



onemilegrid
TRAFFIC ENGINEERING

Received
22/05/2018

TreeTop Adventure Park Ivanhoe

Transport Impact Assessment



15178TIA001C-F.docx

31 May 2016

onemilegrid

ABN: 79 168 115 679

(03) 9939 8250
1/59 Keele Street
COLLINGWOOD, VIC 3066
www.onemilegrid.com.au

DOCUMENT INFORMATION

| | | | |
|--------------|---|---------------|---|
| Prepared For | Ecoline Pty Ltd | | |
| File Name | 15178TIA001C-F.docx | Report Date | 31 May 2016 |
| Prepared By | James Dear | Authorised By | Ross Hill |
| Signature |  | Signature |  |

© One Mile Grid Pty Ltd. This document has been prepared by **onemilegrid** for the sole use and benefit of the client as per the terms of engagement. It may not be modified or altered, copied, reproduced, sold or transferred in whole or in part in any format to any person other than by agreement. **onemilegrid** does not assume responsibility or liability to any third party arising out of use or misuse of this document.



CONTENTS

| | | |
|------------|--|-----------|
| 1 | INTRODUCTION..... | 4 |
| 2 | EXISTING CONDITIONS | 4 |
| 2.1 | Site Location | 4 |
| 2.2 | Planning Zones | 5 |
| 2.3 | Road Network..... | 5 |
| 2.3.1 | Banksia Street | 5 |
| 2.3.2 | The Boulevard | 6 |
| 2.3.3 | Access Road | 6 |
| 2.4 | SmartRoads Road User Hierarchy Maps | 7 |
| 2.5 | Traffic Volumes | 7 |
| 2.6 | Car Parking | 8 |
| 2.7 | Sustainable Transport | 9 |
| 3 | DEVELOPMENT PROPOSAL..... | 10 |
| 4 | BICYCLE PARKING CONSIDERATIONS | 10 |
| 5 | CAR PARKING CONSIDERATIONS..... | 11 |
| 5.1 | Statutory Car Parking Requirements..... | 11 |
| 5.2 | Car Parking Demand Assessment | 11 |
| 5.3 | Review of Car Parking Provision..... | 12 |
| 5.3.1 | Availability of Alternative Car Parking | 12 |
| 5.3.2 | Alternative Modes of Transport | 12 |
| 5.3.3 | Adequacy of Proposed Car Parking Provision | 13 |
| 6 | TRAFFIC CONSIDERATIONS..... | 13 |
| 7 | CONCLUSIONS..... | 13 |

TABLES

| | | |
|---------|---------------------------------|---|
| Table 1 | Existing Traffic Volumes..... | 7 |
| Table 2 | Public Transport Provision..... | 9 |

FIGURES

| | | |
|----------|---|---|
| Figure 1 | Site Location..... | 4 |
| Figure 2 | Planning Scheme Zones..... | 5 |
| Figure 3 | The Boulevard, looking north (left) and south (right) | 6 |
| Figure 4 | Access Road, looking north-west (left) and south-east (right) | 6 |
| Figure 5 | SmartRoads Road User Hierarchy Map | 7 |
| Figure 6 | Car Parking Locations | 8 |
| Figure 7 | Parking Occupancy Profile | 8 |
| Figure 8 | TravelSmart Map | 9 |

1 INTRODUCTION

onemilegrid has been requested by Ecoline Pty Ltd to undertake a Transport Impact Assessment of the proposed TreeTop Adventure Park outdoor recreation facility development at 340-680 The Boulevard, Ivanhoe.

As part of this assessment the subject site has been inspected with due consideration of the development proposal, traffic and parking data has been sourced and relevant background reports have been reviewed.

2 EXISTING CONDITIONS

2.1 Site Location

The subject site is located on the western side of the Yarra River, bounded by Banksia Street to the north and The Boulevard to the west as shown in Figure 1 below. The site is addressed as 340-680 The Boulevard, Ivanhoe.

Figure 1 Site Location



Copyright Melway Publishing

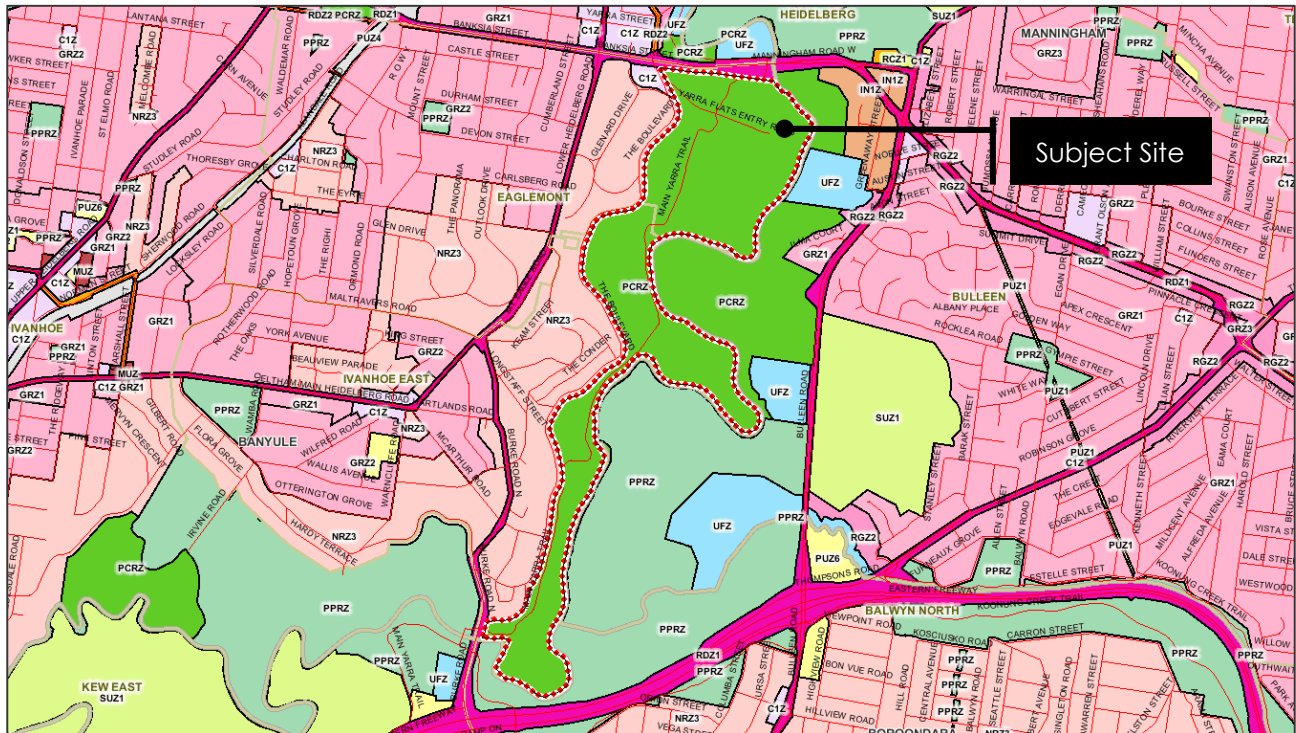
The site is currently occupied by parkland, owned and managed by Parks Victoria. Access to the site is provided from The Boulevard, and its signalised intersection with Banksia Street to the north-west.

Land use in the immediate vicinity of the site is varied in nature, with largely residential uses to the west of The Boulevard, and retail and commercial uses within the Heidelberg Activity Centre to the north-west.

2.2 Planning Zones

It is shown in Figure 2 that the site is located within a Public Conservation and Resource Zone (PCRZ) and partly a Road Zone (RDZ1) and is subject to Environmental Significance Overlays (ESO1, ESO4), a Heritage Overlay (HO134) and a Land Subject to Inundation Overlay (LSIO).

Figure 2 Planning Scheme Zones



2.3 Road Network

2.3.1 Banksia Street

Banksia Street is a VicRoads controlled arterial route aligned generally east-west between Heidelberg Road and Bridge Street, continuing to the west and east as Bell Street and Manningham Road respectively.

At the frontage of the site it provides three traffic lanes in each direction, separated by a landscaped central median.

The intersection of The Boulevard and Banksia Street is controlled by a signalised intersection, with Dora Street forming the northern leg of the four-way intersection.

2.3.2 The Boulevard

The Boulevard is a local road aligned largely north-south between Burke Road North and Banksia Street.

At the site entrance, it provides for two-way traffic, with No Stopping restrictions on both sides. Further south, parking is permitted along the western side, with the roadway narrowing further and the surface conditions deteriorating.

Restrictions are imposed on The Boulevard to the south of the site access, with no entry permitted southbound between 7:00AM-9:00AM Monday-Friday.

The cross-section of The Boulevard at the frontage of the site is shown in Figure 3.

Figure 3 The Boulevard, looking north (left) and south (right)



2.3.3 Access Road

The subject site and surrounding parklands are accessed by a two-way access road extending south-east from The Boulevard.

The access road accommodates two-way travel within a pavement of approximately 7 metres width, with two road humps installed to manage vehicle speeds.

Access to and from the park area is controlled with a gate that closes between 6:00am and 6:00pm. A view of the Access Road cross-section is shown in Figure 4.

Figure 4 Access Road, looking north-west (left) and south-east (right)

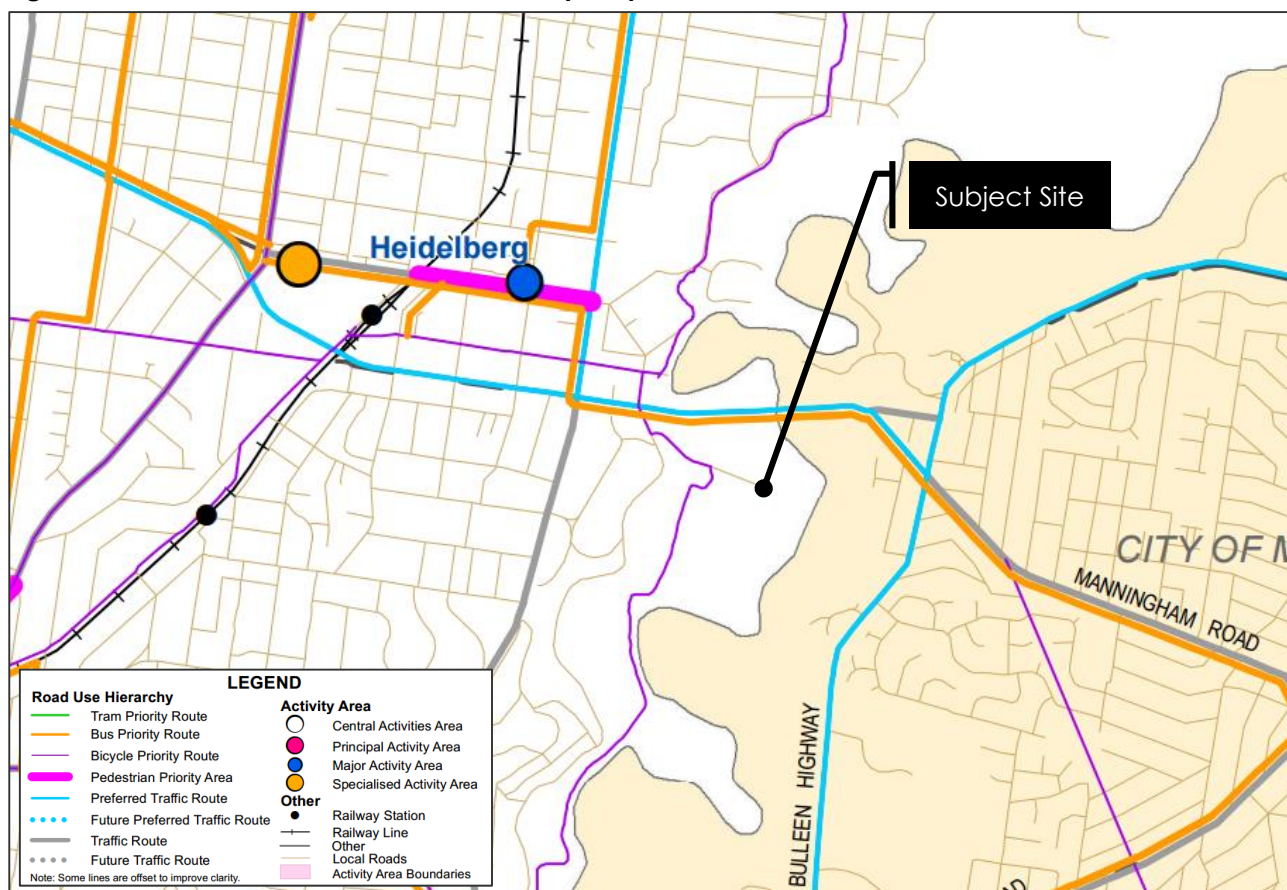


2.4 SmartRoads Road User Hierarchy Maps

In mid-2011 VicRoads developed the SmartRoads Road User Hierarchy Maps which aim to 'manage competing interests for limited road space by giving priority use of the road to different transport modes at particular times of the day.'

The SmartRoads map, reproduced in Figure 5, identifies the priority modes on each arterial road in the vicinity of the site, and indicates that Banksia Road is a Bus Priority Route and Preferred Traffic Route and The Boulevard is a Bicycle Priority Route.

Figure 5 SmartRoads Road User Hierarchy Map



2.5 Traffic Volumes

Traffic volume information for Banksia Street adjacent to the site was obtained via VicRoads Traffic Profile Viewer. The data indicates that it carries the following approximate traffic volumes.

Table 1 Existing Traffic Volumes

| Direction | Daily | AM Peak (8:00AM) | PM Peak (5:00PM) |
|--------------|-------------------|------------------|------------------|
| Westbound | 30,875 vpd | 3,650 vph | 2,525 vph |
| Eastbound | 31,000 vpd | 2,500 vph | 3,700 vph |
| Total | 61,875 vpd | 6,150 vph | 6,225 vph |

On a Saturday traffic volumes are around 20% lower than weekday peaks, with in the order of 4,950 vph during the midday peak hour, comparable with volumes on a weekday afternoon.

2.6 Car Parking

The subject site is serviced by a number of public car parking areas, located on and accessed from the internal access road as shown in Figure 6 below.

A total of 127 car spaces are currently provided on-site, although the 41 easternmost parking spaces are currently closed for public car access (denoted by the orange marker below).

Figure 6 Car Parking Locations

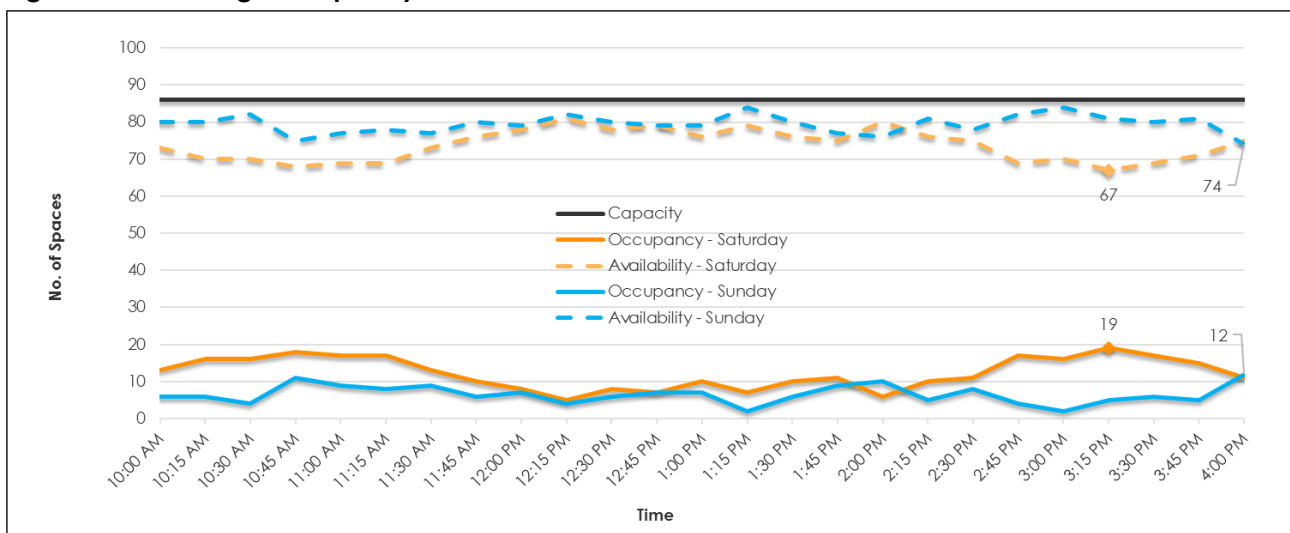


In order to establish the existing parking conditions at the site, **onemilegrid** commissioned parking occupancy surveys of the on-site car parks, between 10:00AM and 4:00PM on each of Saturday 13th and Sunday 14th February 2016. Weather during the surveys was warm and sunny.

On the Saturday, peak occupancy occurred at 3:15 PM when 19 spaces were occupied, and on the Sunday peak occupancy occurred at 4:00PM when 12 spaces were occupied. During these respective peak periods, no less than 67 and 74 spaces remained vacant.

A view of the parking occupancy profile for each day is provided in Figure 7 below.

Figure 7 Parking Occupancy Profile



It is noted that the western parking areas were closed during the survey, providing an additional 41 vacant parking spaces on-site.

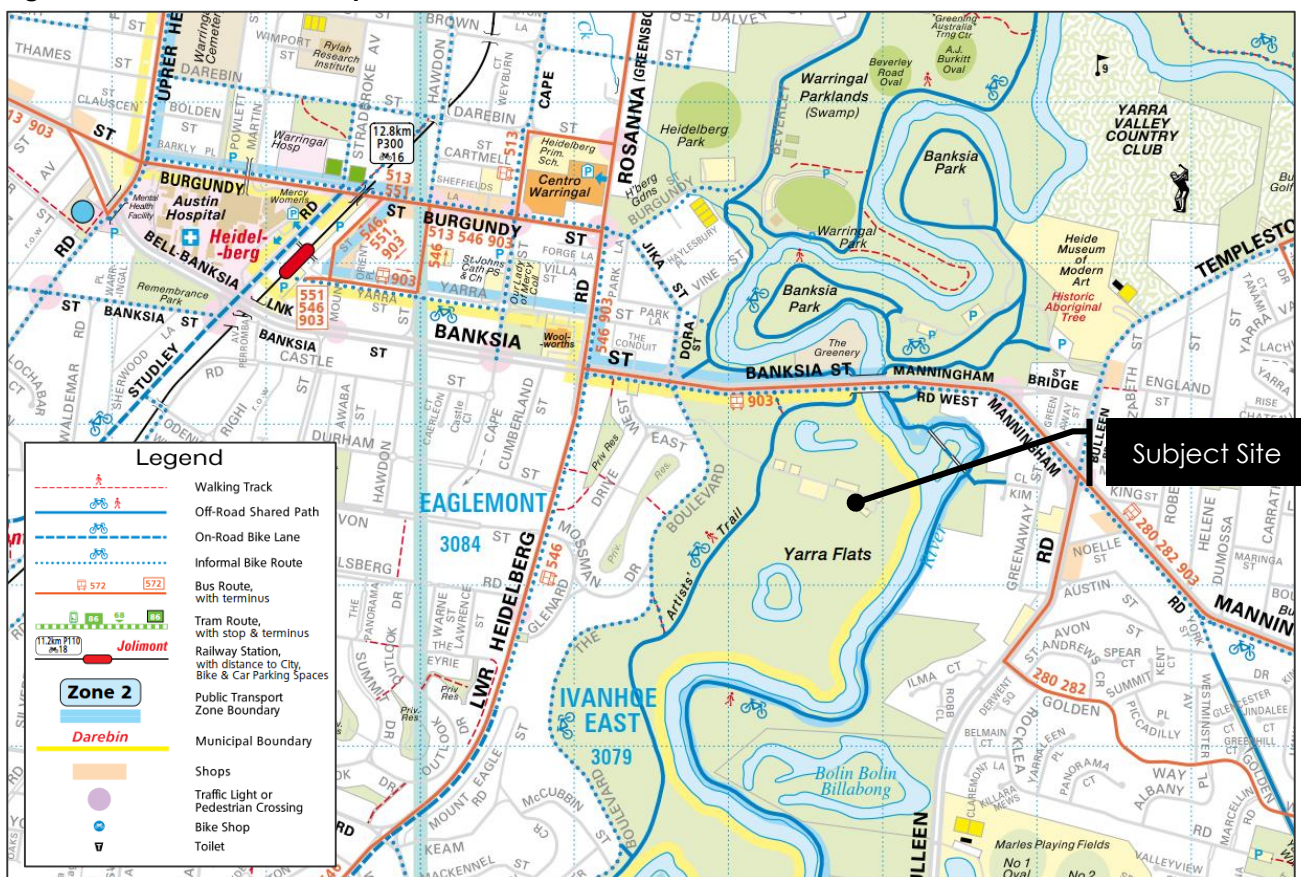
2.7 Sustainable Transport

An extract of the TravelSmart Map for the City of Banyule is shown in Figure 8, highlighting the public transport, bicycle and pedestrian facilities in the area.

The site has good access to sustainable transport modes, with bus services operating along Banksia Street and Lower Heidelberg Road, with further connections to bus and rail services within Heidelberg to the west.

In addition, the site has excellent access to bicycle routes, with off-road paths along the Yarra River and the Artists Trail and informal routes along The Boulevard and Banksia Street.

Figure 8 TravelSmart Map



The full public transport provision in the vicinity of the site is detailed in Table 2.

Table 2 Public Transport Provision

| Mode | Route No | Route Description | Nearest Stop/Station |
|-------|------------------|--|-----------------------|
| Train | Hurstbridge Line | | Heidelberg Station |
| Bus | 546 | Heidelberg - Melbourne University - Queen Victoria Market via Clifton Hill and Carlton | Lower Heidelberg Road |
| | 551 | Heidelberg - La Trobe University Interchange | Heidelberg Station |
| | 903 | Altona - Mordialloc (SMARTBUS Service) | Banksia Street |

3 DEVELOPMENT PROPOSAL

It is proposed to develop part of the site and allow use as an outdoor recreation facility, accommodating a TreeTop Adventure Park high-ropes course.

The adventure park is described by the operator as a “*unique eco-tourism experience in the tree tops where participants slide down flying foxes and move from tree to tree on suspension bridges*”. The facility will provide eight courses of varying difficulties, with ropes courses extending throughout the canopy trees within the parkland.

The use will operate 7 days a week throughout the year but is expected to be busiest on weekends and school and public holidays. During the week, visitations would largely comprise school groups.

The courses will have a combined capacity for 65 visitors, and will require between 2 and 2.5 hours for completion with start times appropriately staggered between groups. In total, up to 100 visitors are expected on-site at any one time. The use will require up to eight staff.

It is proposed to utilise the existing car parking areas on-site to accommodate visitor and staff parking demands, and for bus pick-up/drop-off.

4 BICYCLE PARKING CONSIDERATIONS

The bicycle parking requirements for the proposed development are identified in Clause 52.34 of the Banyule Planning Scheme. The Planning Scheme does not specifically refer to parking requirements for Outdoor Recreation Facility uses, therefore, no bicycle parking is required.

Notwithstanding the above, noting the location of the site in proximity to numerous bicycle routes, and with the intention of supporting sustainable transport modes, it is recommended that some bicycle parking (in the order of 5 spaces) be provided for the use.

Regardless of any formal bicycle parking provisions, there are considerable opportunities for bicycle parking in the surrounding area to accommodate any bicycle parking demand generated.

5 CAR PARKING CONSIDERATIONS

5.1 Statutory Car Parking Requirements

The proposed use is most appropriately classified within Clause 74 of the Planning Scheme under the "outdoor recreation facility" land-use, which is nested under the broader classification of "Minor sports and recreation facility" use, which is further nested under the broader land-use classification of "Leisure and recreation".

No specific parking provisions are detailed within Clause 52.06 of the Banyule Planning Scheme for any of the above land-use classifications. In such cases, Clause 52.06-5A of the Planning Scheme states that:

'Where a use of land is not specified in Table 1 or where a car parking requirement is not specified for the use in another provision of the planning scheme or in a schedule to the Parking Overlay, before a new use commences or the floor area or site area of an existing use is increased, car parking spaces must be provided to the satisfaction of the responsible authority.'

As such, the provision of parking is to the satisfaction of the responsible authority.

No additional car parking is proposed to be provided on-site, with the facility relying instead on the existing parking provided on-site.

In light of the above, and in order to determine that sufficient parking is available for the use, an empirical assessment of the car parking demands generated by the land use has been conducted, with consideration given to:

- The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.
- The variation of car parking demand likely to be generated by the proposed use over time.
- The short-stay and long-stay car parking demand likely to be generated by the proposed use.
- The availability of public transport in the locality of the land.
- The convenience of pedestrian and cyclist access to the land.
- The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.
- The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.

5.2 Car Parking Demand Assessment

The facility operator (Ecoline) operates similar facilities in NSW at the Ourimbah State Forest, Western Sydney Parklands and Blue Gum Hills Regional Park of a comparable size and operation to the proposed use, in comparable suburban locations.

Parking studies undertaken at these facilities have identified typical occupancies of 3.5 visitors per vehicle, with these locations having notably inferior connections to public transport links.

Assuming that the same driver ratio (0.29 spaces per visitor) applies to visitors of the proposed development, we can expect the use to generate demand for 29 visitor parking spaces when operating at capacity.

During non-peak periods, parking demands are expected to be much lower, with school groups forming the majority of patronage. It is expected that groups would largely be transported to the site in buses and any parking demands largely attributable to staff only.

For the purposes of this assessment, it is assumed that all eight staff required during peak operation will drive to the site.

For the purposes of comparison, the Place of Assembly land use contained within the Planning Scheme identifies a parking requirement for 0.3 spaces per patron, equivalent to 30 spaces for the proposed peak of 100 patrons.

5.3 Review of Car Parking Provision

From the above, we can expect the use to generate peak parking demands for a total of up to 37 parking spaces, comprising 29 spaces for visitors and eight spaces for staff.

As noted previously, it is proposed to rely on the existing car parking provided on-site and provide no additional parking for the use.

Clause 52.06-6 of the Banyule Planning Scheme indicates that a permit may be granted to reduce the number of parking spaces provided below the likely demand (including to zero), in consideration of a number of factors including:

- The Car Parking Demand Assessment.
- The availability of alternative car parking in the locality of the land, including:
 - ✦ Efficiencies gained from the consolidation of shared car parking spaces.
 - ✦ Public car parks intended to serve the land.
 - ✦ On street parking in non residential zones.
 - ✦ Streets in residential zones specifically managed for non-residential parking.
- Access to or provision of alternative transport modes to and from the land.
- Any other relevant consideration.

5.3.1 Availability of Alternative Car Parking

Parking surveys undertaken on-site identified no fewer than 67 and 74 vacant spaces on a Saturday and Sunday respectively within the existing parking areas open to the public.

This supply of parking will be more than sufficient to accommodate demands generated by the use, estimated at a peak of 37 spaces, with in the order of 30-37 spaces expected to remain available for other visitors to the park.

In addition to this supply of parking, there are an additional 41 parking spaces within the currently closed parking area to the west that may also be utilised by the TreeTops facility. It is not expected that these will be required for use noting the existing vacancies recorded in the surveys.

5.3.2 Alternative Modes of Transport

As indicated in Section 2.7, the site has good access to Public Transport, with train and bus services in the vicinity. In addition, the site is well-located with respect to on-road and off-road bicycle and shared-user trails.

The provision of these transport alternatives will ensure that visitors and staff have realistic means to travel to the site by means other than private vehicles.

5.3.3 Adequacy of Proposed Car Parking Provision

It is expected that the proposed supply of car parking is appropriate for the proposed development, considering the following:

- Parking surveys undertaken within the on-site car park identified more than sufficient capacity to accommodate the projected levels of parking demand;
- In the unlikely event that parking demands exceed the existing supply, additional parking is available within areas currently closed to the public; and
- The site is located in close proximity to train, bus, bicycle and pedestrian routes, ensuring that there are access options for visitors and employees without parking on-site.

6 TRAFFIC CONSIDERATIONS

As noted previously, the course is expected to attract up to 100 visitors, and will require between 2 and 2.5 hours for completion.

Assuming that the 29 car spaces associated with visitors turn over once every two hours, the use is expected to generate in the order of 30 movements (in and out) per hour during the peak periods.

All traffic to and from the site is likely to approach from the north and utilise the signalised intersection between The Boulevard and Banksia Street. With an approximately cycle time of 90 seconds at these signals, the proposal represents, on average, less than one additional movement each cycle. This modest increase in traffic is expected to be readily accommodated without contributing to any meaningful increase in queues or delays within the intersection.

The proposal represents only a moderate increase to traffic volumes along the northern section of The Boulevard only. Noting the wide pavement provided in this location, it is not expected that that the proposal will have any considerable impact on the operation of local road network.

It is noted that the use will peak largely on weekends, where traffic volumes on the surrounding roads are in the order of 20% lower than the weekday peaks. As such, it is not expected that the use will have any material impacts on the surrounding road network.

7 CONCLUSIONS

It is proposed to allow use of the site for an outdoor recreation facility, accommodating a TreeTop Adventure Park high-ropes course.

Considering the forgoing analysis, it is concluded that:

- There are no requirements to provide bicycle parking on-site, however in consideration of the site proximity to bicycle routes it is recommended that provision is made on-site for staff and visitor bicycle parking;
- The use does not attract a specific parking rate within Clause 52.06 of the Planning Scheme, and as such, the provision of parking is to the satisfaction of the responsible authority;
- No additional parking is proposed to be provided for the use and it will instead rely on the existing car parking areas within the Yarra Flats parkland;
- A review of parking demands for similar facilities in NSW indicates that the use may generate up to 37 spaces of parking demands which will be readily be accommodated within the on-site parking areas without impacting the availability of parking for other users; and
- Traffic generated by the use is not expected to contribute to any additional queues and delays on the surrounding road network.