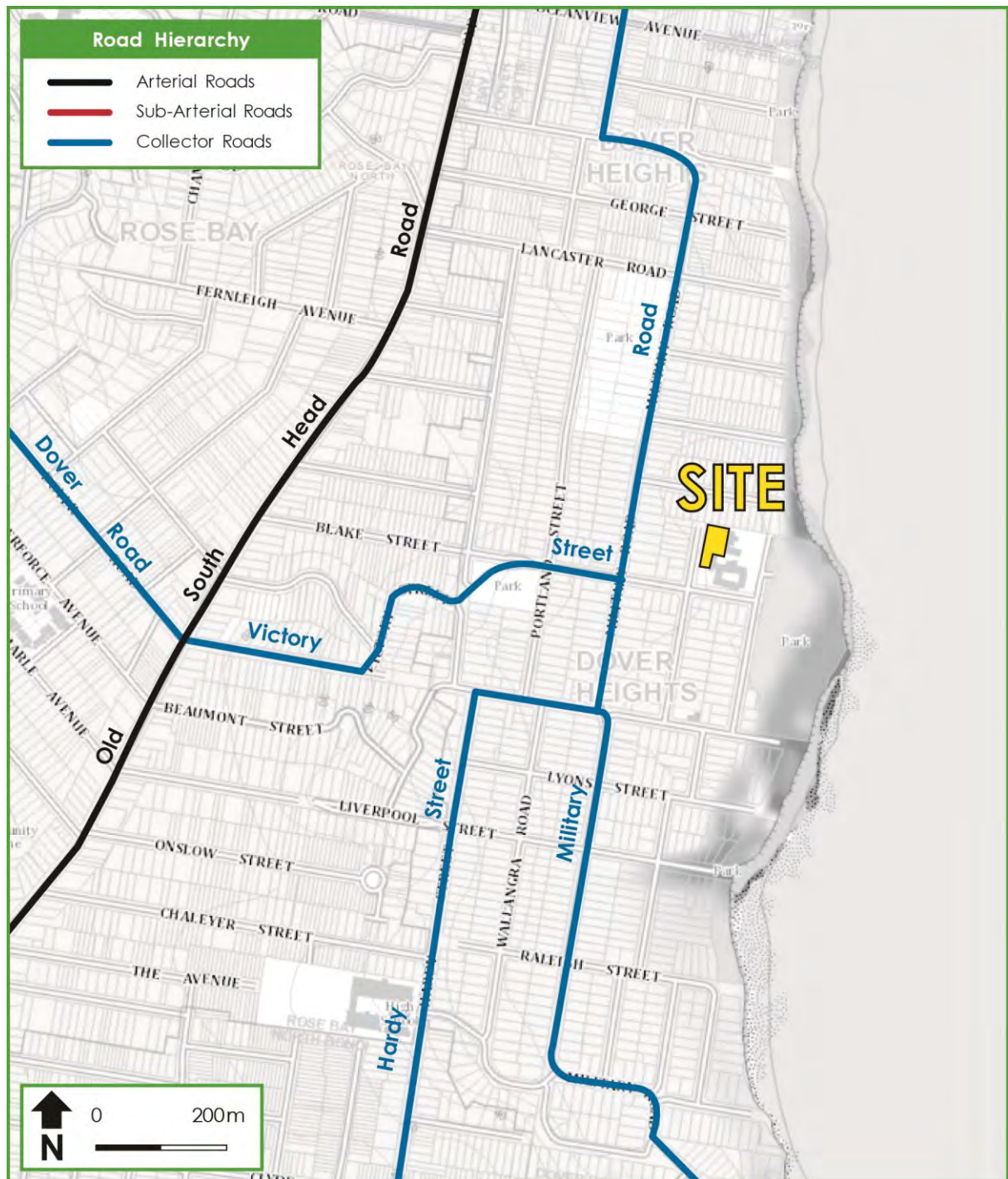


Figure 3: Road Hierarchy



3.2 Public Transport

The existing bus services that operate in the locality are shown in **Figure 4**. It is evident that the site benefits from good bus services being situated within 400 metres of a number of bus routes. The closest bus stops are located at approximately 150 metres from the site. The bus services which operate in the vicinity of the site provide connections to numerous centres including Bondi Beach, Bondi Junction, Paddington, Darlinghurst, North Bondi and the Sydney CBD.

Bondi Junction train station is serviced by the T4 Eastern Suburbs and Illawarra Line which operates regular train services from Bondi Junction to Sydney City and southern Sydney.

Table 1: Bus Services within 400 metres of the Dover Heights Schule

Service	Accessible urban centres	Frequency
333 - North Bondi to City	Bondi Beach, Bondi Junction, Paddington and Darlinghurst	Daily
380 - North Bondi to City	Bondi Beach, Bondi Junction, Paddington and Darlinghurst	Selected daytime and evening services extend to Dover Heights and Watsons Bay
323 - Dover Heights to Edgecliff	Rose Bay and Double Bay	Monday - Friday peak hours

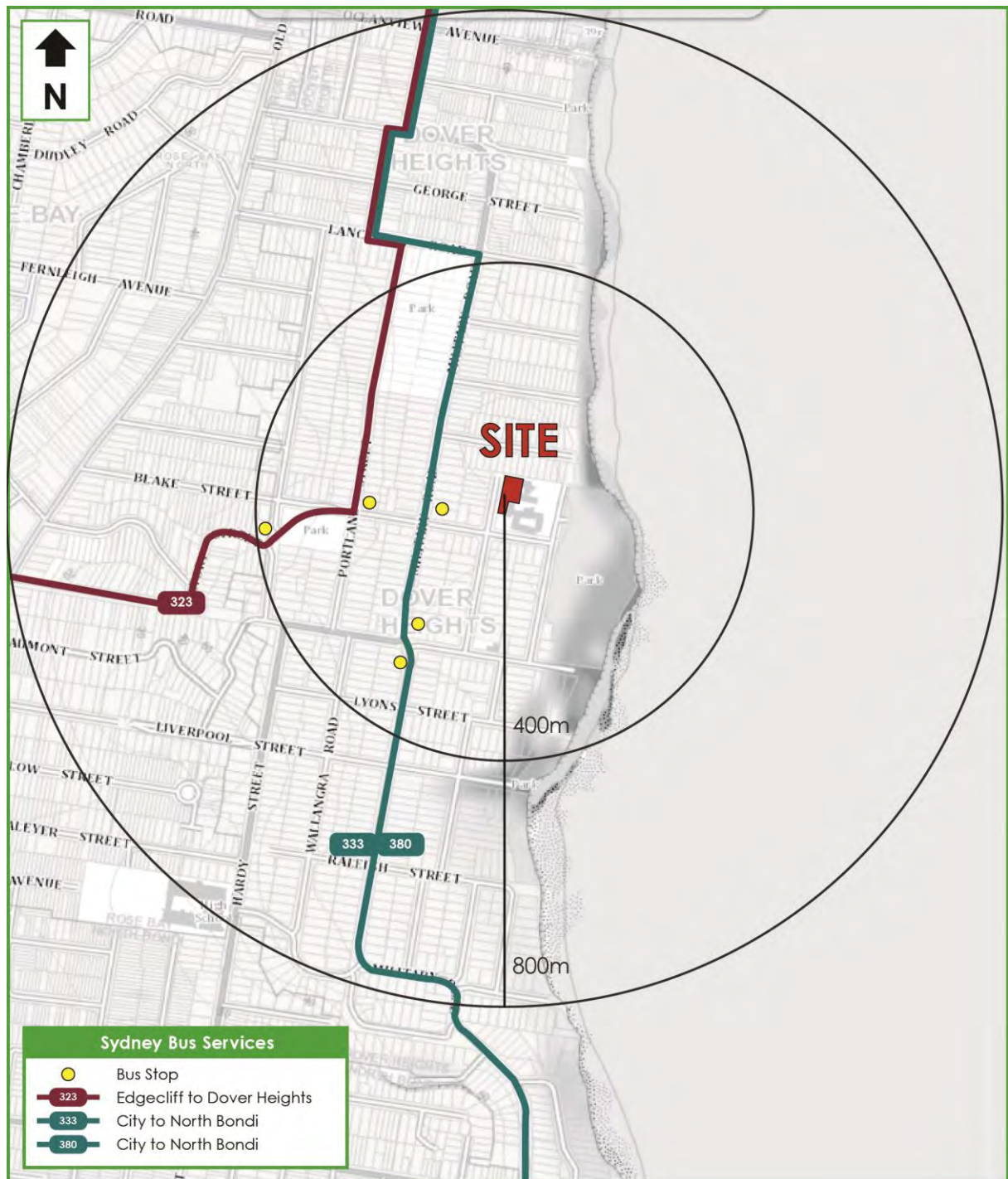


Figure 4: Public Transport

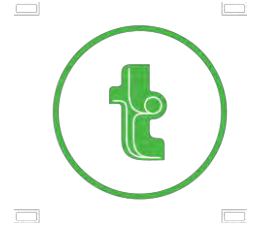


3.3 Existing Car Parking Provision

The Shule's current vehicular access and car parking is within Car Park 1. **Figure 5** shows the arrangement of the existing three car parks across the Dover Heights Shule and Kesser Torah College site.

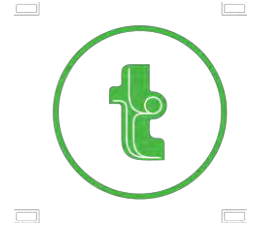


Figure 5: Car Park Layout



The Car Park 1 accommodates eighteen (18) car spaces. Seven (7) of these car spaces fall within the Shule's car parking area and are utilised by the Shule's staff and visitors. However, only three (3) of these spaces are exclusively used by the Shule's staff and visitors. Eleven (11) car spaces are utilised by the Kesser Torah Colleges Day Car pick up / drop off and the remainder three (3) spaces are not signposted which are used by both the College and the Shule.

The existing car park area includes a security booth which is monitored security personnel. The car park also has additional security measures including an electric fence, rising bollard and a boom gate. These security devices ensure the occupants of the car park utilise the correct parking spaces.



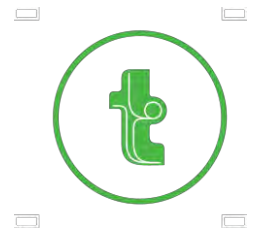
4. Description of Proposed Development

4.1 Summary of Proposed Development

A detailed description of the proposed development is provided in the Statement of Environmental Effects prepared separately. In summary, the development for which approval is now sought comprises the following components:

- Extension of existing Shule on Ground level to accommodate an additional 164 seats (a total of 466 seats) which include:
 - 89 women's seats in the south wing
 - 75 men's sets in the north wing
- A net loss of one (1) off-street parking spaces within the Shule car park.
- The relocation of offices, kitchen and library to Level 1 of the Shule building.
- The provision of a new ancillary hall space to Level 1 of the Shule building with a total capacity of 220 seats (not used in conjunction with the Shule).
- The relocation of classrooms to Level 2 of the Shule building.
- Retention of the vehicular access on Blake Street.

The parking and traffic impacts arising from the development are discussed in **Sections 5** and **6**. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **Appendix B**.



4.2 Proposed and Current Operation of the Dover Heights Shule

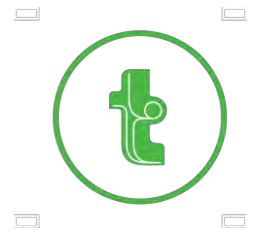
The Kesser Torah College and the Dover Heights Shule have different hours of operation however, at times running concurrently. This allows for the shared use of facilities within the Dover Heights Shule. An operation summary of the Dover Heights Shule is provided in **Table 2** below. Religious services are conducted seven days a week and the Shule is also utilised for events, social meetings and educational purposes.

Table 2: Existing and Proposed Shule Operations

Operation	Existing Arrangement	Proposed Arrangement
Religious Services	Religious Services are conducted from Monday to Sunday. Main Congregational services occur on Friday nights from 5:30pm to 7:00pm and Saturday mornings. These services are typically attended by 100-200 people. Attendees do not drive to these services. Regular Small Services occur Monday - Sunday between 6:30am to 7:00am and Saturday between 9:30am to 12:15 pm. These services are typically attended by 10 - 15 people of which approximately 5 - 10 people drive.	No proposed changes to existing services
Small Events	Small events are held in conjunction with services such as Kiddushim, Shabbat & Mevorachim. These events occur directly before or after services and are currently held within the Foyer or Kesser Torah College (KTC) courtyard and sit down lunches on Saturdays in KTC hall or Zal "small hall". The Kitchen accommodates for catering of these events.	Small events are to be held within the Foyer, or is a larger space is required, with the Shule hall.
Youth Group Programs	The Shule provides Educational, Religious & Social programs during the Friday night and Saturday morning services. Youth programs are provided for boys and girls across various age groups. These activities are typically convened within the KTC classrooms and courtyard.	Existing Youth Programs to remain ongoing, however these will be convened within the Shule hall.



Operation	Existing Arrangement	Proposed Arrangement
Office Admin & Appointments	The Shule currently employs one full time staff member (Rabbi) and three part-time staff (Admin & youth Directors). There are typically two staff members on site, Monday - Friday, during operation hours. Staff typically drive to work and park in Car Park 1.	Existing staffing arrangements are to be maintained, the proposal will not require additional staff. Existing frequency of meetings and appointments is not expected to change.
Kesser Torah College Use	KTC has free access to the Level 1 Classrooms for educational purposes. KTC also has access to the Shule for a variety of purposes other than religious services and instruction, including: school assemblies, trial examinations, lectures and special events. These are arranged by appointment with the Shule.	The existing arrangement with KTC is to be maintained.
Additional Services	Additional services are held on High Holidays, Festivals and Fast Days. These occur approximately 8-10 times a year and can fall on weekdays and weekends. Typical service times are mornings (9:30am-12:30pm) and evenings (5:30pm-7:15pm). These events can attract higher than usual patron numbers of up to 150-400 people, plus up to 60-100 children. Note that the school is always closed on these days.	Special services will remain ongoing as per the existing arrangement; however increased Shule seating will reduce the need for provision of an overflow Shule.
Events	Weekly lessons "Shiurim" held by the Rabbi. Currently, these occur on a Wednesday night from 8:00pm – 9:30pm, in blocks of six (6) approximately 3-4 times a year and are attended by 20-30 people.	Lessons will continue in Shule.

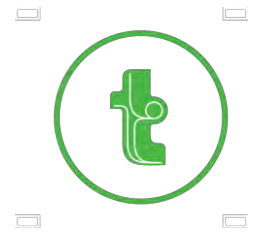


4.3 Proposed Changes to Parking Provision

As mentioned in Section 3.3, Car Park 1 is utilised by both the College and the Shule. In addition to the aforementioned car park, the site accommodates an additional two (2) car parks. The capacity and use of those car parks are provided in **Table 3** below.

Table 3: Dover Heights Shule and Kesser Torah College Car Park Provision and Use

Car Park Location	Existing Capacity	Proposed Capacity	Use
Car Park 1	18 spaces	17 spaces	Used by the Shule, Kesser Torah College and Pre-School pick up / drop off
Car Park 2	27 spaces	27 spaces (No change)	Used by Kesser Torah College, exclusively
Car Park 3	30 spaces	30 spaces (No change)	Car Park is available for Shule Patrons outside of Kesser Torah College operating hours.
TOTAL:	75 spaces	74 spaces	



5. Parking Requirements

5.1 Council Controls

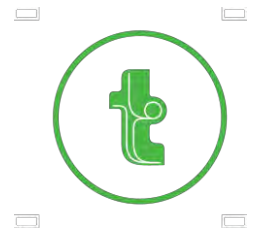
Waverley Council DCP 2012 does not provide specific parking rates for Places of Public Worship, therefore it is considered appropriate to adopt a first principles approach to calculate the number of parking spaces required by the Dover Heights Shule. Reference should be made to the *Traffic and Parking Management Plan* by GSA Planning (2007) for the Dover Heights Shule which provides an assessment for the number of visitors to the Synagogue each day. TRAFFIX has been provided this report and informed by the client that the numbers are relevant to today's operation. Therefore, the number of visitors and car occupancies have been adopted as provided in **Table 4** below. To maintain a conservative assessment, TRAFFIX has adopted the higher number of visitors and lower car occupancy rate, from the ranges provided. It is noteworthy, that visitors of the Shule have a doctrinal belief that worshippers should walk to and from services at the Shule.

Table 4: Existing and Proposed Shule Operations

Day	Number of Visitors (per day)	Number of Visitors by Car (per day)	Car Occupancy	Number of vehicles (per day)
Monday – Friday	37	30	3	10
Saturday- Sunday	80	30	3	10
Small Events*	60	60	3	20
Special Events	300	75	3	28

* Social Events are generally held during weekday evenings or weekends and do not coincide with the Kesser Toarah College operating hours.

It can be seen from Table 4 that the maximum parking requirement for the Dover Heights Shule is twenty eight (28) during special event services which occur seven (7) times throughout the year and do not overlap with the Kesser Torah College operating hours. Table 4 also indicates that the parking requirement on social events (weekday evenings and weekends) is a maximum requirement of twenty (20) parking spaces. Therefore, it is considered that the social events and festivals parking requirement can be readily accommodated within Car Park 1 and Car Park 3 which provides a total of 48 parking spaces.



The weekday maximum car parking requirement for the Dover Heights Shule is considered to be ten (10) parking spaces. It is noted that the proposed Shule site car park provides six (6) car parking spaces and is located within Car Park 1 however, the parking spaces are shared with the Day Care centre. The availability of car parking spaces in Car Park 1 are provided in **Table 5** below. It is considered that five (5) car spaces in Car Park 1 are unrestricted and can accommodate the Shule staff and a portion of visitors to the Shule. In addition, the Shule will have access to an additional twelve (12) car parking spaces outside of Day Care pick up and drop off times.

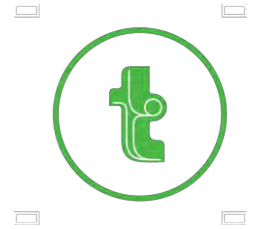
In the event that the daily maximum number of ten (10) vehicles were to arrive during Day Care pick up and drop off times that three (3) of these vehicles could be accommodated within car park (noting that the other 2 spaces are for Shule staff) and the remainder seven (7) would utilise on-street parking along the frontages of the school. The likelihood of this scenario is extremely low as visitors to the Shule during weekdays are usually throughout the day and during business hours (i.e. after drop off and before pick up times).

Table 5: Proposed Car Park 1 Capacity

Car space	Use
5 restricted	Available for Shule Staff and visitors 24 hours, 7 days
12 Childcare pick up and drop off space	Available for student pick up and drop off; Monday- Friday 8:00am- 9:30am, 3:00pm – 5:00pm; available for Shule use all other times.

Therefore, it is considered that adequate parking will be maintained for the proposed development with the net loss of one (1) parking spaces that are currently designated to the Dover Heights Shule. The security provisions surrounding car park 1 enables the parking to be managed appropriately.

Additionally, a Traffic Management Plan (TMP) has been prepared to demonstrate the management of off-street parking for the Dover Heights Shule and lists the roles and responsibilities of individuals to carry out the management of parking. A copy of the TMP is provided in **Appendix C**.

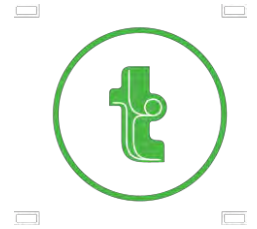


5.2 Accessible Parking

Council's DCP does not provide a rate for the provision of accessible car parking. No change is proposed to the existing arrangement. It is noted that the security personals will dedicate parking spaces accordingly for people with disabilities.

5.3 Servicing

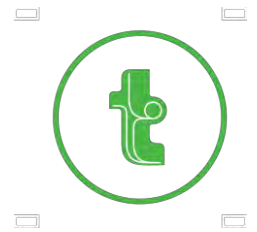
Servicing for the development includes deliveries for the Shule kitchen which vary day to day. Currently, delivery vehicles complete loading on-street. The servicing requirements of the proposed Shule will remain the same and therefore loading can continue to be accommodated on-street. This is considered acceptable as there will no additional deliveries needed as a result of this proposal.



6. Traffic Impacts

The proposed development includes the increase in the number of seats within the existing Shule to accommodate the congregation which currently attends the Shule. The proposed development will not change the volume of traffic generated by the site. That is, there is no anticipated increase in the number of patrons and no change in car occupancy rates. Rather, the site is increasing its capacity to accommodate the existing number of attendees.

In summary, there would be no additional traffic volume and therefore would have no material impact on the operation or performance of the surrounding road network and accordingly no external infrastructure improvements are required to support this development.



7. Access & Internal Design Aspects

7.1 Access

The development nominally requires a Category 1 Driveway under AS 2890.1 (2004), being a combined entry / exit driveway of 3.0 to 5.5 metres in width. In response, the development proposes to maintain the existing access arrangements onto Blake Street, being a combined entry / exit driveway of width 5.9 metres. This arrangement complies with AS 2890.1 (2004), it is expected that this access will continue to operate satisfactorily and hence, is considered acceptable.

7.2 Internal Design

Car Park 1 which accommodates the Shule car parking complies with AS 2890.1 (2004) and the following characteristics are noteworthy:

7.2.1 Parking Modules

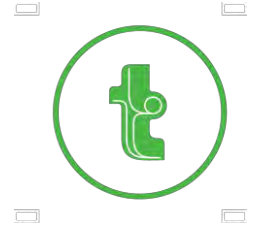
- ② All angled (90 degree) parking spaces are provided with a minimum space length of 5.4m, a minimum width of 2.4m and a minimum aisle width of 5.8m. These arrangements satisfy the User Class 1A requirements under AS 2890.1 (2004) and will operate satisfactorily.
- ② All spaces located adjacent to obstructions of greater than 150mm in height are to be provided with an additional width of 300mm.
- ② Dead-end aisles are to be provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1 (2004).

7.2.2 Other Considerations

- ② Appropriate visual splays in accordance with Figure 3.3 of AS 2890.1 (2004) are to be maintained at the access on Blake Street, Dover Heights.
- ② A swept path analysis of all critical movements has been undertaken to confirm geometry and compliance with the relevant standards. The swept path assessment is included in **Appendix D**.



In summary the internal configuration of the Car Park 1 has been designed in accordance with AS 2890.1 (2004). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with prior to the release of a Construction Certificate.



8. Conclusions

In summary:

- ② The Planning Proposal involves an extension of the existing Shule on Ground level to accommodate an additional 164 seats (a total of 466 seats) which include:
 - 89 women's seats in the south wing
 - 75 men's sets in the north wing
- ② The existing site is situated adjacent to the Kesser Torah College and Rodney Reserve in Dover Heights and on the corner of Blake Street and Napier Street. Between the proposed development and Kesser Torah College, there are three car parks which currently accommodates a total of 75 car parking spaces. The development proposes to reduce the overall car parking to 74 car parking spaces. Each car park serves a different purpose for staff, student and Shule parking (refer to Table 3).
- ② The development proposes net loss of one (1) off-street parking spaces within Car Park 1.
- ② The maximum parking demand of the Dover Heights Shule occurs during religious festivals, approximately seven (7) times a year, where the parking demand is 28 vehicles. It is considered that the parking demand can be accommodated off-street within Car Park 1 and Car Park 3. Note that the school is always closed on these days.
- ② The development proposes to maintain the existing access arrangements onto Blake Street, being a combined entry / exit driveway of width 5.9 metres. This arrangement complies with the requirements of AS 2890.1 (2004).
- ② The internal design arrangements comply with the requirements of AS 2890.1 (2004) and will operate safely and efficiently. The car park has also been assessed using the computer program Auto Track, as permitted by AS 2890.1 (2004), which demonstrates satisfactory operation.

It is therefore concluded that the proposed development is supportable on traffic planning grounds and will operate satisfactorily.



Appendix A

Photographic Record



View looking north within Car Park 1 at the three (3) Dover Heights Shule reserved car spaces



View looking south in Car Park 1.





View looking north within Car Park 1 at the three (3) Dover Heights Shule reserved car spaces



View looking north-east in Car Park 1.





View looking east in Car Park 1 at Day Car Pick Up and Drop Off allocated spaces.



View looking east in Car Park 1 at Day Car Pick Up and Drop Off allocated spaces.





View looking east in Car Park 1 at Day Car Pick Up and Drop Off allocated spaces.



View from Car Park 1 looking north-west at cul-de-sac of Napier Street, Dover Heights.





Advanced Warning sign for rising bollard at entrance to Car Park 1.



Security rising bollards and boom gates at entry/exit driveway of Car Park 1





View of the three parallel parking spaces on the western side of Car Park 1.



View looking north from the entrance of Car Park 1.





View looking west on Blake Street, Dover Heights



View looking east on Blake Street from the intersection with Napier Street, Dover Heights.





View looking east on Blake Street along the frontage of the Kesser Torah College, Dover Heights.



View looking north at Car Park 3 from Rodney Reserve, Dover Heights.





Appendix B

Reduced Plans