



QuantumTraffic

Traffic Impact Assessment Report

148-154 Marshalltown Road, Grovedale

Proposed Restricted Recreation Facility (Gym)

19/06/2026

Traffic Impact Assessment Report

148-154 Marshalltown Road, Grovedale

Proposed Restricted Recreation Facility (Gym)

Document Control

Revision	Date	Quantum Reference	
A	19/06/2026	26-0366	TR1B



phone | 1300 756 216
office | Melbourne

email | admin@quantumtraffic.com.au
website | www.quantumtraffic.com.au

Copyright © 2025- by Quantum Traffic Pty Ltd (ABN: 54617474370 ACN: 617474370)

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher, Quantum Traffic.

Executive Summary

This report assesses the Proposed Restricted Recreation Facility (Gym) at Unit 2, 148-154 Marshalltown Road, Grovedale. The following provides an executive summary of the report.

Proposed Development

The proposal seeks a change of use for Unit 2 (705m²) from warehouse to restricted recreation facility (gym). The gym will operate 24/7, accommodating up to 25 patrons at peak times and up to 15 patrons at off-peak times.

Car Parking Assessment

The land use term 'Restricted Recreation Facility' is not listed in Table 1 of Clause 52.06-5. On this basis, car parking is to the satisfaction of the Responsible Authority.

The Car Parking Demand Assessment indicates that the proposed provision of car parking is supported based on the following:

- a) Empirical surveys commissioned by RMS NSW identify average peak parking demands of 3.3 spaces/100m² and maximum peak parking demands of 4.3 spaces/100m² for sites with high levels of private motor vehicle usage. Applying these rates to the proposed 705m² gym, results in anticipated peak parking demands of 23-30 spaces.
- b) A historical VCAT decision for a retrospective 24/7 gym application in Heidelberg West identified peak parking demands of 0.8 spaces per patron (inclusive of staff and patrons). Applying this rate to the proposed development results in peak parking demands of 20 spaces and off-peak parking demands of 12 spaces.
- c) Overall, we anticipate the proposed gym will generate peak demands of 20-30 spaces and off-peak demands of 12 spaces.
- d) Based on the approved planning permit, Unit 2 has historically been notionally allocated 12 spaces within the pool of car parking at 148-154 Marshalltown Road. On this basis, the off-peak demands can be accommodated within the historical notional allocation, whilst the peak parking demands would extend beyond the historical notional allocation.
- e) Peak times for the proposed gym use include weekday mornings (6am-8am), weekday evenings (5pm-7pm) and Saturday mornings (8am-11am). These peak times are generally complementary with the other land uses on-site, with peak operation for the various land uses generally off-set.
- f) An analysis of the three critical gym peak periods indicates that the overall complex (all units, including the proposed Unit 2 gym) is expected to generate parking demand for 32-63 spaces. Given that the on-site parking operates as an unallocated pool, the existing on-site parking can cater for the expected parking demands.

The existing provision of 3 accessible spaces satisfies the NCC requirements for accessible parking.

Bicycle Parking

The proposed development generates a bicycle parking requirement for 5 spaces under Clause 52.34 of the Planning Scheme. The development plans show 5 bicycle parking spaces on the ground floor, which satisfies the statutory requirement.

Traffic Impacts

The proposed gym is expected to generate 30 vehicles/hour during peak periods, representing an increase of approximately 26 vehicles/hour compared to the existing warehouse use. This level of traffic generation is relatively modest and can be accommodated by the surrounding road network.

Service Vehicles

Waste collection and loading requirements are expected to be minimal for the proposed gym use. It is proposed to continue loading/waste collection on-site via the accessway to the south of the building, which has been historically developed for the commercial complex.

Summary of Opinions

Having undertaken all tasks necessary to adequately assess the traffic engineering impacts of the Proposed Restricted Recreation Facility (Gym) at Unit 2, 148-154 Marshalltown Road, Grovedale, the proposed development is satisfactory.

There are no reasons why a permit for the proposed development should not be issued from a traffic engineering perspective, subject to appropriate conditions.

Table of Contents

Executive Summary	iii
1 Introduction	3
2 Proposal	3
3 Background	3
3.1 Existing Planning Permit (PP-1015-2023/A).....	3
3.2 Unit 3 Change of Use (PP-151-2026)	4
4 Existing Conditions.....	4
4.1 Subject Site.....	4
4.2 Road Network	6
4.3 Public Transport.....	7
4.4 Existing Car Parking Conditions	8
4.4.1 Car Parking Supply & Restrictions.....	8
4.4.2 Car Parking Occupancy Surveys	9
5 Car Parking Assessment.....	11
5.1 Statutory Car Parking Assessment	11
5.2 Car Parking Demand Assessment	11
5.2.1 RMS NSW – Empirical Gymnasium Surveys:.....	11
5.2.2 Historical VCAT Decision	12
5.2.3 Summary.....	13
5.3 Adequacy of Car Parking Provision.....	14
5.4 Accessible Car Parking.....	16
6 Bicycle Parking Assessment	17
7 Traffic Impacts	17
7.1 Traffic Generation	17
8 Service Vehicles.....	18
8.1 Waste Collection & Loading.....	18
9 Conclusions.....	19

Appendices

Appendix A: Development Plan

Appendix B: Car Parking Occupancy Survey Data

Figures

Figure 1: Location Map (Source: www.melway.com.au)	5
Figure 2: Aerial Photograph (Source: Nearmap)	6
Figure 3: Marshalltown Road (View West)	7
Figure 4: Marshalltown Road (View East)	7
Figure 5: Public Transport Map (Source: Transport Victoria)	8
Figure 6: Existing Public Car Parking Facilities (Source: Nearmap).....	9
Figure 7: Car Parking Occupancy Survey Results – Wednesday 17/6/26.....	10

Tables

Table 1: Endorsed Plans – Nominal Parking Demands for Warehouse Units	4
Table 2: Existing Conditions Summary.....	4
Table 3: Existing Car Parking Supply and Restrictions	9
Table 4: Available Parking Spaces by Location – Peak Times	10
Table 5: RMS NSW Gym Surveys (2014) – Site Characteristics	11
Table 6: RMS NSW Gym Surveys (2014) – Peak Car Parking Demands.....	12
Table 7: Car Parking Demand Assessment Summary	13
Table 8: Car Parking Demand Assessment Factors	13
Table 9: Car Parking Provision Assessment	15
Table 10: On-Site Car Parking Demand Assessment – Peak Gym Operating Times	15
Table 11: Statutory Bicycle Parking Assessment	17

1 Introduction

The following Traffic Impact Assessment Report reviews the critical matters pertaining to traffic engineering associated with the Proposed Restricted Recreation Facility (Gym) at Unit 2, 148-154 Marshalltown Road, Grovedale.

2 Proposal

The proposal is for a change in use from warehouse to restricted recreation facility (gym) for Unit 2 of the commercial complex at 148-154 Marshalltown Road, Grovedale.

The proposed gym will be operated by 'Core Health Group', providing exercise physiology services alongside indoor gym facilities. The gym will operate with access only to members, with a small area for visitors (appointment only). A summary of the key features of the proposed gym are as follows:

- 705m² floor area
- 24/7 operation for members
- Appointment based visitation during typical business hours
- Up to 5 staff members at any one time.
- Up to 25 occupants during peak periods (6am-8am & 5pm-7pm weekday, 8am-11am Saturdays)
- 5-15 occupants during off peak periods.

The proposal will continue to utilise the shared car parking provided for the broader complex, with a total of 92 spaces (89 conventional and 3 accessible spaces).

3 Background

3.1 Existing Planning Permit (PP-1015-2023/A)

City of Greater Geelong issued planning permit PP-1015-2023/A for the use of the subject site for an office and warehouse. The approved development scheme included the following yields:

- Office – 1,100m² (1 unit)
- Warehouse – 3,329m² (8 units)

A total of 93 car parking spaces are shown in the endorsed plans, including 90 conventional spaces and 3 accessible parking spaces.

The on-site car parking is not allocated to individual uses, but rather operates as an unbundled pool of parking to service the overall development.

The Traffic Impact Assessment report prepared for the original development (Quantum Traffic, 23-0142C) notionally considered parking demands as follows:

- Office (Unit 1) – 36 spaces
- Warehouse Units (Unit 2 to Unit 9) – 57 spaces

The parking demands for the warehouse units have been attributed by floor area from the endorsed plans in Table 1 below.

Table 1: Endorsed Plans – Nominal Parking Demands for Warehouse Units

Site Feature	Floor Area	Percentage of Total Warehouse Floor Area	Estimated Parking Demands
Unit 2	705m ²	21.2%	12
Unit 3	705m ²	21.2%	12
Unit 4	677m ²	20.3%	12
Unit 5	249m ²	7.5%	5
Unit 6	248m ²	7.4%	4
Unit 7	248m ²	7.4%	4
Unit 8	248m ²	7.4%	4
Unit 9	249m ²	7.5%	4
TOTAL	3,329m²	100%	57 spaces

Based on the above, Unit 2 has been historically considered with a 12 space share of the overall car parking provision as part of PP-1015-2023/A.

3.2 Unit 3 Change of Use (PP-151-2026)

City of Greater Geelong issued a change of use permit for Unit 3 in February 2026, from warehouse to retail premises (second hand goods).

Based on our site inspection, a 'Lifeline' Op Shop was scheduled for a grand opening on Thursday 18th June 2026.

4 Existing Conditions

4.1 Subject Site

The proposed development site is located at 148-154 Marshalltown Road, Grovedale, on the south side of the road between Surf Coast Highway (Torquay Road) and Bailey Street.

A summary of the key features of the subject site are summarised in Table 2 below.

Table 2: Existing Conditions Summary

Site Feature	Detail
Municipality	
Municipality	City of Greater Geelong
Zoning & Overlays	
Zoning	Industrial 1 Zone (IN1Z)
Overlays	Design and Development Overlay (DD020)
Car Parking Area	
Car Parking Requirements Map	Category 2

Traffic Impact Assessment Report



148-154 Marshalltown Road, Grovedale - Proposed Restricted Recreation Facility (Gym)

Site Feature	Detail
Critical Dimensions	
Unit 2 - Area	705m ² (588m ² ground floor, 117m ² first floor)
Existing Use	
Unit 2, 148-154 Marshalltown Road	Warehouse (Vacant)
Existing Vehicle Access	
148-154 Marshalltown Road	2 x 6.1m crossovers to Marshalltown Road

A locality plan and aerial photograph of the subject site are provided in Figure 1 and Figure 2 below.

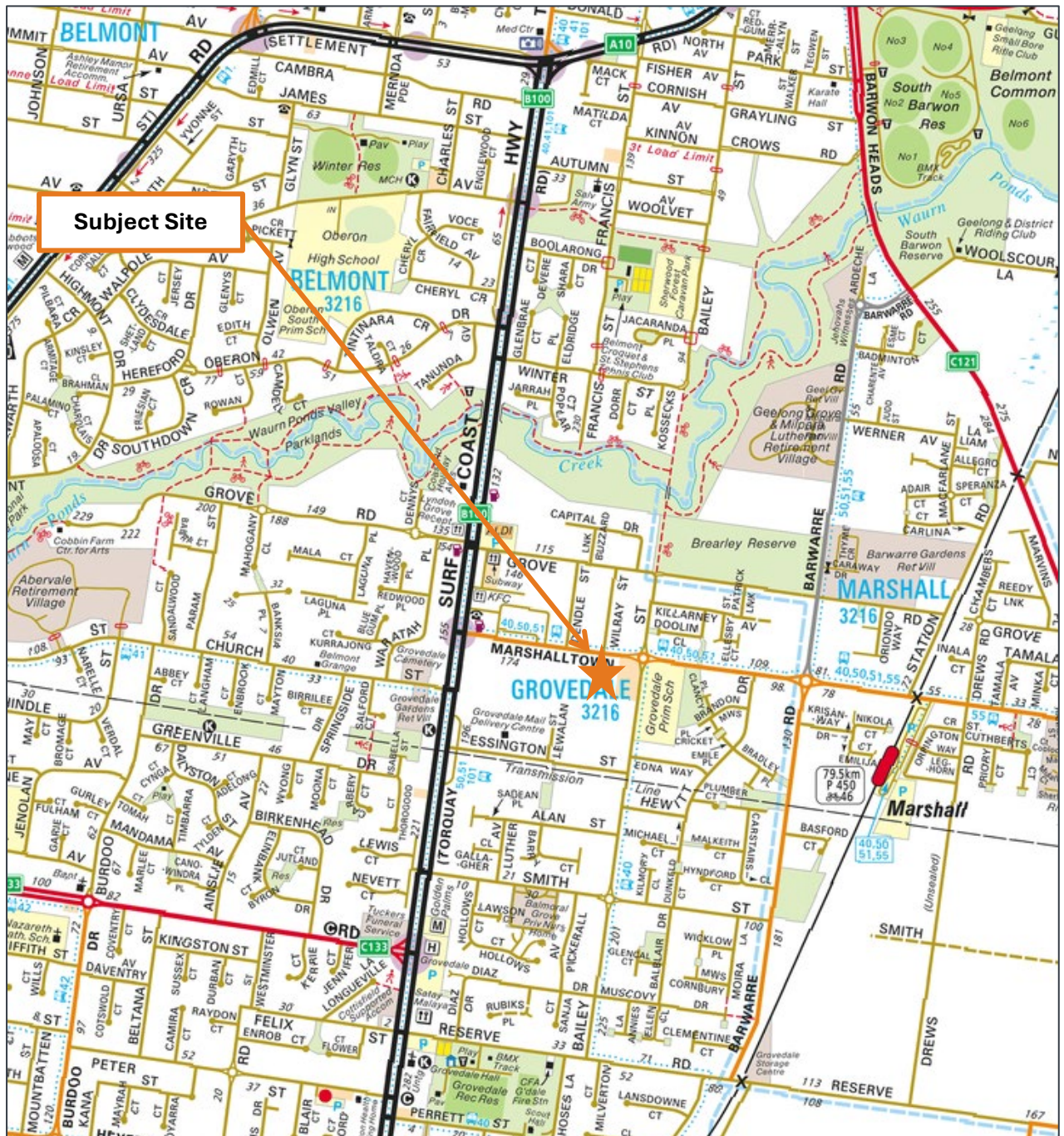


Figure 1: Location Map (Source: www.melway.com.au)

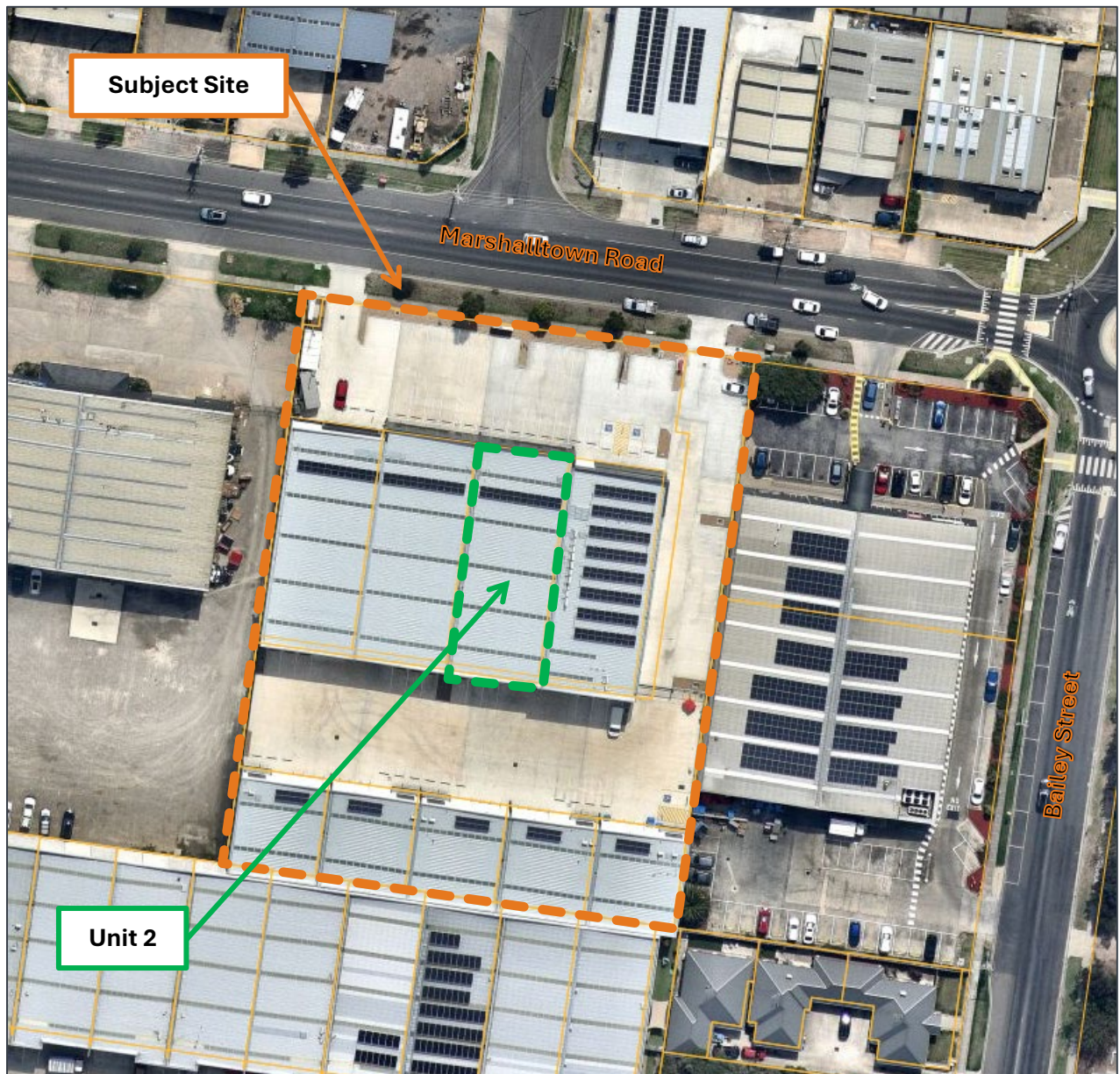


Figure 2: Aerial Photograph (Source: Nearmap)

4.2 Road Network

Marshalltown Road

Marshalltown Road is classified as a 'Main Distributor – Urban' under the Greater Geelong Public Road Register. Marshalltown Road extends east-west between Torquay Road in the west and Barwon Heads Road in the east.

In the vicinity of the subject site, Marshalltown Road includes a single carriageway with a single traffic lane and parallel parking lane in each direction.

Kerbside parking on both sides of Marshalltown Road is unrestricted.

The intersection of Marshalltown Road / Torquay Road is controlled by traffic signals and the intersection of Marshalltown Road / Bailey Street is controlled by a roundabout.

Marshalltown Road has a posted speed limit of 60km/h, with a time based 40km/h school zone commencing to the east of Wilray Street.

Photographs of Marshalltown Road in the vicinity of the subject site are shown in Figure 3 and Figure 4 below.



Figure 3: Marshalltown Road (View West)



Figure 4: Marshalltown Road (View East)

4.3 Public Transport

The site has access to public transport infrastructure, with bus services operating along Marshalltown Road (directly past the subject site) and Torquay Road (approximately 300m west of the subject site).

The public transport services in the vicinity of the site are as follows:

- Bus Route 40 – Service between Geelong Station and Deakin University via Breakwater.
- Bus Route 41 – Service between Geelong Station and Deakin University via Grovedale.
- Bus Route 53 – Service between Geelong Station and Torquay (Bell Street).

These services provide connections throughout Geelong and the surrounding suburbs.

A map of the existing public transport services in the vicinity of the subject site are shown in Figure 5 below.

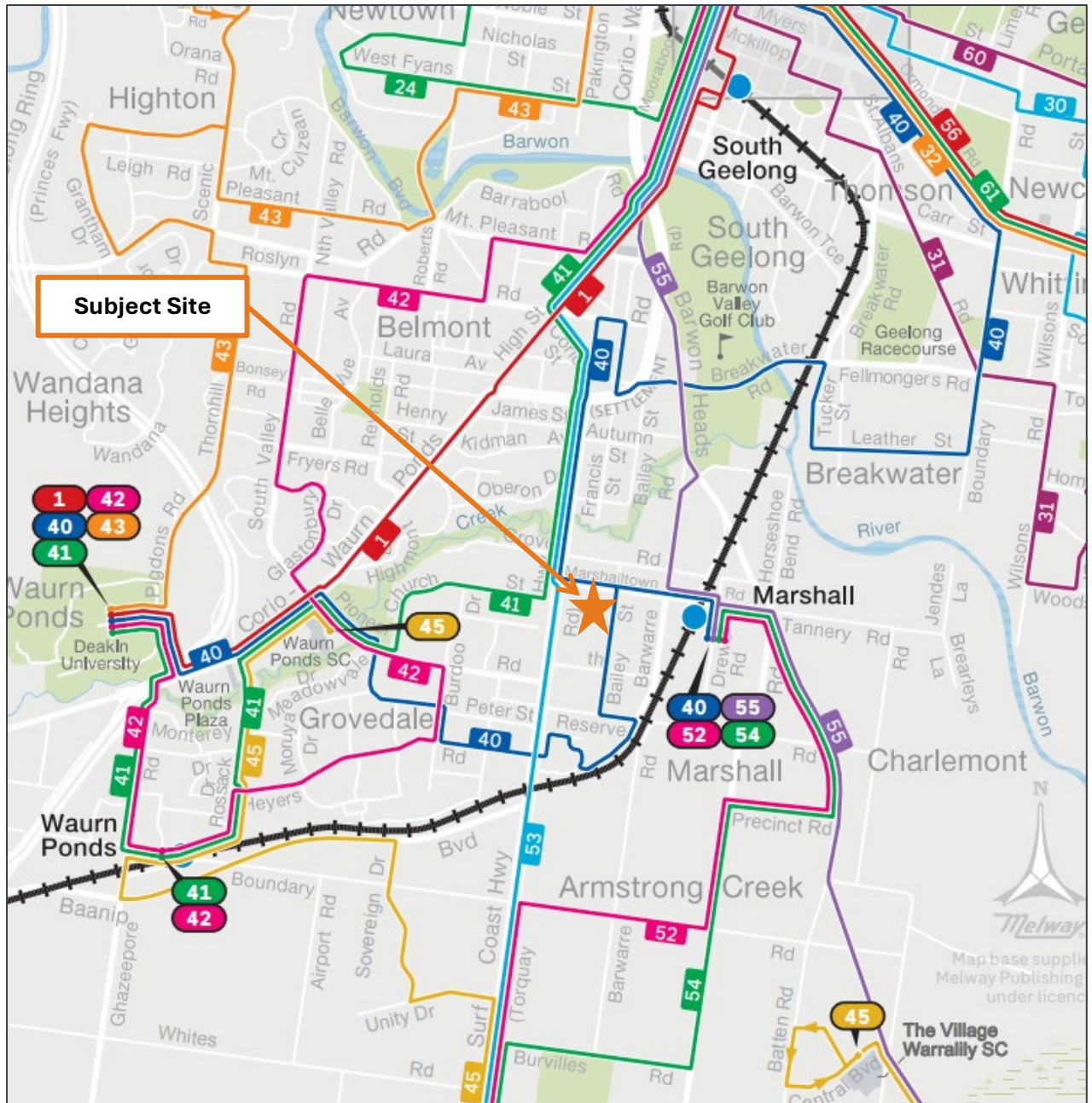


Figure 5: Public Transport Map (Source: Transport Victoria)

4.4 Existing Car Parking Conditions

4.4.1 Car Parking Supply & Restrictions

Car parking surveys have been undertaken for the on-site car parking (148-154 Marshalltown Road, Grovedale) and the surrounding on street parking in close vicinity to the subject site.

A summary diagram showing the location of the surveyed car parking facilities is shown in Figure 6 below, with a summary of the existing parking supply and restrictions provided in Table 3 below.



Figure 6: Existing Public Car Parking Facilities (Source: Nearmap)

Table 3: Existing Car Parking Supply and Restrictions

Location	1P 8am-5:30pm Mon-Fri	Unrestricted	Other	TOTAL
On-Site Car Park	-	89	3	92
Marshalltown Road	-	35	-	35
Bailey Street	-	44	-	44
Wilray Street	-	23	-	23
Dendle Street	2	13	-	15
TOTAL	2	204	3	209

4.4.2 Car Parking Occupancy Surveys

A series of car parking occupancy surveys were conducted for the surrounding car parking resources, outlined previously in Section 4.4.1. The car parking surveys were conducted on the following days:

- Wednesday, 17th June, 2026 – 10am-12pm

The overall complex at 148-154 Marshalltown Road is not operating a full capacity. At the time of the parking surveys only the Unit 1 (office) was operating, with the Unit 3 Op Shop scheduled to

commence operation on Thursday 18/6/26 (the day after our car parking occupancy surveys). On this basis, the car parking occupancy survey results for the on-site parking generally represent the current operation of the Unit 1 office.

A summary of the overall parking occupancies observed are detailed in Figure 7 below.

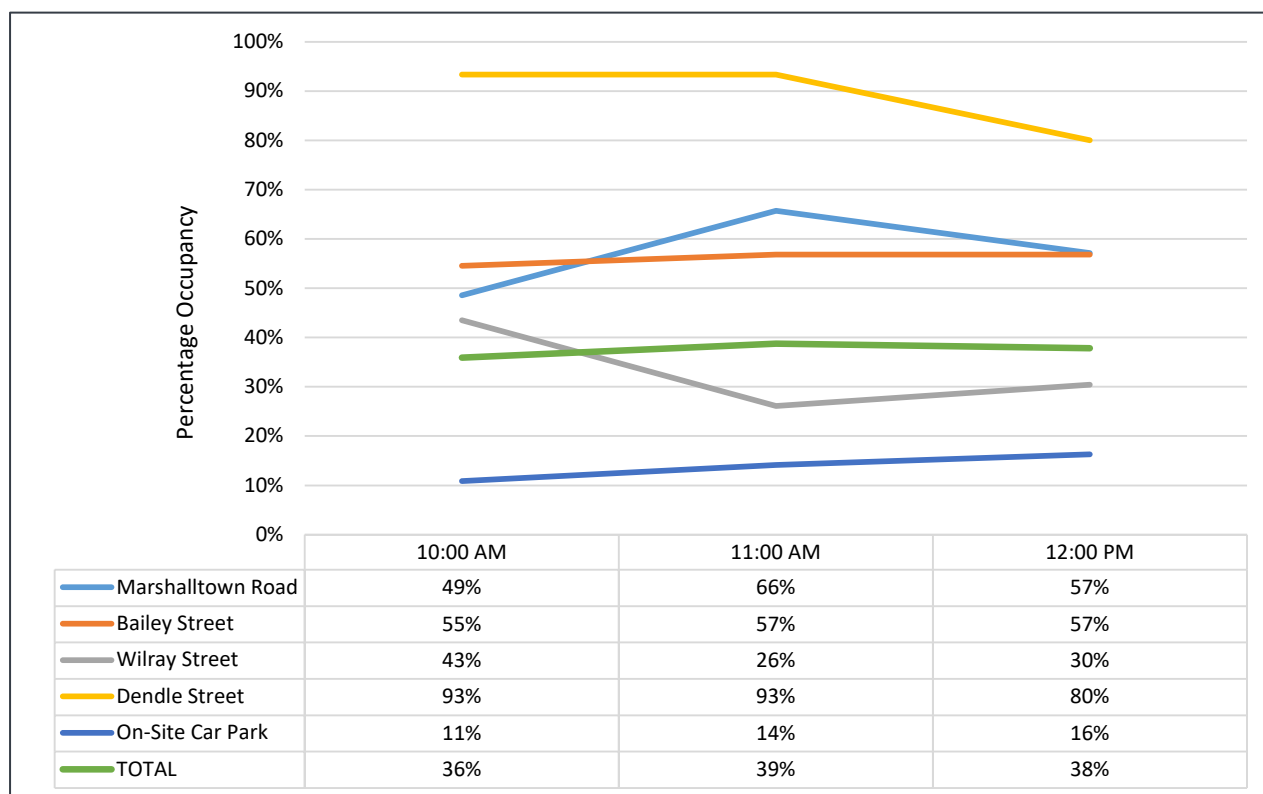


Figure 7: Car Parking Occupancy Survey Results – Wednesday 17/6/26

The overall peak time occurred at 11am when 81 vehicles parked (39%) and 126 spaces were available.

A summary of the available parking spaces by location at the various peak times is provided in Table 4 below.

Table 4: Available Parking Spaces by Location – Peak Times

Restriction	Capacity	Demand	Spaces Available
Wednesday, 17 th June, 2026 - 11am			
On-Site Car Park	92	13	79
Marshalltown Road	35	23	12
Bailey Street	44	25	19
Wilray Street	23	6	17
Dendle Street	15	14	1
TOTAL	207	81	126

A copy of the parking occupancy survey data is provided in Appendix A.

5 Car Parking Assessment

5.1 Statutory Car Parking Assessment

Clause 52.06-5 prescribes the number of car spaces required for new development and changes of use. The land use contemplated is best defined as 'Restricted Recreation Facility' under Clause 74 of the Planning Scheme. The site is located within the 'Category 2' area of the Car Parking Requirements Maps.

The land use 'Restricted Recreation Facility' is not listed under Table 1 of Clause 52.06 and therefore car parking is to the satisfaction of the Responsible Authority, as per the following commentary from Clause 52.06-6:

"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."

5.2 Car Parking Demand Assessment

The following sections review the likely car parking demands associated with the proposed gym use and consider the Car Parking Demand Assessment Factors outlined in Clause 52.06-7.

5.2.1 RMS NSW – Empirical Gymnasium Surveys:

RMS NSW commissioned detailed empirical surveys of 5 gymnasiums across Sydney in 2014, with the results published in the report titled *"Trip Generation and Parking Demands Surveys of Gymnasiums – Data and Analysis Report"*.

Of the 5 sites surveyed, 3 were primarily accessed by car and 2 were located in larger centres and had a higher proportion of other modes (walking, cycling, etc.) as outlined in Table 5 below.

Table 5: RMS NSW Gym Surveys (2014) – Site Characteristics

Site	GFA	Average Mode of Travel			
		Public Transport Accessibility Score	Car As Driver	Car As Passenger	Walk/ Bike/ Train/ Bus
1 – Bondi Gym	970m ²	0.9	41%	6%	47%
2 - Oatley	905m ²	0.2	73%	16%	11%
3 – Kings Cross	2,600m ²	0.75	14%	2%	82%
4 - Willoughby	3,700m ²	0.9	74%	21%	4%
5 - MIISC	3,200m ²	0.2	62%	33%	5%

Given the location of the subject site within Grovedale, we would expect higher private vehicle usage consistent with Sites 2, 4 and 5. On this basis, Sites 1 and 3 have not been included in the analysis of

car parking rates. Table 6 below summarises the peak parking demands observed for Sites 2, 4 and 5.

Table 6: RMS NSW Gym Surveys (2014) – Peak Car Parking Demands

Site	GFA	Peak Parking Demand
2 - Oatley	905m ²	3.5 spaces/100m ²
4 - Willoughby	3,700m ²	4.3 spaces/100m ²
5 - MIISC	3,200m ²	2.0 spaces/100m ²
Average		3.3 spaces/100m²
85th Percentile		4.1 spaces/100m²
Maximum		4.3 spaces/100m²

Applying the above rates to the proposed 705m² gym at the subject site results in the following car parking demands:

- Average Rate (3.3 spaces/100m²) – 23 spaces
- 85th Percentile Rate (4.1 spaces/100m²) – 29 spaces
- Maximum Rate (4.3 spaces/100m²) – 30 spaces

5.2.2 Historical VCAT Decision

VCAT considered a case *“Iron Kingdom Nitro Gym (Heidelberg) Pty Ltd v Banyule CC [2020] VCAT 4”* which involved a retrospective application for a gym use at 3/46-50 Sheehan Road, Heidelberg West.

The site in this matter has similar characteristics to the subject site as follows:

- 1,200m² floor area.
- 24/7 operation.
- No group classes.
- Located within a broader industrial precinct.
- Limited access to public transport.

Given the retrospective nature of the application, car parking surveys were able to be undertaken of the operating use. A peak parking rate of 0.8 spaces/patron (inclusive of staff and patron demands) was identified for the existing operation of the gym.

The above per patron empirical rate has been applied to the proposed gym development in Table 7 below.

Table 7: Car Parking Demand Assessment Summary

Operation	Size	Empirical Rate	Demand
Peak Operation	25 patrons	0.8 spaces to each patron	20 spaces
Off-Peak	15 patrons		12 spaces

5.2.3 Summary

The empirical data indicates that the proposed gym is likely to generate parking demands in the order of 20-30 spaces at peak operation, with reduced car parking demand of 12 spaces during off-peak times.

A summary of the proposal against the car parking demand factors identified in Clause 52.06 of the Planning Scheme is provided in Table 8 below.

Table 8: Car Parking Demand Assessment Factors

Factor	Commentary
<i>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.</i>	As discussed in <i>Practice Note 22 – Using the Car Parking Provisions</i>, in some situations a trip will serve more than one function, and this will tend to reduce the cumulative need for car parking. There is potential that some gym members or staff may be sourced from staff/customers of surrounding businesses, which could result in walking trips within the local area. However, given that the subject site is located within a broader commercial / industrial precinct with reasonable walking distances between sites, there is unlikely to be a high level of multi-purpose trips.
<i>The variation of car parking demand likely to be generated by the proposed use over time.</i>	Gyms typically generate peak parking demands during weekday mornings, weekday evenings and Saturday mornings. This profile is generally consistent with patrons attending the gym before and after typical business hours. We would expect peak parking demands (20-30 parking spaces) at these times and lower parking demands (12 spaces) at other times (i.e. weekday days, Sundays, etc.).
<i>The short-stay and long-stay car parking demand likely to be generated by the proposed use.</i>	Parking for gyms typically includes a small number of spaces associated with staff (long stay demands), with the majority of spaces associated with patrons (short stay demands). As part of the RMS NSW empirical surveys detailed previously, average duration of stay data was recorded as follows: • Site 2 (Oatley) – 68 minutes • Site 4 (Willoughby) – 68 minutes • Site 5 (MIISC) – 63 minutes In view of the above, patron parking demands are likely to be in the order of 1-2 hours in duration.

Factor	Commentary
<i>The availability of public transport in the locality of the land.</i>	The subject site is located in an area with to access public transport services. It is noted that the site has been included within the 'Category 2' area of the Car Parking Requirements Map, indicating a good level of public transport accessibility. We would expect a minor number of trips associated with public transport for future staff / patrons. The empirical parking rates presented previously in this report are associated with sites with high car dependence. This is consistent with the likely conditions for the subject site.
<i>The convenience of pedestrian and cyclist access to the land.</i>	The subject site is located in an area with footpaths typically provided on both sides of all roads, providing a connected pedestrian network. Given the distances to the surrounding residential areas, we would expect walking and cycling to represent a small number of trips to/from the subject site. The empirical parking rates presented previously are associated with sites with high car dependence, consistent with the conditions for the subject site.
<i>The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.</i>	The proposal includes the provision of 5 bicycle spaces within the proposed gym tenancy. Bicycle facilities will be available for staff or patrons who choose to cycle to the proposed gym.
<i>The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.</i>	The subject site is located in an outer suburban location. We expect that car ownership levels for future patrons are likely to be consistent with broad trends for greater Melbourne / Geelong.
<i>Any empirical assessment or case study.</i>	Empirical peak parking demand data for gyms was previously presented including: - RMS NSW surveys of 3 gyms in Sydney with high levels of car usage. These surveys identified peak car parking demands of 2.0-4.3 spaces/100m². The application of these rates would result in parking demands of 23-30 spaces associated with the proposed 705m² gym - Car Parking Demand Surveys of an existing 24/7 gym in Heidelberg West as part of a historical VCAT case. These surveys identified peak parking demands of 0.8 spaces/patron (inclusive of staff and patron demands). Applying this rate to the proposed 15-25 patrons for the subject site results in an anticipated peak demand of 20 spaces and an off-peak demand of 12 spaces.

5.3 Adequacy of Car Parking Provision

The anticipated peak and off-peak parking demands have been assessed against the historical nominal parking provision associated with Unit 2 (12 spaces) in Table 9 below.

Table 9: Car Parking Provision Assessment

Operation	Demand	Nominal Car Parking Provision	Surplus / Shortfall
Peak Operation	20-30 spaces	12 spaces	-8-18 spaces
Off-Peak	12 spaces		0 spaces

Based on the above, the peak operation is likely to exceed the historical notional car parking provision of 12 spaces, whilst the off-peak operation can be accommodated by the historical notional car parking provision. Peak operating times for the gym are as follows:

- Weekday - 6am-8am
- Weekday - 5pm-7pm
- Saturdays - 8am-11am

Based on the gym peak times above, it is evident that the proposed gym use is complementary to the other land uses within the existing complex at 148-153 Marshalltown Road.

- **Office (Unit 1)** – Offices typically only operate during weekday business hours and therefore would not significantly overlap with the proposed gym peak times.
- **Retail – Op Shop (Unit 3)** – The Op Shop operates 9am-5pm Mon-Sat and 10am-4pm Sun. On this basis, only the Saturday Op Shop operation would overlap with the proposed gym peak times.
- **Warehouse (Unit 4 to Unit 9)** – Warehouse uses typically operate during weekday business hours, with typical operating hours between 7am and 3pm/4pm. On this basis, there will be a level of overlap in the morning gym peak, but no overlap with the weekday evening and Saturday Gym peaks.

In order to assess the ability for the proposed peak gym car parking demands to be accommodated, we have reviewed the existing land uses to determine likely demands for each unit, as shown in Table 10 below. For each land use, we have estimated the likely level of operation based on the typical operating parameters for each use.

Table 10: On-Site Car Parking Demand Assessment – Peak Gym Operating Times

Unit	Land Use	Peak Parking Demand	Anticipated Operation	Anticipated Demand
Weekday: 'Morning – 6am-8am'				
Unit 1	Office	36 spaces ¹	20%	7 spaces
Unit 2	Proposed Gym	20-30 spaces ²	100%	20-30 spaces
Unit 3	Retail – Op Shop	12 spaces ¹	0%	0 spaces
Unit 4	Warehouse	12 spaces ¹	80%	10 spaces
Unit 5	Warehouse	5 spaces ¹	80%	4 spaces
Unit 6	Warehouse	4 spaces ¹	80%	3 spaces
Unit 7	Warehouse	4 spaces ¹	80%	3 spaces

Unit	Land Use	Peak Parking Demand	Anticipated Operation	Anticipated Demand
Unit 8	Warehouse	4 spaces ¹	80%	3 spaces
Unit 9	Warehouse	4 spaces ¹	80%	3 spaces
TOTAL				53-63 spaces
Weekday: 'Evening – 5pm-7pm'				
Unit 1	Office	36 spaces ¹	50%	18 spaces
Unit 2	Proposed Gym	20-30 spaces ²	100%	20-30 spaces
Unit 3	Retail – Op Shop	12 spaces ¹	0%	0 spaces
Unit 4	Warehouse	12 spaces ¹	0%	0 spaces
Unit 5	Warehouse	5 spaces ¹	0%	0 spaces
Unit 6	Warehouse	4 spaces ¹	0%	0 spaces
Unit 7	Warehouse	4 spaces ¹	0%	0 spaces
Unit 8	Warehouse	4 spaces ¹	0%	0 spaces
Unit 9	Warehouse	4 spaces ¹	0%	0 spaces
TOTAL				38-48 spaces
Saturday: 'Morning – 8am-11am'				
Unit 1	Office	36 spaces ¹	0%	0 spaces
Unit 2	Proposed Gym	20-30 spaces ²	100%	20-30 spaces
Unit 3	Retail – Op Shop	12 spaces ¹	100%	12 spaces
Unit 4	Warehouse	12 spaces ¹	0%	0 spaces
Unit 5	Warehouse	5 spaces ¹	0%	0 spaces
Unit 6	Warehouse	4 spaces ¹	0%	0 spaces
Unit 7	Warehouse	4 spaces ¹	0%	0 spaces
Unit 8	Warehouse	4 spaces ¹	0%	0 spaces
Unit 9	Warehouse	4 spaces ¹	0%	0 spaces
TOTAL				32-42 spaces

Note 1 - As per existing permit, outlined previously in Section 3.1

Note 2 – Based on car parking demand assessment

Based on the above assessment, the total post development parking demand for the complex at 148-154 Marshalltown Road is expected to be well within the 92 space car parking provision. On this basis, we are satisfied that the existing on-site parking can accommodate the gym demands at both peak and off-peak times.

5.4 Accessible Car Parking

The requirement for accessible car parking is set out under the National Construction Code (NCC). Gym and retail land uses require 1 accessible space for each 50 spaces provided or part thereof, whilst warehouse and office uses require 1 accessible space for each 100 spaces provided or part thereof.

The existing on-site car park includes 3 accessible spaces, satisfying the NCC requirements.

6 Bicycle Parking Assessment

Clause 52.34 prescribes the number of bicycle spaces to be provided for the proposed development. The statutory rates for a restricted recreation facility fall under 'Minor Sport and Recreation Facility'. An assessment of the statutory bicycle parking requirements for the proposed development is summarised in Table 11 below.

Table 11: Statutory Bicycle Parking Assessment

Use	Size / No.	Statutory Bicycle Parking Rate	Requirement
Employee Bicycle Parking			
Minor Sport and Recreation Facility	5 staff	1 space to each 4 employees	1 space
Visitor Bicycle Parking			
Minor Sport and Recreation Facility	705m ²	1 space to each 200m ² NFA	4 spaces

In view of the above, the proposed development generates a statutory requirement for 5 bicycle parking spaces.

The development plans show 4 bicycle spaces on the ground floor. We recommend that an additional bicycle space is provided on-site to satisfy the statutory requirement.

7 Traffic Impacts

7.1 Traffic Generation

The 2014 RMS NSW empirical surveys of gymnasiums (outlined previously in Section 5.2.1) also collected traffic generation data. A summary of the recorded traffic generation rates for the sites similar to the subject site (Site 2, Site 4, Site 5) are as follows:

- Site 2 (Oatley) = 5.6 trips/100m²
- Site 4 (Willoughby) – 4.0 trips/100m²
- Site 5 (MIISC) – 3.2 trips/100m²
- **Average – 4.3 trips/100m²**

Applying the average rate to the proposed development results in peak traffic generation of 30 trips/hour.

The existing warehouse use would be expected to generate peak traffic generation of approximately 4 trips/hour (based on the warehouse rate of 0.5 trips/100m² outlined in the *TfNSW Guide to Traffic Impact Assessment*).

Overall, the proposed change in use is expected to generate an additional 26 trips/hour during the peak hours. This equates to an average of 1 additional trip every 2-3 minutes.

The subject site includes two vehicle crossovers to Marshalltown Road, which provides ample capacity to accommodate the additional trips. On this basis, we expect the additional traffic volumes to have an insignificant impact on the operation of the surrounding road network.

8 Service Vehicles

8.1 Waste Collection & Loading

Loading and waste collection demands for gym uses is expected to be minimal.

Given the historical design of the car park / accessways, any loading / waste collection demands could be comfortably accommodated on-site from the adjacent car park.

9 Conclusions

Having visited the site and undertaken a detailed traffic engineering assessment, the following conclusions are reached in relation to the Proposed Restricted Recreation Facility (Gym) at Unit 2, 148-154 Marshalltown Road, Grovedale:

1. The proposal seeks a change of use for Unit 2 (705m²) from warehouse to restricted recreation facility (gym). The gym will operate 24/7, accommodating up to 25 patrons at peak times and up to 15 patrons at off-peak times.
2. The land use term 'Restricted Recreation Facility' is not listed in Table 1 of Clause 52.06-5. On this basis, car parking is to the satisfaction of the Responsible Authority.
3. The Car Parking Demand Assessment indicates that the proposed provision of car parking is supported based on the following:
 - a) Empirical surveys commissioned by RMS NSW identify average peak parking demands of 3.3 spaces/100m² and maximum peak parking demands of 4.3 spaces/100m² for sites with high levels of private motor vehicle usage. Applying these rates to the proposed 705m² subject site, results in anticipated peak parking demands of 23-30 spaces.
 - b) A historical VCAT decision for a retrospective 24/7 gym application in Heidelberg West identified peak parking demands of 0.8 spaces per patron (inclusive of staff and patrons). Applying this rate to the proposed development results in peak parking demands of 20 spaces and off-peak parking demands of 12 spaces.
 - c) Overall, we anticipate the proposed gym will generate peak demands of 20-30 spaces and off-peak demands of 12 spaces.
 - d) Based on the approved planning permit, Unit 2 has historically been allocated a notional 12 spaces within the pool of car parking at 148-154 Marshalltown Road. On this basis, the off-peak demands can be accommodated within the historical notional allocation, whilst the peak parking demands would extend beyond the historical notional allocation.
 - e) Peak times for the proposed gym use include weekday mornings (6am-8am), weekday evenings (5pm-7pm) and Saturday mornings (8am-11am). These peak times are generally complementary with the other land uses on-site, with peak operation for the various land uses generally off-set.
 - f) An analysis of the three critical gym peak periods indicates that the overall complex (all units, including the proposed Unit 2 gym) is expected to generate parking demand for 32-63 spaces. Given that the on-site parking operates as an unallocated pool, the existing on-site parking can cater for the expected parking demands.
4. The existing provision of 3 accessible spaces satisfies the NCC requirements for accessible parking.
5. The proposed development generates a bicycle parking requirement for 5 spaces under Clause 52.34 of the Planning Scheme. The development plans show 5 bicycle parking spaces on the ground floor, which is consistent with the provisions of Clause 52.34 and the relevant statutory requirement.
6. The proposed gym is expected to generate 30 vehicles/hour during peak periods, representing an increase of approximately 26 vehicles/hour compared to the existing warehouse use. This level of traffic generation is relatively modest and can be accommodated by the surrounding road network.

7. Waste collection and loading requirements are expected to be minimal for the proposed gym use. It is proposed to continue loading/waste collection on-site via the accessway to the south of the building, which has been historically developed for the commercial complex.

Having undertaken all tasks necessary to adequately assess the traffic engineering impacts of the Proposed Restricted Recreation Facility (Gym) at Unit 2, 148-154 Marshalltown Road, Grovedale, the proposed development is satisfactory.

There are no reasons why a permit for the proposed development should not be issued from a traffic engineering perspective, subject to appropriate conditions.



Appendix A:

Development Plan



Appendix B:

Car Parking Occupancy Survey Data