

ADVERTISED COPY

Traffix Group

Traffic Engineering Assessment

Proposed Development Plan for Residential Aged
Care and Retirement Village Development

52 Golf Road, Oakleigh South

Prepared for
Summerset Villages (Number 3) Pty Ltd

March, 2023

G31998R-02A

Document Control

Our Reference: G31998R-02A

Issue No.	Type	Date	Prepared By	Approved By
A	Final	10/03/23	K. Ewe/ M. Woollard	M. Woollard

COPYRIGHT: The ideas and material contained in this document are the property of Traffic Group (Traffic Group Pty Ltd – ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffic Group constitutes an infringement of copyright.

LIMITATION: This report has been prepared on behalf of and for the exclusive use of Traffic Group’s client and is subject to and issued in connection with the provisions of the agreement between Traffic Group and its client. Traffic Group accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.

Table of Contents

- 1. Introduction..... 5**
- 2. Proposal..... 5**
 - 2.1. *Background – Approved Development Plan* 6
- 3. Existing Conditions 7**
 - 3.1. *Subject Site*..... 7
 - 3.2. *Transport Network* 11
 - 3.2.1. Road Network 11
 - 3.2.2. Existing Traffic Conditions 13
 - 3.2.3. Car Parking Conditions 15
 - 3.3. *Alternative Transport Modes* 17
 - 3.3.1. Public Transport 17
- 4. Traffic Engineering Assessment 20**
 - 4.1. *Statutory Car Parking Assessment*..... 20
 - 4.1.1. Reducing the Requirement for Car Parking 22
 - 4.1.2. Car Parking Demand Assessment 23
 - 4.2. *Upper Limit of Apartments and Aged Care Accommodation*..... 25
 - 4.3. *Bicycle Parking Provision*..... 27
 - 4.4. *Review of Carpark Layout and Vehicle Access Arrangements* 27
 - 4.4.1. Operation of Shared Zone..... 34
 - 4.5. *Loading and Waste Collection Arrangements* 34
 - 4.5.1. Loading..... 34
 - 4.5.2. Waste Collection..... 34
 - 4.6. *Traffic Impact Assessment* 35
 - 4.6.1. Traffic Generation for Maximum Yield 36
- 5. Comparison to Development Plan 36**
- 6. Conclusions..... 38**

List of Figures

Figure 1: Locality Plan (Source: Melway)	8
Figure 2: Aerial Photograph (Source: Nearmap)	9
Figure 3: Site Frontage to Golf Road and Beryl Avenue	9
Figure 4: Land Use Zoning Map (Source: Planning Schemes Online)	10
Figure 5: Golf Road - view north	12
Figure 6: Golf Road - view south	12
Figure 7: Beryl Avenue - view east	12
Figure 8: Beryl Avenue - view west	12
Figure 9: Bakers Road - view north	12
Figure 10: Bakers Road - view south	12
Figure 11: Parking Survey Area (Source: Planning Schemes Online)	15
Figure 12: Profile of On-Street Parking Demand	16
Figure 13: Public Transport Map (Source: ptv.vic.gov.au)	17
Figure 14: Principal Public Transport Network Map (Source: Planning Schemes Online)	19
Figure 15: PPTN Map (Zoomed-in on Site) (Source: Planning Schemes Online)	19

List of Tables

Table 1: Indicative Development Summary	5
Table 2: Tube Count Data Summary - Golf Road, south of North Road	13
Table 3: Tube Count Data Summary - Golf Road, north of Beryl Avenue	13
Table 4: Tube Count Data Summary - Cameron Avenue, north of Centre Road	14
Table 5: Tube Count Data Summary – Bakers Road – north of Centre Road	14
Table 6: Summary of Public Transport Services	18
Table 7: Statutory Car Parking Assessment for Indicative Development Summary – Column B of Clause 52.06-5	21
Table 8: Car Ownership data - 2016 Census Australian Bureau of Statistics	23
Table 9: Upper Limit for Unit Style Accommodation	26
Table 10: Carpark Layout and Access Assessment	28
Table 11: Expected Traffic Generation for Indicative Yield	35
Table 12: Expected Traffic Generation for Maximum Yield	36
Table 13: Comparison to Approved Development Plan	36

List of Appendices

Appendix A	Development Plans
Appendix B	Automatic Tube Counts
Appendix C	Car Parking Surveys
Appendix D	Swept Path Diagrams

1. Introduction

Traffix Group has been engaged by Summerset Villages (Number 3) Pty Ltd to undertake a traffic engineering assessment for a proposed development plan for residential aged care and retirement village development at 52 Golf Road, Oakleigh South.

2. Proposal

The proposal is for a development plan application for an aged care and retirement village which includes a range of accommodation types from larger villa style to residential aged care apartments. The services and the staffing on site are provided on a shared basis as well as the visitor car parking.

The types of accommodation as well as the car parking provision for the site is provided within the following table. We note that the quantum of accommodation types are indicative only and are based upon the specifics of the plans prepared by Fender Katsalidis (dated March, 2023). The relevant plans are attached at Appendix A.

Table 1: Indicative Development Summary

Use	No.	Car Spaces Provided	Car Parking Rate
Aged Care and Assisted Living Component			
One-bedroom Assisted Living Accommodation	26	17 car spaces (Note 1)	0.39 car spaces per apt
Residential Aged Care Accommodation	18		
Independent Living Accommodation			
One-Bedroom Independent Living Apts	6	41	1 car space per apartment
Two-Bedroom Independent Living Apts	24		
Three-Bedroom Independent Living Apts	11		
Two-Bedroom Villas	38	76	2 car spaces per villa (Note 2)
Three-Bedroom Villas	12	24	2 car spaces per villa (Note 2)
Other Car Parking			
Visitor Car Parking	-	22 spaces (Note 3)	-
Note 1:	Includes car parking allocated to residents and to staff.		
Note 2:	Includes one car space within each single garage and additional space in-front of each garage. Additional space to be used as an additional resident space or for visitors.		
Note 3:	Includes 18 car spaces in the basement and 4 spaces on internal road network.		

A total of 28 bicycle spaces are provided across the site, including 10 spaces within the basement and 18 spaces located around the periphery of the central building and five scooter parking spaces are provided within the basement.

Vehicle access to the site is provided via a two-lane wide accessway to Golf Road. The accessway continues in a two-way manner to the basement carpark and to the loading bay. The remainder of the road network within the site is design as a one-way shared zone arrangement, allowing for vehicle and pedestrian movements.

A second emergency vehicle access is provided via a one-lane access to Bakers Road. Access will be appropriately managed to ensure access is maintained only for emergency service vehicles.

All loading is to be undertaken on the site within the loading dock located on the west side of the main building. Minor loading including deliveries, etc will be undertaken via the driveways of the villas or from the visitor car spaces throughout the site.

2.1. Background – Approved Development Plan

The subject site has an approved Development Plan, with approval issued by VCAT in April, 2021. The Development Plan allows for the construction of a residential development comprising 83 townhouses, including:

- 20 x two-bedroom townhouses,
- 21 x three-bedroom townhouses, and
- 42 x four-bedroom townhouses.

The statutory car parking requirement for the dwellings was proposed within single or tandem garages. A total of 12 visitor car spaces were proposed on the site, at a rate of 0.14 car spaces per townhouse. It should be noted that throughout the VCAT hearing (and the previous hearing for the development plan application), it was determined that the site is located within the PPTN area and thus, no visitor car parking was required.

Vehicle access to the site was proposed to Golf Road, at the same location as the current proposal. The road alignment through the site is circuitous in nature and provides access to townhouses around the periphery of the site as well as two parallel laneways in the centre of the site.

Of particular note from a traffic engineering perspective, the Development Plan:

- Provided primary access to Golf Road,
- 8 x individual property access points to Beryl Avenue,
- 2 x individual property access to Bakers Road,
- Generated in the order of 507 vehicle trip ends per day, and 51 vehicle trip ends per peak,
- Generated an overflow car parking demand associated with visitor parking of in the order of 4 spaces, to be accommodated in the surrounding streets,
- Allowed for on-site waste collection, with the exception of the dwellings which have vehicle access to Beryl Avenue and Bakers Road,

- The pedestrian network through the site is extensive but does not provide direct access to Golf Road. The main accessway surrounding the site is a two-lane, two way road and would be designed as a shared zone due to the lack of footpaths throughout the site,
- Bicycle parking is provided for visitors throughout the site at various points via flat top rails, and
- There is no specific provision for loading within the site.

These are the main traffic impacts and considerations of the Development Plan, that any subsequent planning application should be guided by. A comparison of the proposed aged care and retirement village with the guiding principles above is provided at Section 5.

3. Existing Conditions

3.1. Subject Site

The subject site is 52 Golf Road, Oakleigh South, located on the north-east corner of the Golf Road and Beryl Avenue intersection.

The site is irregular in shape with a total area of 1.8ha.

The site has three frontages, including to Golf Road, Beryl Avenue and Bakers Road of approximately 106.4m, 169.8m and 42.7m respectively.

The site is located within a General Residential Zone – Schedule 1 (GRZ1) under the Planning Scheme as presented at Figure 4 with land surrounding the site predominantly residential. The site is also subject to a Development Plan Overlay – Schedule 5 (DPO5).

The site is located approximately 2km south-east of Oakleigh Major Activity Centre.

The site is currently vacant and provides three separate crossovers along the site's frontages, including a single-width crossover to Beryl Avenue, and two single-width crossovers to Bakers Road.

A total of 35 on-street car spaces are available along the site's combined frontages, including:

- 25 x unrestricted on-street car spaces along Beryl Avenue,
- 3 x unrestricted on-street car spaces along Bakers Road, and
- 7 x on-street car spaces along Golf Road subject to "No Stopping 7am-5pm Monday – Friday" restrictions.

A locality plan, aerial photograph, and photograph of the site's frontages, and land use zoning map are provided at Figure 1 to Figure 4.

Significant nearby land uses include:

- **The Metropolitan Golf Club**, located adjacent to the north boundary of the site,
- **Our Kids Childcare Centre**, located approximately 50m walking distance south-west of the site,
- **Stan Riley Reserve**, located approximately 100m walking distance south-west of the site,

Traffic Engineering Assessment

52 Golf Road, Oakleigh South

- **South Oakleigh College**, located approximately 200m walking distance south-east of the site,
- **Oakleigh South Primary school**, located approximately 500m south-west of the site, and
- **The Links Shopping Centre**, located approximately 750m walking distance south-west of the site.

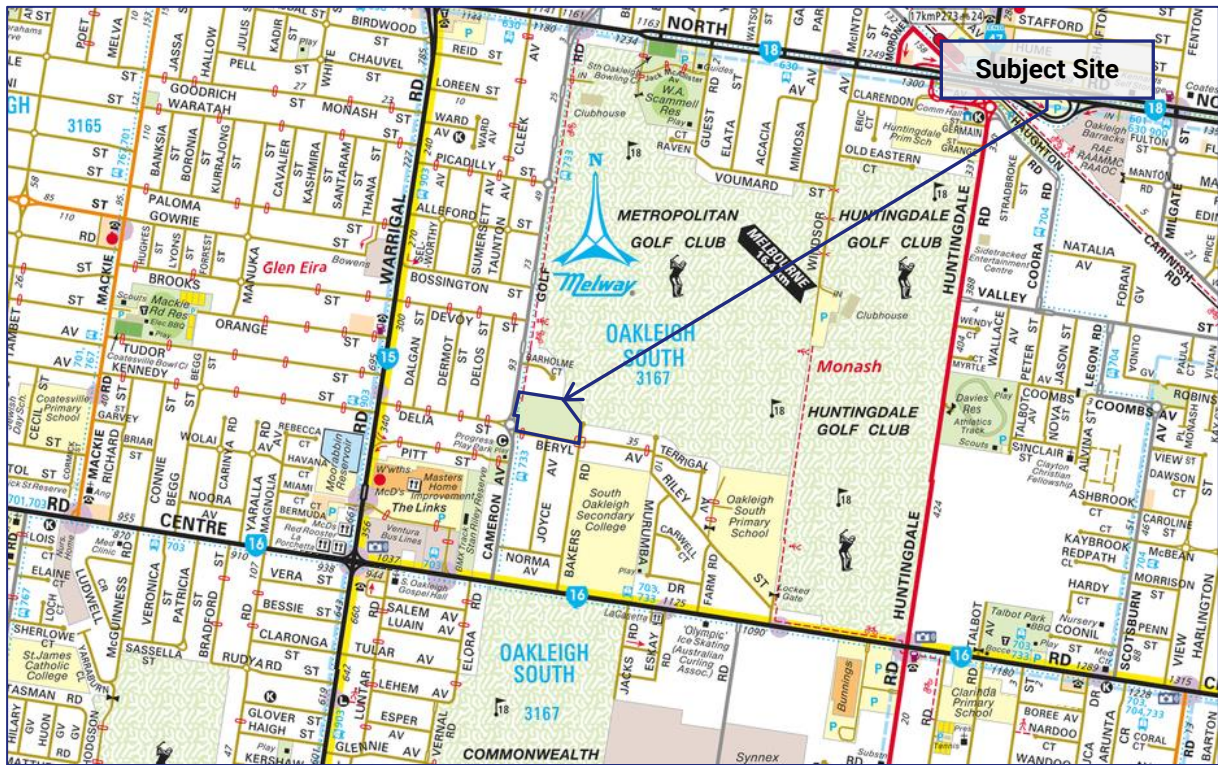


Figure 1: Locality Plan (Source: Melway)



Figure 2: Aerial Photograph (Source: Nearmap)



Figure 3: Site Frontage to Golf Road and Beryl Avenue

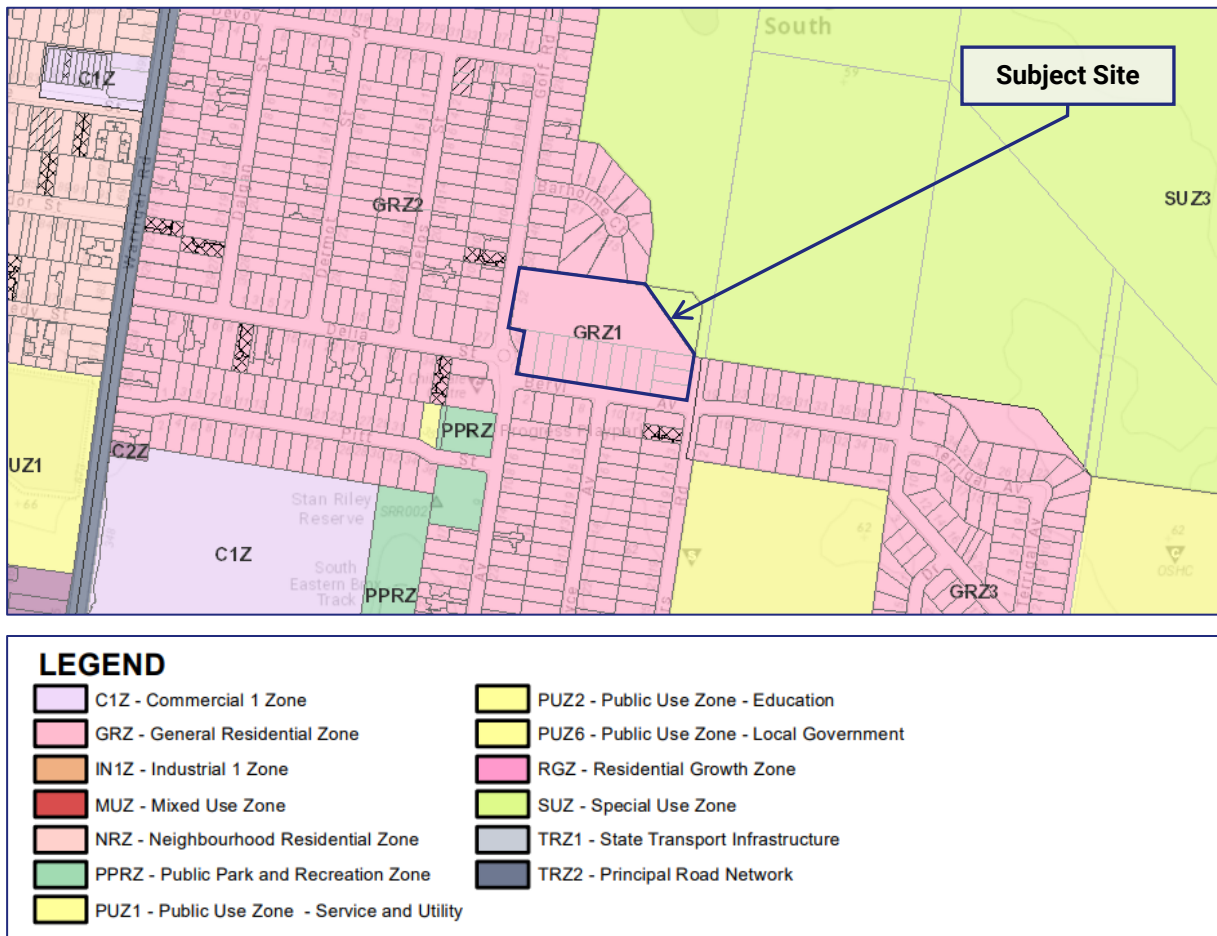


Figure 4: Land Use Zoning Map (Source: Planning Schemes Online)

3.2. Transport Network

3.2.1. Road Network

Golf Road is a Monash City Council managed 'Collector Road'¹ extending in a north-south direction between North Road in the north and Beryl Avenue in the south, where it continues as Cameron Street to Centre Road.

To the north of the site, Golf Road generally has an approximately 7m wide carriageway, which accommodates a single traffic lane in both directions and indented kerbside parking along the west side. Indented parking is generally unrestricted. 'No Stopping' restrictions apply along the east side.

To the south of the site, Golf Road extends as Cameron Street, and generally has a 6.8m wide carriageway, which accommodates a single lane of traffic in each direction. Alternatively, it accommodates a shared lane of through traffic and kerbside parking on one side of the road only.

The default urban speed limit of 50km/h applies to Golf Road in the vicinity of the site.

Beryl Avenue is a Monash City Council managed 'Access Road'¹ generally aligned in an east-west direction between Riley Street in the east and Golf Road in the west.

In the vicinity of the site, Beryl Avenue has an approximately 6.8m wide carriageway, which accommodates a shared lane of through traffic and kerbside parking on one side of the road only. On-street parking along Beryl Avenue is generally unrestricted along the north side of the carriageway, whilst on-street parking is generally prohibited during school peak times on the south side.

The default urban speed limit of 50km/h applies to Beryl Avenue in the vicinity of the site with speed humps provided at intermittent intervals along Beryl Avenue.

The intersection between Beryl Avenue and Cameron Avenue is governed by a give-way sign facing Beryl Avenue.

Bakers Road is a Monash City Council managed 'Access Road'¹ aligned in a north-south direction between Centre Road in the south and forms a dead end in the north.

In the vicinity of the site, Bakers Road has a 6.8m wide carriageway which accommodates a shared lane of through traffic and kerbside parking on one side of the road only. On-street parking along Bakers Road is either unrestricted or subject to a 'Permit Zone' restriction in the vicinity of the site.

The default urban speed limit of 50km/h applies to Bakers Road in the vicinity of the site.

The intersection between Bakers Road and Beryl Avenue is governed by a give-way sign facing Bakers Road.

Photographs depicting the surrounding road network are presented in Figure 5 to Figure 10.

¹ As referenced in the Monash City Council – Register of Public Roads – dated 31st July, 2021.



Figure 5: Golf Road - view north



Figure 6: Golf Road - view south



Figure 7: Beryl Avenue - view east



Figure 8: Beryl Avenue - view west



Figure 9: Bakers Road - view north



Figure 10: Bakers Road - view south

3.2.2. Existing Traffic Conditions

Traffix Group undertook 7-day automatic tube count surveys at the following locations:

- Golf Road, south of North Road,
- Golf Road, north of Beryl Avenue,
- Cameron Avenue, north of Centre Road, and
- Bakers Road, north of Centre Road.

The counts were undertaken between Wednesday 3rd August, 2022 and Wednesday 10th August, 2022. Summaries of the results are presented below at Table 2 to Table 5.

Table 2: Tube Count Data Summary - Golf Road, south of North Road

Characteristic	Vehicles per day		
	Golf Road, Oakleigh South – south of North Road		
	Northbound	Southbound	Total
24hr Weekday Average	3,436	2,655	6,091
Recorded AM Peak Hour Volume (Weekday) 8am-9am	467	364	831
Recorded PM Peak Hour Volume (Weekday) 3pm-4pm	352	272	625
PM Peak Hour Volume (Weekday 5pm-6pm)	318	288	606
Commercial Vehicle %	5.1%	5.5%	5.3%

Table 3: Tube Count Data Summary - Golf Road, north of Beryl Avenue

Characteristic	Vehicles per day		
	Golf Road, Oakleigh South – north of Beryl Avenue		
	Northbound	Southbound	Total
24hr Weekday Average	2,826	2,147	4,973
Recorded AM Peak Hour Volume (Weekday) 8am-9am	393	373	766
Recorded PM Peak Hour Volume (Weekday) 3pm-4pm	338	256	594
PM Peak Hour Volume (Weekday 5pm-6pm)	278	213	491
Commercial Vehicle %	3.8%	3.2%	3.5%

Table 4: Tube Count Data Summary - Cameron Avenue, north of Centre Road

Characteristic	Vehicles per day		
	Cameron Avenue, Oakleigh South – north of Centre Road		
	Northbound	Southbound	Total
24hr Weekday Average	1,733	972	2,705
Recorded AM Peak Hour Volume (Weekday)	168 8am-9am	118 8am-9am	286 8am-9am
Recorded PM Peak Hour Volume (Weekday)	187 5pm-6pm	94 5pm-6pm	281 5pm-6pm
Commercial Vehicle %	4.9%	5.6%	5.1%

Table 5: Tube Count Data Summary – Bakers Road – north of Centre Road

Characteristic	Vehicles per day		
	Bakers Road, Oakleigh South – north of Centre Road		
	Northbound	Southbound	Total
24hr Weekday Average	957	676	1,633
Recorded AM Peak Hour Volume (Weekday)	233 8am-9am	159 8am-9am	392 8am-9am
Recorded PM Peak Hour Volume (Weekday)	105 3pm-4pm	122 3pm-4pm	227 3pm-4pm
PM Peak Hour Volume (Weekday 5pm-6pm)	67	45	112
Commercial Vehicle %	2.6%	3.0%	2.8%

The above table summaries outline the following characteristics:

- Golf Road carries up to 6,091 vehicles per day. This is consistent with its classification as a Connector Street – Level 2, which can accommodate between 3,000-7,000 vehicles per day.
- Cameron Avenue carries up to 2,705 vehicles per day. This is consistent with its classification as a Connector Street – Level 2, which can accommodate between 3,000-7,000 vehicles per day.
- The recorded peak hour periods occurred between 8-9am and 3-4pm for both roads.

3.2.3. Car Parking Conditions

Traffic Group has completed parking surveys of on-street parking in the vicinity of the subject site. The purpose of the surveys was to assess the supply, management, and demand for public parking resources in the nearby area.

The parking surveys were undertaken at the following times:

- 12noon, 1pm, 3pm, 4pm, 7pm & 8pm on Wednesday 3rd August, 2022, and
- 12noon, 1pm, 7pm & 8pm on Saturday 6th August, 2022

The survey times encompass the peak times associated with the proposed development, the surrounding residential area (i.e., evenings and weekends) and the nearby schools (during pick-up time).

The detailed parking survey is presented at Appendix B.

The survey area is presented in the figure below, which comprises an area of approximately 200m around the subject site.

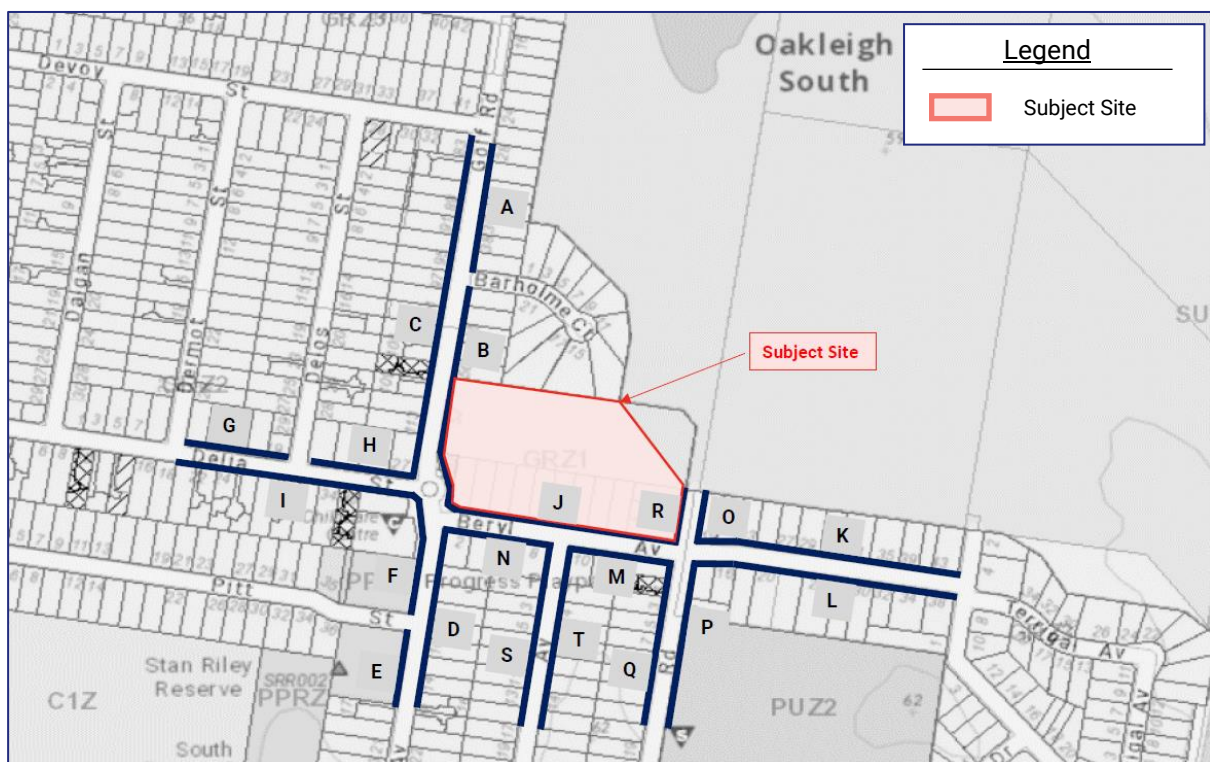


Figure 11: Parking Survey Area (Source: Planning Schemes Online)

The car parking surveys identified between 112-134 available² on-street car spaces for use by the general public within approximately 200m of the subject site. On-street parking within the survey area is predominantly unrestricted.

² Includes all car spaces available to the general public, excluding those subject to 'No Stopping', 'Permit Zone', 'Bus Zone', 'P 2-minute' and 'No Parking' restrictions during the relevant enforcement period.

A total of 35 on-street car spaces are provided along the site’s combined frontages, including:

- 25 x unrestricted on-street car spaces along Beryl Avenue,
- 3 x unrestricted on-street car spaces along Bakers Road, and
- 7 x on-street car spaces along Golf Road subject to “No Stopping 7am-5pm Monday – Friday” restrictions.

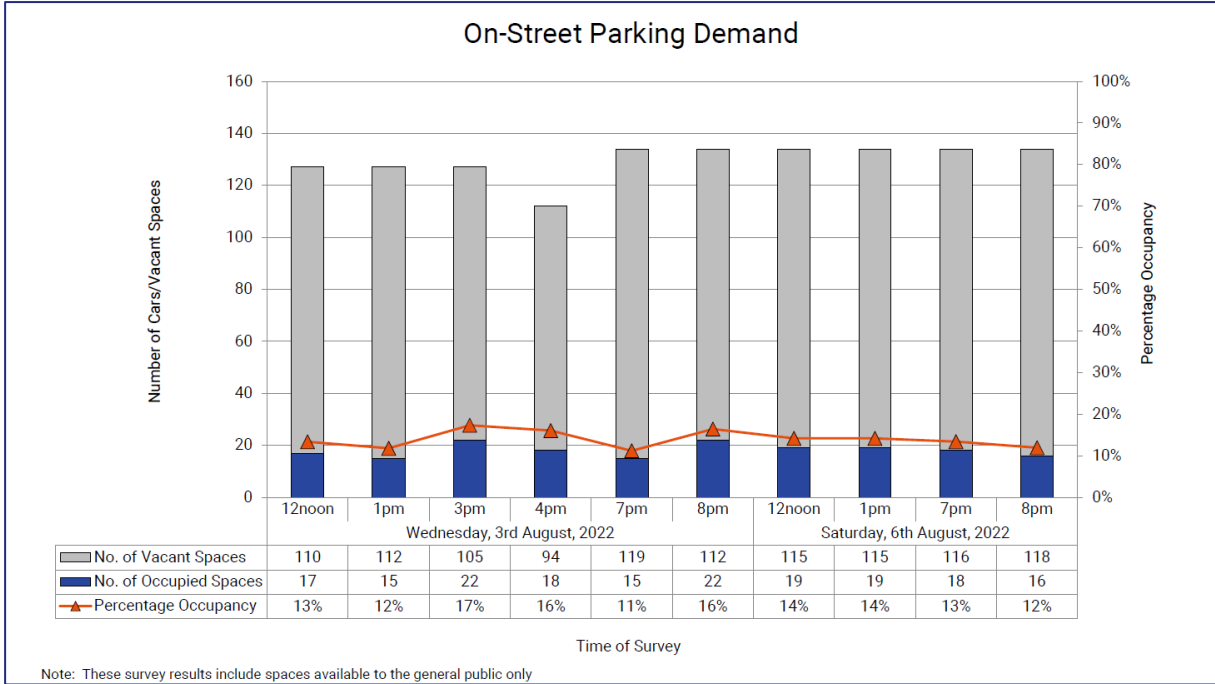


Figure 12: Profile of On-Street Parking Demand

Overall demand for on-street parking was very low over the surveyed period. A minimum of 94 vacant spaces were recorded over the survey period (16% occupancy), which occurred at 4pm on Wednesday 3rd August, 2022.

3.3. Alternative Transport Modes

3.3.1. Public Transport

The site is located within the Principle Public Transport Network Area (PPTN) as shown in Figure 14 and as such has access to public transport services, including several bus services within convenient walking distance of the site.

The available bus services provide a link to Oakleigh and Clayton Railway Station, which has access to a greater number of public transport services. The closest railway station is Huntingdale Station, which is located 2.3km walking distance from the site.

The available public transport services within close proximity of the site are shown at Table 6.

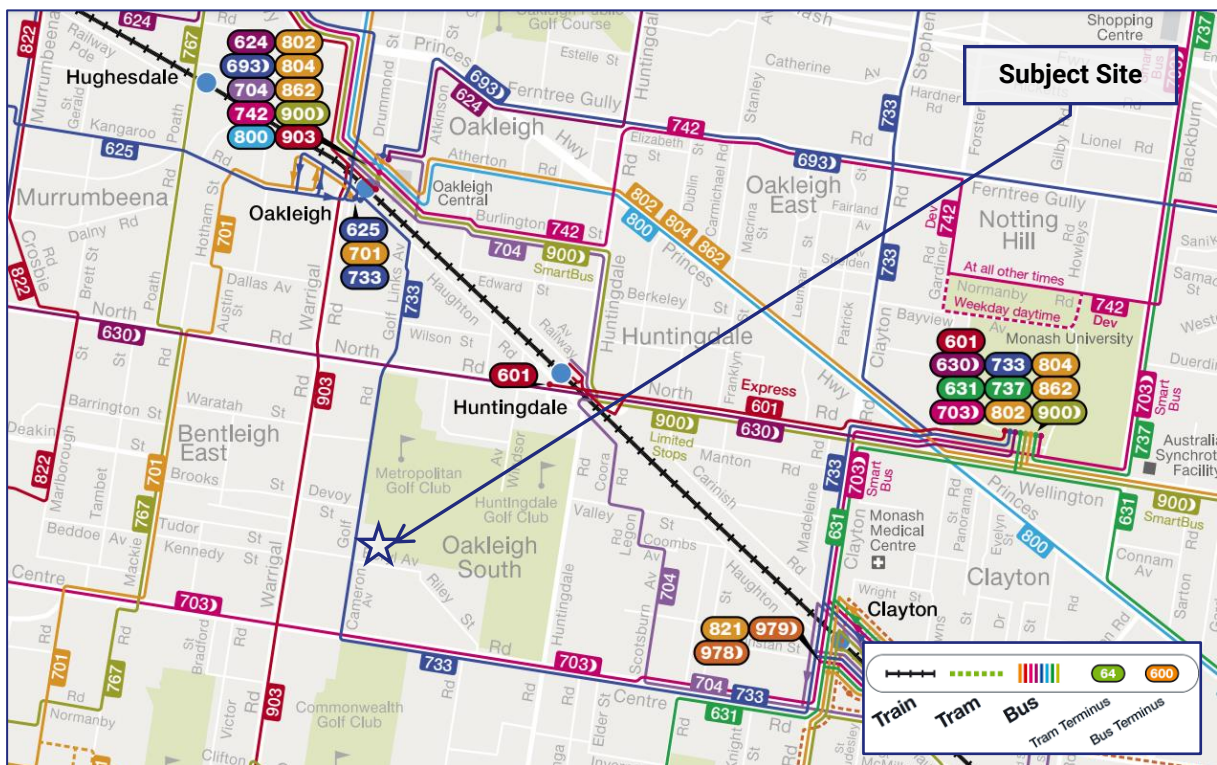


Figure 13: Public Transport Map (Source: ptv.vic.gov.au)

Table 6: Summary of Public Transport Services

Service	Between	Via	Operating Times (Frequency)		
			Weekday	Saturday	Sunday
Golf Road – approximately 100m walking distance north of the site					
Bus Route 733	Oakleigh & Box Hill	Clayton, Monash University & Mt Waverley	6:04am-9:53pm 30-40 minutes	6:07am-9:44pm 30-40 minutes	7:55am-9:44pm 60 minutes
Warrigal Road – approximately 550m walking distance west of the site					
Bus Route 903 (SmartBus)	Altona & Mordialloc	Sunshine, Essendon, Coburg, Preston, Heidelberg, Doncaster, Box Hill & Oakleigh	4:57am-11:20pm 10-30 minutes	5:25am-12:27am 15-30 minutes	6:33am-9:20pm 20-30 minutes
Centre Road – approximately 550m walking distance south of the site					
Bus Route 703	Middle Brighton & Blackburn	Bentleigh, Clayton & Monash University	<u>Monday-Thursday</u> 5:29am-10:30pm 10-30 minutes <u>Friday</u> 5:29am-11:36pm 10-30 minutes	4:15am-12:30am 15-60 minutes	3:25am-9:39pm 20-60 minutes
Note: Frequency of services and operating times are approximate only.					

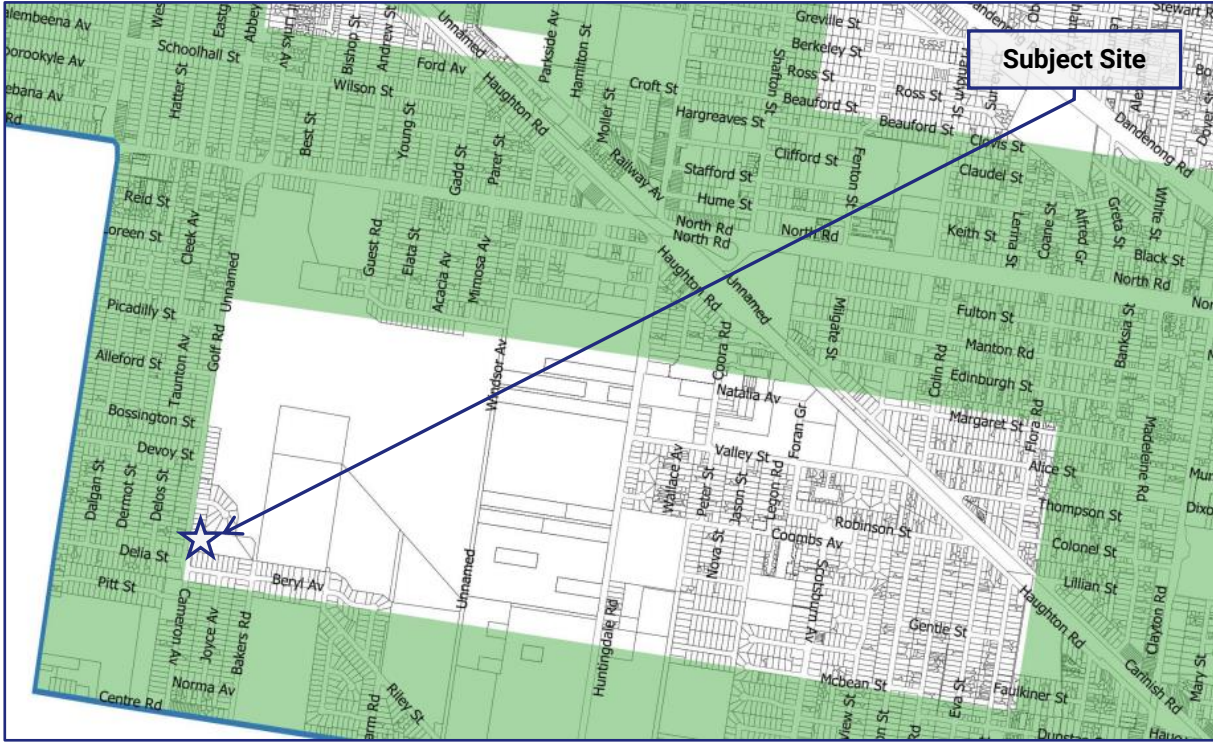


Figure 14: Principal Public Transport Network Map (Source: Planning Schemes Online)

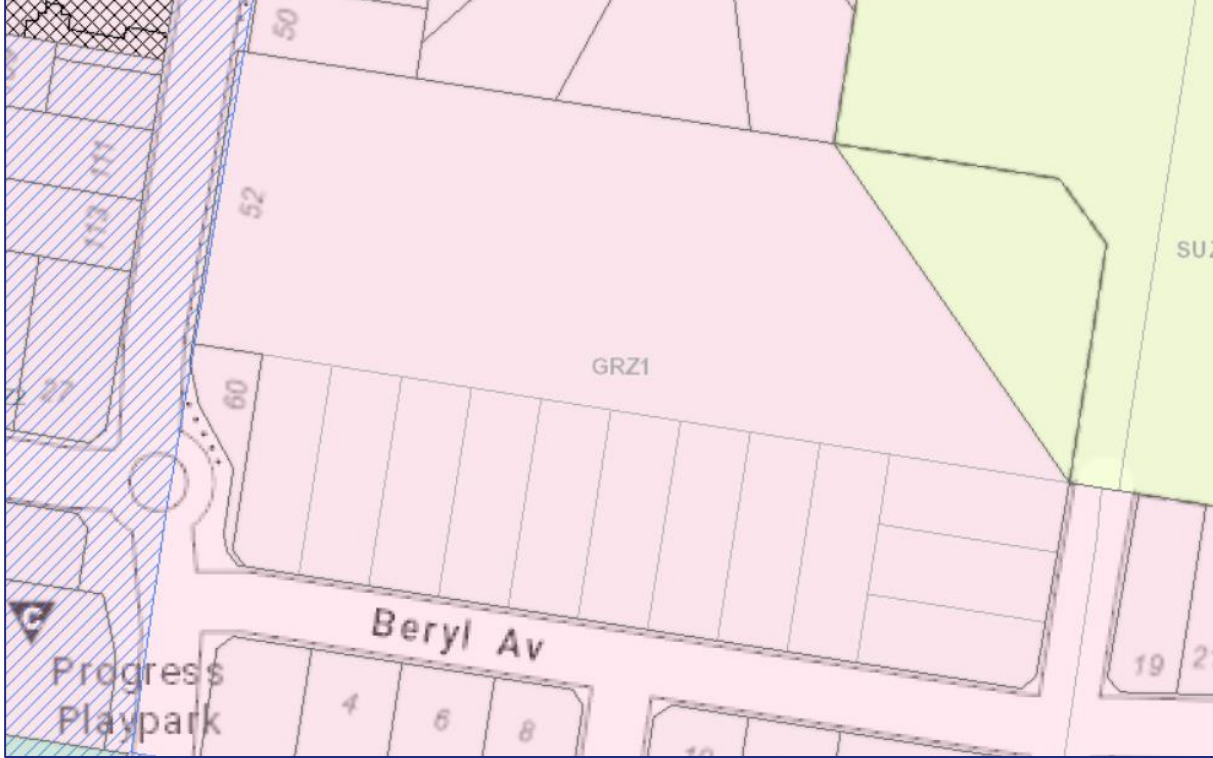


Figure 15: PPTN Map (Zoomed-in on Site) (Source: Planning Schemes Online)

4. Traffic Engineering Assessment

4.1. Statutory Car Parking Assessment

Whilst the development plan application does not trigger a car parking requirement, the following assessment sets out the car parking requirements for a development yield set out indicatively in the plans for the development plan.

The proposed uses falls under the land-use categories of 'residential aged care facility' and retirement village' under Clause 73.03 of the Planning Scheme. The Planning Scheme sets out the parking requirements for new developments under Clause 52.06. The purpose of Clause 52.06 is:

- *To ensure that car parking is provided in accordance with the Municipal Planning Strategy and the Planning Policy Framework.*
- *To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.*
- *To support sustainable transport alternatives to the motor car.*
- *To promote the efficient use of car parking spaces through the consolidation of car parking facilities.*
- *To ensure that car parking does not adversely affect the amenity of the locality.*
- *To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

The statutory parking requirements are set out at Clause 52.06-5 of the Planning Scheme. Clause 52.06-5 states:

Column A applies unless Column B applies.

Column B applies if:

- *any part of the land is identified as being within the Principal Public Transport Network Area as shown on the Principal Public Transport Network Area Maps (State Government of Victoria, 2018); or*
- *a schedule to the Parking Overlay or another provision of the planning scheme specifies that Column B applies.*

Given the site is located with the PPTN, the Column B rates apply to the site.

The statutory car parking assessment of the development plan is set out in Table 7 below.

For the purpose of this analysis, it has been considered that the aged care accommodation and the assisted living accommodation are classified under residential aged care, while the independent living apartments and villas are classified as retirement village.

Table 7: Statutory Car Parking Assessment for Indicative Development Summary – Column B of Clause 52.06-5

Use	Size / No.	Statutory Parking Rate (Column B)	Parking Requirement ⁽¹⁾	Parking Provision	Shortfall / Surplus
Residential Aged Care Facility	44	0.3 car spaces to each lodging room	13	17 ⁽²⁾	+ 4
Retirement Village Component					
One-Bedroom Independent Living Apartments	6	1 car space to each one or two bedroom dwelling	6	41	- 11
Two-Bedroom Independent Living Apartments	24		24		
Three-Bedroom Independent Living Apartments	11		22		
Two-Bedroom Villas	38	1 car space to each one or two bedroom dwelling	38	76 ⁽³⁾	+ 38
Three-Bedroom Villas	12	2 car spaces to each three or more bedroom dwelling	24	24	-
Visitors (Retirement Village Component)	91	None Required	-	-	-
Visitor Car Parking	-	-	-	22	+ 22
TOTAL	-	-	127	180	Overall Surplus of 53 spaces Including Reduction of 11 spaces for ILAs

Notes:

1. Clause 52.06-5 specifies that where a car parking calculation results in a requirement that is not a whole number, then number of spaces should be rounded down to the nearest whole number.
2. Including car parking allocated to staff and residents.
3. Including one surplus car space in front of each garage, for use by visitors etc.

The overall development plan would have a statutory car parking requirement for 127 car spaces to be provided on the site. Based on the allocation of 180 car spaces across the site, an overall surplus of 53 car spaces is provided within the indicative plans, but a reduction of 11 resident spaces for the independent living apartments would be sought.

Accordingly, the development requires a car parking reduction for 11 resident spaces under Clause 52.06-7 of the Planning Scheme.

4.1.1. Reducing the Requirement for Car Parking

Clause 52.06-7 allows for the statutory car parking requirement to be reduced (including to zero). An application to reduce (including reduce to zero) the number of car spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay must be accompanied by a Car Parking Demand Assessment.

Clause 52.06-7 sets out that a Car Parking Demand Assessment must have regard to the following key factors:

- *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 proposed occupants (residents or employees) of the land.*
- *Any empirical assessment or case study.*

Planning Practice Note 22 (June, 2015) specifies that the provisions for reducing the car parking requirement draw a distinction between the assessment of likely demand for car parking spaces (the Car Parking Demand Assessment), and whether it is appropriate to allow the supply of fewer spaces than assessed by the Car Parking Demand Assessment. These are two separate considerations, one technical while the other is more strategic. Different factors are taken into account in each consideration.

Accordingly, the applicant must satisfy the responsible authority that the provision of car parking is appropriate on the basis of a two-step process, which has regard to:

- *The car parking demand likely to be generated by the use.*
- *Whether it is appropriate to allow fewer spaces to be provided than the number likely to be generated by the site.*

An assessment of the appropriateness of reducing the car parking provision below the statutory requirement for the independent living apartments within the retirement village is set out below.

4.1.2. Car Parking Demand Assessment

Whilst the development provides a surplus of car parking across the site, the development allocates one car space to each of the independent living apartments for the retirement village component. Overall, the development provides 41 car spaces for a total of 41 apartments at a rate of 1 resident car space per apartment.

It is important to note that the on-site car parking will be managed by the retirement village operator and allocated to individual apartments as demand requires. That is, where residents of the apartments do not require car parking, surplus car spaces may be allocated to other apartments as additional car spaces.

Retirement village apartment buildings generally experience a lower demand for parking compared to 'regular' apartments. As residents age, they are likely to drive less over time and own fewer vehicles, either operating one vehicle per household or giving up driving all together. Accordingly, it is reasonable to expect residents to own fewer vehicles than the averages suggested by the ABS data, which encompasses all household types.

Notwithstanding, a review of car ownership statistics for 'flats units and apartments' within the suburb of Oakleigh South and the Monash LGA highlights the following average car ownership statistics.

This data was recorded by the Australian Bureau of Statistics (ABS) in the 2021 Census and is presented in the following table.

Table 8: Car Ownership data - 2016 Census Australian Bureau of Statistics

Type of Dwelling	Number of Cars	Oakleigh South Suburb	Monash LGA
1 bedroom Flat/Unit/Apartment in one or more storey block	Average no. of cars per dwelling	0.5	0.7
	0 cars	48%	38%
	1 car	52%	55%
	2 or more cars	0%	8%
2 bedroom Flat/Unit/Apartment in one or more storey block	Average no. of cars per dwelling	1.1	1.1
	0 cars	13%	16%
	1 car	70%	61%
	2 or more cars	18%	24%
3 bedroom Flat/Unit/Apartment in one or more storey block	Average no. of cars per dwelling	1.7	1.6
	0 cars	0%	5%
	1 car	30%	45%
	2 or more cars	70%	50%

The above statistics relate to the whole of suburb and includes areas with a lower level of access to public transport and services compared with the subject site. These also include owner occupied dwellings in addition to rental properties. Significantly, the ABS data identifies a reasonable level of one and two-bedroom apartments with no car ownership and three-bedroom apartments with car ownership of 1 car.

Accordingly, we are satisfied that the overall supply of car parking at a rates of 1 car space per apartment is appropriate to meet the demands of this type of apartment.

Visitor Car Parking

Whilst not required under Clause 52.06-5 of the Planning Scheme, each of the components of the development will have a level of demand for visitor car parking.

The visitor demand for the independent living apartments is expected to be in the order of 0.12 car spaces per apartment. This car parking rate has been established based on car parking surveys of 'regular' apartments and is regularly accepted as the empirical car parking rate for independent living apartments.

Applying a rate of 0.12 car spaces per apartment results in a demand for car parking on in the order of 5 car spaces.

The statutory car parking rate for the aged care component of the development (including assisted living apartments and aged care apartments) of 0.3 car spaces per apartment encompasses staff, resident and visitor car parking within it. In this case, car parking has been allocated to the aged care component at a rate of 0.39 car spaces per apartment, and specifically allocated to staff and residents. Accordingly, visitor car parking demands will need to be accommodated within the pool of visitor car parking provided for the wider site. We expect that the visitor car parking demand for visitors of the aged care apartments to be in the order of half that of the independent living apartments, reflecting the smaller sized apartments and inability to host gatherings of people within the aged care apartments. For residents in the aged care apartments, it is more likely that family/friends will pick the resident up and take them somewhere else for visiting purposes, rather than entertaining in the aged care apartment.

Applying a rate of 0.06 car spaces per apartment results in a demand for car parking of in the order of 3 car spaces.

The visitor demand associated with the retirement village villas is expected to be in the order of 0.2 car spaces per villa, consistent with the statutory visitor parking rate for dwellings in areas not covered by the PPTN area.

Each of the two-bedroom villas include an additional car space in front of their garage to be used by visitors. Accordingly, only the visitor demand from the three-bedroom villas will need to be accommodated by the wider site. This is a conservative assumption, as it is likely that a significant proportion of the three-bedroom villas would only have a need for 1 vehicle, leaving the second car space free for a visitor to use.

Applying a rate of 0.2 car spaces per three-bedroom villa results in a demand for car parking of in the order of 2 car spaces.

Based on the above, the total demand for visitor car parking which would need to be accommodated by the shared visitor car parking resource is expected to be 10 car spaces. As 22 car spaces are provided on the site for visitors, we are satisfied that the visitor car parking demand of the development will be accommodated on the site.

Summary

Based on the above, we are satisfied that the car parking provided for residents and visitors of the development is appropriate and there will be **no overflow of visitor car parking** onto the road network as a result of this development.

We note that the approved development plan included 12 visitor spaces for 83 townhouse style dwellings, at a rate of 0.14 car spaces per dwellings. A development constructed to the specifications of the development plan would have relied upon on-street parking of in the order of 4-5 car spaces. Accordingly, the proposed development of the land will have less impact upon the surrounding car parking resources, when compared with the approved development plan.

We are also satisfied that there will be no overflow of resident or staff car parking from the site, as these demands are met within the basement carpark and within garages.

4.2. Upper Limit of Apartments and Aged Care Accommodation

The current development yield detailed within the development plan drawings is an indicative yield summary only. The following section sets out the maximum number of accommodation styles that could be provided within a development on the site, given the current provision of car parking, which is not expected to be changed substantially from what is detailed within the indicative development plan drawings.

The following is a summary of the findings of the above statutory car parking assessment and car parking demand assessment (empirical car parking demand). The above sections conclude that:

- A 4 car space oversupply of car parking is provided for the aged care accommodation and the assisted living accommodation, therefore the number of these types of accommodation can be increased.
- All resident car parking is provided for the independent living apartments, with no overflow expected.
- All resident car parking is provided for the independent living villa, with no overflow expected.
- Based on our assessment of the visitor car parking demand, a total demand for 10 spaces is expected to be generated by the aged care accommodation, the assisted living accommodation, the independent living apartments and the three-bedroom villas (two-bedroom villas not included in assessment as they have a second car space to be used by a visitor).

As 22 visitor spaces are proposed across the site, an overprovision of 12 visitor spaces is provided.

Accordingly, based on the above there is scope for additional aged care accommodation, assisted living accommodation and independent living apartments to be provided across the site if spaces currently allocated as visitor car parking are re-allocated. The table below represents the upper limit for the development of the site based on the car parking rates set out in the preceding sections and the total provision of 80 car spaces within the basement and along the visitor spaces along the internal road network.

Table 9: Upper Limit for Accommodation

Type	Max. Provision	Resident/Staff Car Parking Rate	Resident/Staff Car Parking Provision	Visitor Car Parking Rate	Visitor Car Parking Provision
Residential Aged Care	57	0.3 car spaces per apt	17	0.06 car spaces per apt	3.4
Assisted Living		Statutory car parking rate			
One-Bedroom Independent Living Apartments	51	1 car space per apt	51	0.12 car spaces per apt	6.1
Two-Bedroom Independent Living Apartments					
Three-Bedroom Independent Living Apartments					
Three-Bedroom Independent Living Villa	12 ^(Note 1)	Not occupying any of the 80 spaces which is the subject of this table		0.2 car spaces per villa	2.4
TOTAL			68	-	11.9
			79.9		
Note 1: Quantum of three-bedroom villas to remain fixed at 12 villas. for the subject of this assessment.					

Based on the table above, a total of 57 residential aged care/assisted living apartments and 51 independent living apartments could be accommodated on the site without an overflow of car parking generated, whilst still providing sufficient staff and visitor parking on the site.

Accordingly, this represents the upper limit for this style of accommodation on the site given the provision of 80 car spaces to support these uses.

4.3. Bicycle Parking Provision

Clause 52.34 of the Planning Scheme specifies bicycle parking requirements for new developments. The purpose of Clause 52.34 is to:

- *To encourage cycling as a mode of transport.*
- *To provide secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.*

The development provides a total of 28 bicycle spaces across the site, including:

- 10 spaces within the basement for staff and residents,
- 18 spaces around the periphery of the central building for visitors, and

All bicycle parking is provided within either a floor or wall mounted arrangement and complies to the design requirements of the Planning Scheme and the Australian Standards.

Clause 52.34 of the planning scheme sets out the bicycle parking requirements for new developments and changes in use. Table 1 at Clause 52.34 does not set out a specific bicycle parking requirement for 'residential aged care' or for 'retirement village'. Clause 74 of the Planning Scheme indicates that these uses fall under the broader land use term of 'residential building'.

Table 1 of Clause 52.34 requires bicycle parking be provided within residential buildings of four or more storeys. Accordingly, there is no statutory bicycle parking requirement for the development.

In any case, we are satisfied that the level of bicycle parking provided on the site will accommodate the likely demand from the development, satisfying the intent of Clause 52.34 of the Planning Scheme.

4.4. Review of Carpark Layout and Vehicle Access Arrangements

Traffix Group has provided design advice to the project architect to achieve a satisfactory carpark layout. The proposed parking layout has been assessed under the following guidelines:

- Clause 55.03-9 (Access Objective) and Clause 55.03-10 (Parking Location Objective),
- Clause 52.06-9 of the Planning Scheme (Design Standards for car parking),
- AS2890.1-2004 – Part 1: Off-Street Car Parking (where relevant), and
- AS2890.6-2009 – Part 6: Off-Street Car Parking for People with Disabilities.
- The relevant standards of Clauses 56.06-2, 56.06-4, 56.06-5, 56.06-7 and 56.06-8.

An assessment against the relevant design standards of the Planning Scheme and Australian Standards (where relevant) is provided in the table below.

Table 10: Carpark Layout and Access Assessment

Requirement	Assessment	Design Response
Clause 55.03-9 – Access Objective		
The width of accessways or car spaces should not exceed: <ul style="list-style-type: none"> • 33% of the street frontage, or • If the width of the street frontage is less than 20m, 40% of street frontage. 	✓	Golf Road – Satisfied with 5% Beryl Avenue – Satisfied with 18% Bakers Road - Satisfied with 9%
No more than one single-width crossover should be provided for each dwelling fronting a street.	✓	Satisfied
The location of crossovers should maximise the retention of on-street car parking spaces.	✓	Minimal on-street car parking is lost along Beryl Avenue.
The number of access points to a road in a Transport Zone 2 or Transport Zone 3 should be minimised.	N/A	No frontage to TZ2 or TZ3
Developments must provide for access for service, emergency and delivery vehicles.	✓	Satisfied – See Section 4.5 of this report.
Clause 55.03-10 – Parking Location Objective		
Car parking facilities should: <ul style="list-style-type: none"> • Be reasonably close and convenient to dwellings and residential buildings. • Be secure and well ventilated if enclosed. 	✓	Parking is located in a basement or within private garages.
Shared accessways or car parks of other dwellings and residential buildings should be located at least 1.5m from the windows of habitable rooms. This setback may be reduced to 1m where there is a fence at least 1.5m high or where window sills are at least 1.4m above the accessway.	✓	Satisfied
Clause 52.06-9 Design Standard 1 – Accessways		
Must be at least 3m wide	✓	Accessways are greater than 3m in width
Have an internal radius of at least 4m at changes of direction or intersection or be at least 4.2m wide.	o	B99 design car can navigate all bends. Objective achieved.

Requirement	Assessment	Design Response
Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forwards direction with one manoeuvre.	✓	Complies.
Provide at least 2.1m headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8m.	✓	Complies.
If the accessway serves four or more car spaces or connects to a road in a Transport Zone 2 or Transport Zone 3, the accessway must be designed so that cars can exit the site in a forward direction.	✓	Complies.
Provide a passing area at the entrance at least 6.1m wide and 7m long if the accessway serves ten or more car parking spaces and is either more than 50m long or connects to a road in a Transport Zone 2 or Transport Zone 3.	✓	Passing area provided.
Have a corner splay or area at least 50% clear of visual obstructions extending at least 2m along the frontage road from the edge of an exit lane and 2.5m along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road. The area clear of visual obstructions may include an adjacent entry or exit lane where more than one lane is provided, or adjacent landscaped areas, provided the landscaping in those areas is less than 900mm in height.	✓	Splays provided.
If an accessway to four or more car parking spaces is from land in a Transport Zone 2 or Transport Zone 3, the access to the car spaces must be at least 6m from the road carriageway.	N/A	N/A
If entry to the car space is from a road, the width of the accessway may include the road.	-	-

Requirement	Assessment	Design Response																														
Clause 52.06-9 Design Standard 2 – Car Parking Spaces																																
<p>Car parking spaces and accessways must have the minimum dimensions as outlined in Table 2 under Clause 52.06-9.</p> <table border="1"> <thead> <tr> <th>Angle of car spaces to accessway</th> <th>Accessway width</th> <th>Car park width</th> <th>Car park length</th> </tr> </thead> <tbody> <tr> <td>Parallel</td> <td>3.6 m</td> <td>2.3 m</td> <td>6.7 m</td> </tr> <tr> <td>45°</td> <td>3.5 m</td> <td>2.6 m</td> <td>4.9 m</td> </tr> <tr> <td>60°</td> <td>4.9 m</td> <td>2.6 m</td> <td>4.9 m</td> </tr> <tr> <td rowspan="3">90°</td> <td>6.4 m</td> <td>2.6 m</td> <td>4.9 m</td> </tr> <tr> <td>5.8 m</td> <td>2.8 m</td> <td>4.9 m</td> </tr> <tr> <td>5.2 m</td> <td>3.0 m</td> <td>4.9 m</td> </tr> <tr> <td></td> <td>4.8 m</td> <td>3.2 m</td> <td>4.9 m</td> </tr> </tbody> </table> <p><i>Note to Table 2: Some dimensions in Table 2 vary from those shown in the Australian Standard AS2890.1-2004 (off street). The dimensions shown in Table 2 allocate more space to aisle widths and less to marked spaces to provide improved operation and access. The dimensions in Table 2 are to be used in preference to the Australian Standard AS2890.1-2004 (off street) except for disabled spaces which must achieve Australian Standard AS2890.6-2009 (disabled).</i></p>	Angle of car spaces to accessway	Accessway width	Car park width	Car park length	Parallel	3.6 m	2.3 m	6.7 m	45°	3.5 m	2.6 m	4.9 m	60°	4.9 m	2.6 m	4.9 m	90°	6.4 m	2.6 m	4.9 m	5.8 m	2.8 m	4.9 m	5.2 m	3.0 m	4.9 m		4.8 m	3.2 m	4.9 m	✓	<p>All car spaces are 2.6m wide x 4.9m with a 6.4m wide access aisle.</p> <p>Access to and from the critical car spaces within the basement carpark have been checked for access by the B85 design car (specified at Appendix B of AS2890.1-2004).</p>
Angle of car spaces to accessway	Accessway width	Car park width	Car park length																													
Parallel	3.6 m	2.3 m	6.7 m																													
45°	3.5 m	2.6 m	4.9 m																													
60°	4.9 m	2.6 m	4.9 m																													
90°	6.4 m	2.6 m	4.9 m																													
	5.8 m	2.8 m	4.9 m																													
	5.2 m	3.0 m	4.9 m																													
	4.8 m	3.2 m	4.9 m																													
<p>A wall, fence, column, tree, tree guard or any other structure that abuts a car space must not encroach into the area marked 'clearance required' on Diagram 1, other than:</p> <ul style="list-style-type: none"> A column, tree or tree guard, which may project into a space if it is within the area marked 'tree or column permitted' on Diagram 1. A structure, which may project into the space if it is at least 2.1 metres above the space. <p>Diagram 1 Clearance to car parking spaces</p> <p>Diagram 1 Clearance to car parking spaces</p> <p>Dimensions in millimetres</p> <p>▨ Clearance required</p> <p>■ Tree or column permitted</p>	✓	Complies.																														
<p>Car spaces in garages/carports must be at least 6m long and 3.5m wide for a single space and 5.5m wide for a double space measured inside the garage/carport.</p>	✓	Satisfied.																														

Requirement	Assessment	Design Response													
Where parking spaces are provided in tandem, an additional 0.5m in length must be provided between each space.	N/A	No tandem car spaces.													
Where two or more car parking spaces are provided for a dwelling, at least one space must be under cover.	✓	Satisfied.													
Disabled car parking spaces must be designed in accordance with AS2890.6-2009 and the Building Code of Australia. Disabled car parking spaces may encroach into an accessway width specified in Table 2 by 0.5m. A minimum headroom of 2.5m is to be provided above the disabled car space in accordance with AS2890.6-2009.	✓	Satisfied.													
Clause 52.06-9 Design Standard 3 - Gradients															
Accessway grades must not be steeper than 1:10 (10 per cent) within 5 metres of the frontage to ensure safety for pedestrians and vehicles. The design must have regard to the wheelbase of the vehicle being designed for; pedestrian and vehicular traffic volumes; the nature of the car park; and the slope and configuration of the vehicle crossover at the site frontage. This does not apply to accessways serving three dwellings or less.	✓	The grade from Golf Road into the site is flat and satisfies this requirement.													
Ramps (except within 5 metres of the frontage) must have the maximum grades as outlined in Table 3 and be designed for vehicles travelling in a forward direction.	✓	Complies.													
<table border="1"> <thead> <tr> <th>Type of car park</th> <th>Length of ramp</th> <th>Maximum grade</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Public car parks</td> <td>20 metres or less</td> <td>1:5 (20%)</td> </tr> <tr> <td>longer than 20 metres</td> <td>1:6 (16.7%)</td> </tr> <tr> <td rowspan="2">Private or residential car parks</td> <td>20 metres or less</td> <td>1:4 (25%)</td> </tr> <tr> <td>longer than 20 metres</td> <td>1:5 (20%)</td> </tr> </tbody> </table>	Type of car park	Length of ramp	Maximum grade	Public car parks	20 metres or less	1:5 (20%)	longer than 20 metres	1:6 (16.7%)	Private or residential car parks	20 metres or less	1:4 (25%)	longer than 20 metres	1:5 (20%)		
Type of car park	Length of ramp	Maximum grade													
Public car parks	20 metres or less	1:5 (20%)													
	longer than 20 metres	1:6 (16.7%)													
Private or residential car parks	20 metres or less	1:4 (25%)													
	longer than 20 metres	1:5 (20%)													
Where the difference in grade between two sections of ramp or floor is greater than 1:8 (12.5 per cent) for a summit grade change, or greater than 1:6.7 (15 per cent) for a sag grade change, the ramp must include a transition section of at least 2 metres to prevent vehicles scraping or bottoming.	✓	Complies.													
Plans must include an assessment of grade changes of greater than 1:5.6 (18 per cent) or less than 3 metres apart for clearances, to the satisfaction of the responsible authority	N/A	No need to perform ground clearance checks for grades proposed.													

Requirement	Assessment	Design Response
Clause 52.06-9 Design Standard 6 – Safety		
Car parking must be well lit and clearly signed.	✓	Adequate lighting will be provided for the basement carpark and the internal roadways.
The design of car parks must maximise natural surveillance and pedestrian visibility from adjacent buildings.	✓	Complies.
Pedestrian access to car parking areas from the street must be convenient.	✓	All car parking areas are provided conveniently to the accommodation and pedestrian access is convenient.
Pedestrian routes through car parking areas and building entries and other destination points must be clearly marked and separated from traffic in high activity parking areas.	✓	Separated pedestrian paths are provided throughout the development.
Clause 52.06-9 Design Standard 7 - Landscaping		
The layout of car parking areas must provide for water sensitive urban design treatment and landscaping.	N/A*	These requirements are not strictly related to traffic engineering matters.
Landscaping and trees must be planted to provide shade and shelter, soften the appearance of ground level car parking and aid in the clear identification of pedestrian paths.		
Ground level car parking spaces must include trees planted with flush grilles. Spacing of trees must be determined having regard to the expected size of the selected species at maturity.		

Clause 52.06-9 specifies that before deciding on an application, the Responsible Authority must also consider:

The relevant standards of Clauses 56.06-2, 56.06-4, 56.06-5, 56.06-7 and 56.06-8 for residential developments with accessways longer than 60m or serving 16 or more dwellings.

A response to each of these requirements is set out in the following table.

Planning Scheme Requirement	Development Response
<p>Clause 56.06-2 – Walking and Cycling Network Objectives</p> <p>Clause 56.06-5 – Walking and Cycling Network Detail Objectives</p>	<p>The site has three street frontages and accordingly, the villas located around the east, south and west boundaries of the site have direct access to a footpath.</p> <p>A north-south pedestrian route extends through the centre of the site, providing access from Beryl Avenue to the northern extent of the site.</p> <p>A separated pedestrian path also extends around the periphery of most of the central building.</p> <p>The accessway which extends around the periphery of the central building is designed to be a shared zone and will be able to facilitate bicycle, pedestrian and vehicle movements within the one-way section of the accessway.</p> <p>Accordingly, we are satisfied that the development plans meet the objectives and standards of Clause 56.06-2 in regards to pedestrian and bicycle access.</p>
<p>Clause 56.06-4 – Neighbourhood and Street Network Objective</p> <p>Clause 56.06-7 – Neighbourhood Street Network Detail Objective</p>	<p>The proposed internal access road (except for the one-way shared zone) has a minimum carriageway width of 5.5m, which is akin to an 'Access Street – Level 1' under Clause 56.06-8 of the Planning Scheme. This road width is appropriate and will allow two-way traffic throughout the site.</p> <p>The accessway reduces to a width of 4.0m for the one-way shared zone which accords with the minimum carriageway width requirement as specified in Clause 52.06 of the Planning Scheme.</p> <p>While the 'verge' requirements of Clause 56.06-8 are not met, the proposed road network within the site will be private roads under the control of the aged care and retirement village operator and will not be public 'Council' roads. Accordingly, these requirements are not applicable. Furthermore, we understand that the proposed 'road reservation' widths are adequate to meet the servicing needs of the development.</p> <p>We are satisfied that the development meets the objectives of the Planning Scheme in regards to neighbourhood street network objectives.</p>
<p>Clause 56.06-8 – Lot Access Objective</p>	<p>Vehicle access to all car parking spaces has been reviewed and is satisfactory.</p>

4.4.1. Operation of Shared Zone

Vehicle access to the site is provided via a two-lane wide accessway to Golf Road. The accessway continues in a two-way manner to the basement carpark and to the loading bay. The remainder of the road network within the site is design as a one-way shared zone arrangement, allowing for vehicle and pedestrian movements.

The majority of the villas which front the shared zone have direct access to a footpath (either along their frontage or directly opposite their pedestrian access) to give separated access to the pedestrian network through and around the site. A small number of properties along the north-east boundary of the site do not have direct access to a footpath and the occupiers of these villas would rely on the shared zone for pedestrian movements for a short length. We are satisfied that this is an appropriate arrangement, particularly given the low number of traffic movements expected to be carried by the shared zone.

The maximum hourly volume of traffic expected to be carried by the shared zone is expected to be in the order of 8 movements, plus the occasional drop off for the independent living apartments. This level of traffic is acceptable for a shared zone and does not present an unsafe arrangement.

Based on the above, we are satisfied the proposed layout of car spaces is satisfactory and that the access arrangements for the site will provide for safe and efficient movements to and from the surrounding road network.

4.5. Loading and Waste Collection Arrangements

Clause 65.01 of the Planning Scheme states that the Responsible Authority must consider a number of matters as appropriate including:

- *The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.*

4.5.1. Loading

The proposed development includes a loading bay on the west side of the central building which will service the development as a whole.

The loading bay is sufficient in size to accommodate a 6.4m long truck. Swept path diagrams are attached at Appendix D demonstrating access into the loading bay. We are satisfied that this loading bay is sufficient to accommodate the formal loading for the site.

Informal loading by small delivery vehicles can be accommodated within visitor car spaces and within the driveways for individual villas.

We are satisfied that the loading arrangements for the site are appropriate.

4.5.2. Waste Collection

A waste management plan has been prepared by Ratio Consultants. A 6.4-metre-long low-profile collection vehicle will collect waste from the villas which have vehicle access to the internal accessway.

For villas which have vehicle access to Beryl Avenue, waste will also be collected by the 6.4-metre-long low-profile collection vehicle along Beryl Avenue.

The waste management plan also indicates that waste collection for the main building will be collected via a 6.4-metre-long low-profile collection vehicle from within the ground floor loading area.

We satisfied that the waste collection arrangements are acceptable for each type of accommodation on the site.

4.6. Traffic Impact Assessment

We have adopted the following traffic generation rates for each accommodation type. The following traffic generation rates have been established by traffic surveys conducted by our office and other traffic engineering consultancies and are commonly accepted as appropriate traffic generations rates for these accommodation types:

- Assisted Living Apartments and Residential Aged Care: 2 vehicle movements per apartment per day, and 0.15 vehicle movements per apartment per peak hour,
- Retirement Village Apartments: 2.5 vehicle movements per apartment per day, and 0.2 vehicle movements per apartment per peak hour, and
- Retirement Village Villas: 3.5 vehicle movements per villa per day, and 0.25 vehicle movements per villa per peak hour.

The table below summarises the traffic generation of the current yield estimates set out within the current development plan drawings.

Table 11: Expected Traffic Generation for Indicative Yield

Use	Size/No.	Daily Traffic Generation Rate	Daily	Peak Traffic Generation Rate	Peak hour
ALA/RAC	44	2/ apt	88	0.15/ apt	7
Retirement Village Apartments	41	2.5/ apt	103	0.2/ apt	8
Retirement Village Villas	50	3.5/ apt	175	0.25/ apt	13
Total			366		28

The above traffic generation estimates are inclusive of resident, staff and visitor movements for these types of uses.

By comparison the residential townhouses proposed within the approved development plan would have generated in the order of 507 vehicle trip ends per day, and 51 vehicle trip ends per peak hour. **Accordingly, the current proposal represents a 28% reduction in daily traffic generation and a 45% reduction in peak hour movements, when compared with the approved development plan.**

Accordingly, we are satisfied that the level of traffic generated by the site can be accommodated by the adjoining road network.

4.6.1. Traffic Generation for Maximum Yield

The above traffic impacts are based on the indicative development outcome on the Fender Katsalidis plans (attached at Appendix A). If the maximum yield set out within Table 9 were to be adopted the site would generate the following traffic movements.

Table 12: Expected Traffic Generation for Maximum Yield

Use	Size/No.	Daily Traffic Generation Rate	Daily	Peak Traffic Generation Rate	Peak hour
ALA/RAC	57	2/ apt	114	0.15/ apt	9
Retirement Village Apartments	51	2.5/ apt	128	0.2/ apt	10
Retirement Village Villas	50	3.5/ apt	175	0.25/ apt	13
Total			417		32

Based on the above, the level of traffic generated by the maximum yield for the site would still be less than the approved development plan for the site. Accordingly, we are satisfied that the level of traffic generated by the site can be accommodated by the adjoining road network.

5. Comparison to Development Plan

As set out in Section 2.1, the site has an approved development plan, which includes various guiding principles from a traffic engineering perspective. The proposed development of the site has had consideration to these principles. The table below sets out a comparison between the approved development and the current proposal.

Table 13: Comparison to Approved Development Plan

Approved Development Plan	Proposed Development
Provided primary access to Golf Road.	Primary access is provided to Golf Road, with an emergency vehicle access point to Bakers Road.
8 x individual property access points to Beryl Avenue.	The same number of properties have direct access to Beryl Avenue.
2 x individual property access to Bakers Road.	No properties are proposed to have direct access to Bakers Road.
Generated in the order of 507 vehicle trip ends per day, and 51 vehicle trip ends per peak.	Will generate 366 vehicle trip ends per day, and 28 vehicle trip ends per peak, representing a 28%

Approved Development Plan	Proposed Development
	reduction in daily traffic generation and a 45% reduction in peak hour movements.
Generated an overflow car parking demand associated with visitor parking of in the order of 4 spaces.	There is no reliance on on-street car parking for visitors.
The pedestrian network through the site is extensive but does not provide direct access to Golf Road. The main accessway surrounding the site is a two-lane, two way road and would be designed as a shared zone due to the lack of footpaths throughout the site.	Largely consistent with the development plan. The current proposal has pedestrian access to Golf Road and also provides further extent of footpaths. The footpaths are also wider under the proposed application.
Bicycle parking is provided for visitors throughout the site at various points via flat top rails.	Consistent with the development plan.
Allowed for on-site waste collection, with the exception of the units which have vehicle access to Beryl Avenue and Bakers Road.	All waste collection is by private waste collection
There is no specific provision for loading within the site.	A formal loading bay is provided as part of the main central building.

Based on the above table, the proposed development is either consistent with or has less of a traffic engineering impact when compared with the approved development plan.

6. Conclusions

Having undertaken a detailed traffic engineering assessment of the proposed development plan for residential aged care and retirement village development at 52 Golf Road, Oakleigh South, we are of the opinion that:

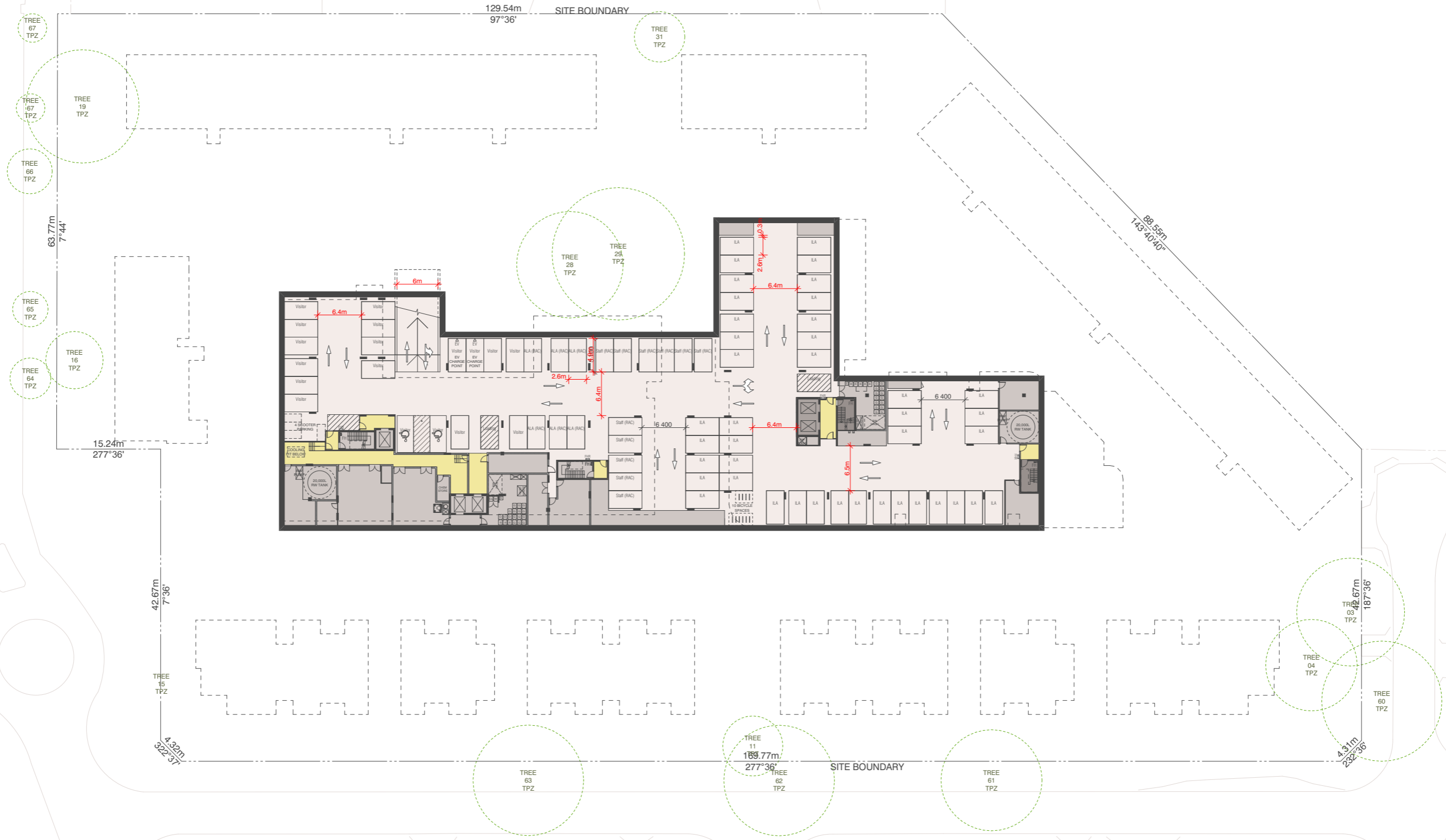
- a) whilst the development plan application does not have a statutory car parking demand the indicative development yield has a statutory car parking requirement of 127 car spaces under Clause 52.06-5,
- b) the provision of 180 car spaces and allocation of car parking would result in a statutory reduction of 11 resident car spaces associated with the independent living apartments, with a surplus of visitor car parking available on the site,
- c) the reduction sought by the application for independent living apartments is appropriate based on the car parking demand assessment,
- d) the surplus of car parking provided for the site would allow for additional aged care/assisted living apartments and independent living apartments,
- e) the proposed parking layout and vehicle access arrangements accord with the requirements of the Planning Scheme, Australian Standards (where relevant) and current practice,
- f) whilst no bicycle parking is required under Clause 52.34 of the Planning Scheme, the provision on the site is acceptable and will accommodate the demand for bicycle parking by staff, residents and visitors,
- g) the level of traffic generated by the proposal can be accommodated without any adverse impacts to the operation of the local road network and represents a 28% reduction in daily traffic generation and a 45% reduction in peak hour movements, when compared with the approved residential townhouse development plan scheme,
- h) loading will be accommodated on the site within a formal loading bay accommodating a 6.4m long truck,
- i) the waste collection considerations for the site are appropriate from a traffic engineering perspective,
- j) emergency service vehicle can access the site appropriately, including via emergency vehicle entry to Bakers Road,
- k) the proposed development is either consistent with or has less of a traffic engineering impact when compared with the approved development plan, and
- l) there are no traffic engineering reasons why the proposed development plan for the residential aged care and retirement village development at 52 Golf Road, Oakleigh South should not be granted, subject to appropriate conditions.



Appendix A

Development Plans

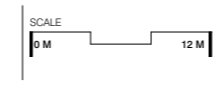
INDICATIVE BASEMENT FLOOR PLAN



REVISION	DATE	ISSUE
DEVELOPMENT PLAN ISSUE	15/12/22	004
DEVELOPMENT PLAN ISSUE	19/12/22	005
SITE ENTRY UPDATE	02/03/22	006

DRAWINGS ARE INDICATIVE BUILT FORM OUTCOME OF THE DEVELOPMENT PLAN AND IS SUBJECT TO REFINEMENT AT TOWN PLANNING APPLICATION

PROJECT: SUMMERSSET OAKLEIGH SOUTH



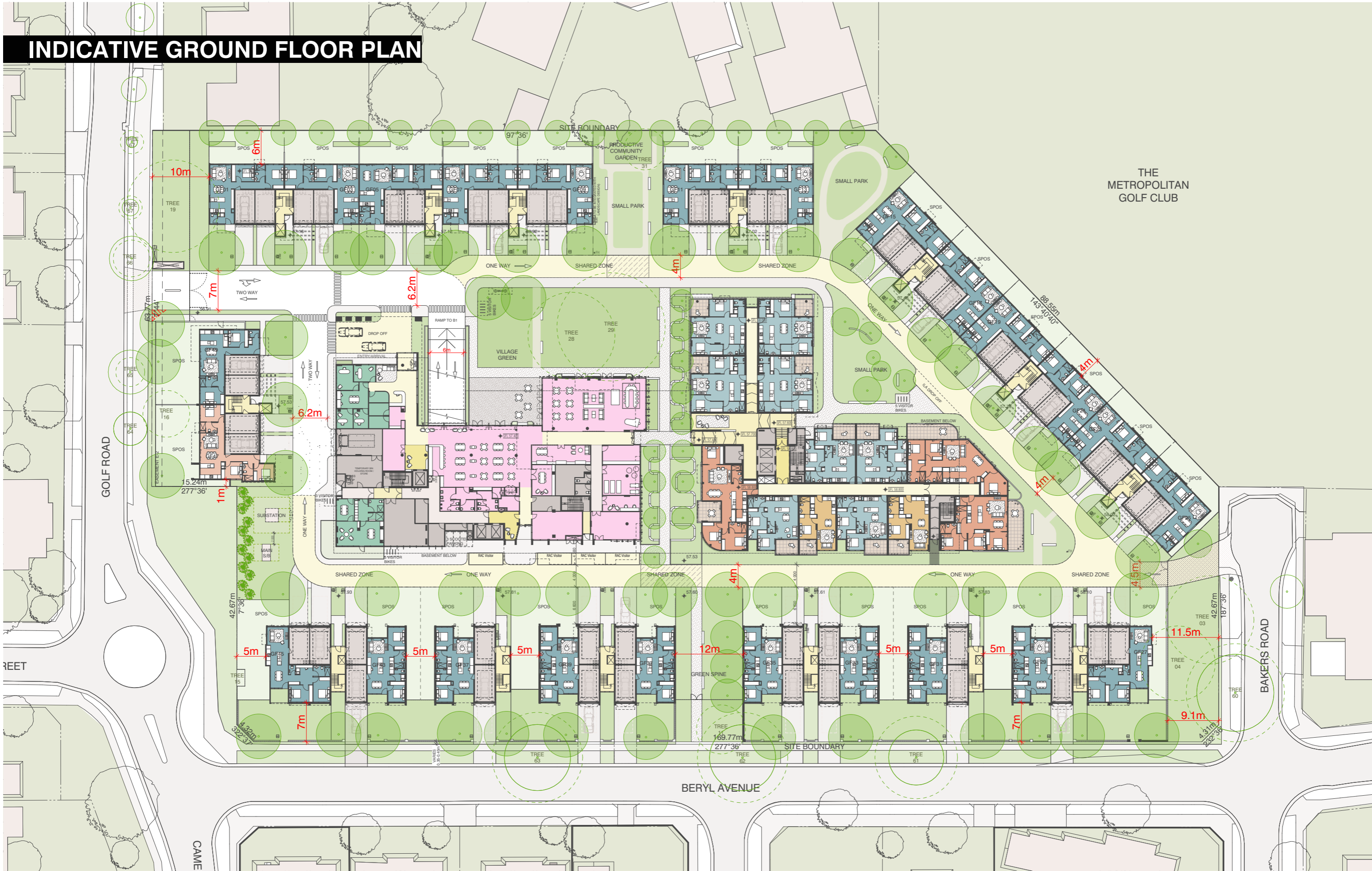
DATE: 3/03/2023

DRAWING NUMBER: DP099a



INDICATIVE GROUND FLOOR PLAN

THE METROPOLITAN GOLF CLUB



REVISION	15/12/22	004
DEVELOPMENT PLAN ISSUE	19/12/22	005
DEVELOPMENT PLAN ISSUE	28/02/22	006
SITE ENTRY UPDATE		

DRAWINGS ARE INDICATIVE BUILT FORM OUTCOME OF THE DEVELOPMENT PLAN AND IS SUBJECT TO REFINEMENT AT TOWN PLANNING APPLICATION

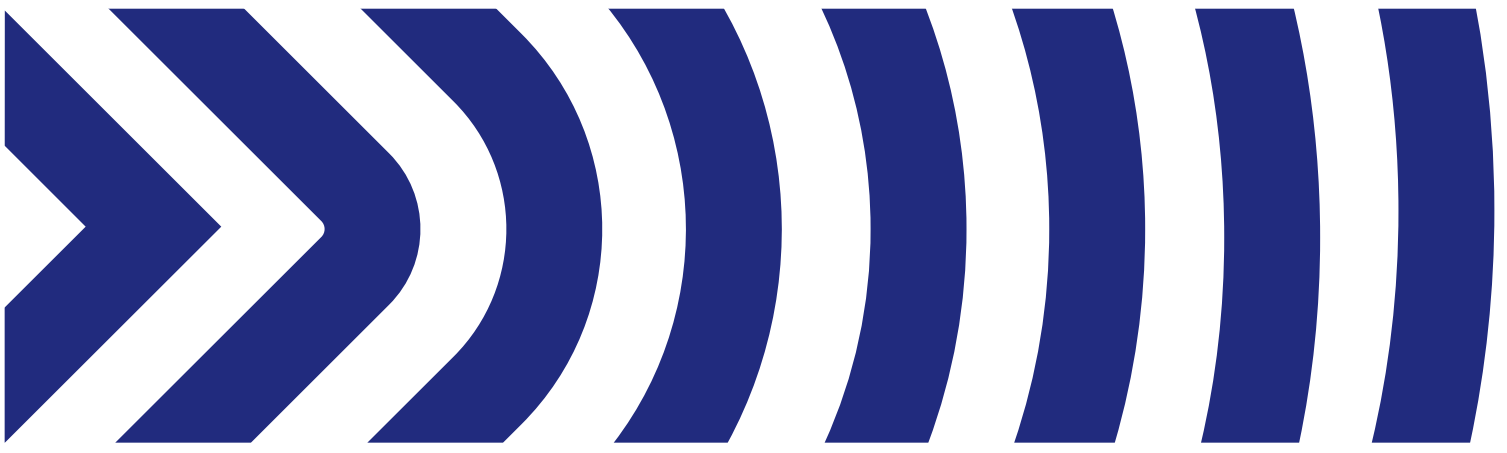
PROJECT
SUMMERSSET OAKLEIGH SOUTH

SCALE
0 M 12 M

DATE
1/03/2023

DRAWING NUMBER
DP100a

Summerset **FK**
FENDER KATSAIDIS



Appendix B

Automatic Tube Counts

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

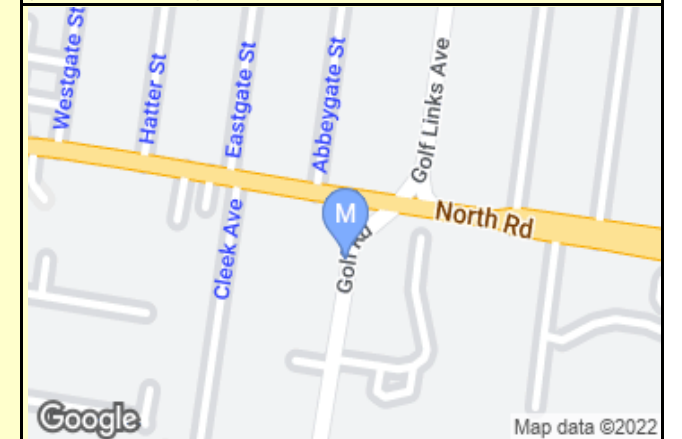
AUTOMATIC COUNT SUMMARY

Street Name :	Golf Rd	Location :	Just South of North Rd
Suburb :	Oakleigh South	Start Date :	00:00 Wed 03/August/2022
Machine ID:	K367BTNR	Finish Date :	00:00 Wed 10/August/2022
Site ID:	14132	Speed Zone :	50 km/h
Prepared By :	Vo Son Binh	Email:	binh@trafficsurvey.com.au

GPS information		Lat 37° 54' 38.11 South	Direction of Travel		
		Long 145° 5' 22.30 East	Both directions	Northbound	Southbound
Traffic Volume : (Vehicles/Day)	Weekdays Average		6,091	3,436	2,655
	7 Day Average		5,552	3,144	2,408
Weekday	AM	08:00	831	467	364
Peak hour starts	PM	15:00	625	352	272
Speeds : (Km/Hr)	85th Percentile		48.2	48.2	48.1
	Average		42.5	42.1	42.9
Classification % :	Light Vehicles up to 5.5m		94.7%	94.9%	94.5%

Location

GPS Information [Load Google Map \(internet required\)](#)
(Latitude, Longitude) -37.910586, 145.089527



[Speed Data](#) [Speed Graph](#) [Speed Bin](#)
[Volume Data](#) [Volume Graph](#) [Classification](#)



QUALITY ASSURED COMPANY BY ISO 9001:2015
OH&S SYSTEM CERTIFIED TO ISO 4801:2001
ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015

Status of movement – Covid 19

“Traffic behaviour is not the same as pre-pandemic (traditional morning/afternoon peak is much less pronounced and school start/finish times are much more pronounced), the current patterns are close enough to what probably is going to be a 'COVID normal' situation for at least the next year or two. Workplaces are currently not all yet open. These results should be used for indicative assessment only.”



Site Golf Rd

Direction ▼

[Back to Site Summary Page](#)

Day Date	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total	Average
AM Peak	08:00	08:00	08:00	08:00	08:00	11:00	11:00	N/A	08:00	N/A	08:00	N/A	11:00
PM Peak	15:00	15:00	17:00	17:00	15:00	14:00	13:00	N/A	15:00	N/A	15:00	N/A	13:00
00:00	6	6	14	14	11	38	38	127	18	51	10	76	38
01:00	6	3	4	8	6	20	29	76	11	27	5	49	25
02:00	8	2	3	6	6	5	14	44	6	25	5	19	10
03:00	6	7	6	8	3	12	9	51	7	30	6	21	11
04:00	7	6	5	6	8	7	15	54	8	32	6	22	11
05:00	28	40	40	45	42	15	11	221	32	195	39	26	13
06:00	133	135	140	142	128	45	20	743	106	678	136	65	33
07:00	371	462	417	418	387	117	83	2255	322	2055	411	200	100
08:00	689	907	857	867	836	237	111	4504	643	4156	831	348	174
09:00	348	429	423	357	372	302	202	2433	348	1929	386	504	252
10:00	321	269	293	292	299	383	290	2147	307	1474	295	673	337
11:00	285	291	324	344	342	438	342	2366	338	1586	317	780	390
12:00	304	276	282	339	392	413	361	2367	338	1593	319	774	387
13:00	334	316	308	314	362	392	398	2424	346	1634	327	790	395
14:00	335	401	374	364	443	452	326	2695	385	1917	383	778	389
15:00	592	644	601	631	655	392	327	3842	549	3123	625	719	360
16:00	534	572	551	551	552	364	318	3442	492	2760	552	682	341
17:00	583	617	602	633	595	365	319	3714	531	3030	606	684	342
18:00	334	366	381	360	345	226	200	2212	316	1786	357	426	213
19:00	176	173	187	174	223	149	118	1200	171	933	187	267	134
20:00	104	109	113	142	117	118	63	766	109	585	117	181	91
21:00	64	74	69	93	102	82	63	547	78	402	80	145	73
22:00	36	41	49	59	86	71	30	372	53	271	54	101	51
23:00	26	33	29	26	69	50	20	253	36	183	37	70	35
Total	5630	6179	6072	6193	6381	4693	3707	38855	5550	30455	6091	8400	4205
% Heavy	5.97%	5.63%	5.85%	5.55%	5.53%	3.86%	3.67%	5.28%		5.70%		3.77%	



Site Golf Rd

Direction ▼

[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	Date	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total
AM Peak	08:00	08:00	08:00	08:00	08:00	10:00	11:00	N/A	08:00	N/A	08:00	N/A	10:00
PM Peak	15:00	15:00	15:00	17:00	15:00	14:00	13:00	N/A	15:00	N/A	15:00	N/A	13:00
00:00	1	3	5	3	5	14	14	45	6	17	3	28	14
01:00	2	1	2	3	3	12	19	42	6	11	2	31	16
02:00	2	2	2	4	3	1	6	20	3	13	3	7	4
03:00	5	4	4	5	3	8	6	35	5	21	4	14	7
04:00	6	5	3	3	5	5	7	34	5	22	4	12	6
05:00	19	32	35	36	32	8	6	168	24	154	31	14	7
06:00	75	87	80	94	72	28	12	448	64	408	82	40	20
07:00	262	315	274	271	242	55	46	1465	209	1364	273	101	51
08:00	392	508	502	485	450	131	79	2547	364	2337	467	210	105
09:00	218	269	260	221	245	206	148	1567	224	1213	243	354	177
10:00	194	157	167	172	165	237	171	1263	180	855	171	408	204
11:00	148	165	176	174	188	226	177	1254	179	851	170	403	202
12:00	163	170	171	214	218	235	221	1392	199	936	187	456	228
13:00	191	180	178	183	223	227	240	1422	203	955	191	467	234
14:00	183	244	202	196	263	242	170	1500	214	1088	218	412	206
15:00	333	359	347	340	383	242	194	2198	314	1762	352	436	218
16:00	298	293	313	307	295	232	178	1916	274	1506	301	410	205
17:00	281	331	302	343	331	220	205	2013	288	1588	318	425	213
18:00	173	187	197	201	197	132	104	1191	170	955	191	236	118
19:00	93	96	90	97	114	72	59	621	89	490	98	131	66
20:00	46	53	51	76	61	57	32	376	54	287	57	89	45
21:00	18	38	31	31	46	37	26	227	32	164	33	63	32
22:00	16	19	17	24	46	33	15	170	24	122	24	48	24
23:00	14	11	9	5	25	26	8	98	14	64	13	34	17
Total	3133	3529	3418	3488	3615	2686	2143	22012	3144	17183	3436	4829	2419
% Heavy	5.43%	5.44%	5.94%	5.19%	5.15%	3.98%	4.01%	5.11%		5.42%		4.00%	



Site Golf Rd

Direction ▼

[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	Date	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total
AM Peak	08:00	08:00	08:00	08:00	08:00	11:00	11:00	N/A	08:00	N/A	08:00	N/A	11:00
PM Peak	17:00	17:00	17:00	15:00	15:00	14:00	13:00	N/A	17:00	N/A	17:00	N/A	14:00
00:00	5	3	9	11	6	24	24	82	12	34	7	48	24
01:00	4	2	2	5	3	8	10	34	5	16	3	18	9
02:00	6	0	1	2	3	4	8	24	3	12	2	12	6
03:00	1	3	2	3	0	4	3	16	2	9	2	7	4
04:00	1	1	2	3	3	2	8	20	3	10	2	10	5
05:00	9	8	5	9	10	7	5	53	8	41	8	12	6
06:00	58	48	60	48	56	17	8	295	42	270	54	25	13
07:00	109	147	143	147	145	62	37	790	113	691	138	99	50
08:00	297	399	355	382	386	106	32	1957	280	1819	364	138	69
09:00	130	160	163	136	127	96	54	866	124	716	143	150	75
10:00	127	112	126	120	134	146	119	884	126	619	124	265	133
11:00	137	126	148	170	154	212	165	1112	159	735	147	377	189
12:00	141	106	111	125	174	178	140	975	139	657	131	318	159
13:00	143	136	130	131	139	165	158	1002	143	679	136	323	162
14:00	152	157	172	168	180	210	156	1195	171	829	166	366	183
15:00	259	285	254	291	272	150	133	1644	235	1361	272	283	142
16:00	236	279	238	244	257	132	140	1526	218	1254	251	272	136
17:00	302	286	300	290	264	145	114	1701	243	1442	288	259	130
18:00	161	179	184	159	148	94	96	1021	146	831	166	190	95
19:00	83	77	97	77	109	77	59	579	83	443	89	136	68
20:00	58	56	62	66	56	61	31	390	56	298	60	92	46
21:00	46	36	38	62	56	45	37	320	46	238	48	82	41
22:00	20	22	32	35	40	38	15	202	29	149	30	53	27
23:00	12	22	20	21	44	24	12	155	22	119	24	36	18
Total	2497	2650	2654	2705	2766	2007	1564	16843	2408	13272	2655	3571	1790
% Heavy	6.65%	5.89%	5.73%	6.03%	6.04%	3.69%	3.20%	5.51%		6.06%		3.47%	

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

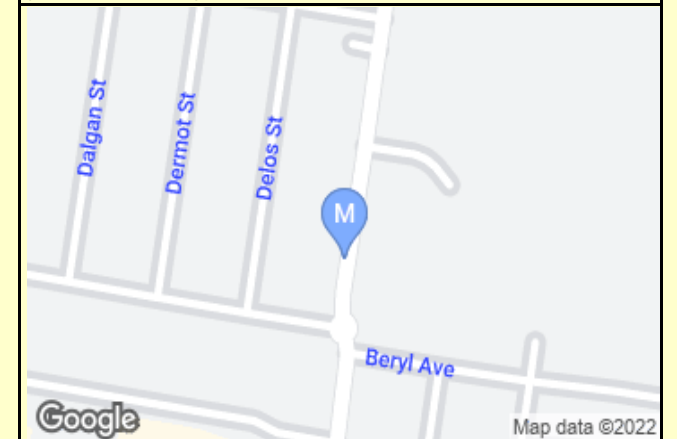
AUTOMATIC COUNT SUMMARY

Street Name :	Golf Rd	Location :	North of Beryl Ave
Suburb :	Oakleigh South	Start Date :	00:00 Wed 03/August/2022
Machine ID:	L779CFYS	Finish Date :	00:00 Wed 10/August/2022
Site ID:	14133	Speed Zone :	50 km/h
Prepared By :	Vo Son Binh	Email:	binh@trafficsurvey.com.au

GPS information	Lat	37° 55' 11.52 South	Direction of Travel		
	Long	145° 5' 15.59 East	Both directions	Northbound	Southbound
Traffic Volume : (Vehicles/Day)	Weekdays Average		4,973	2,826	2,147
	7 Day Average		4,475	2,553	1,922
Weekday	AM	08:00	766	393	373
Peak hour starts	PM	15:00	594	338	256
Speeds : (Km/Hr)	85th Percentile		51.6	54.4	48.8
	Average		45.8	48.1	43.5
Classification % :	Light Vehicles up to 5.5m		96.5%	96.2%	96.8%

Location

GPS Information [Load Google Map \(internet required\)](#)
(Latitude, Longitude -37.919866, 145.087665)



[Speed Data](#) [Speed Graph](#) [Speed Bin](#)
[Volume Data](#) [Volume Graph](#) [Classification](#)



QUALITY ASSURED COMPANY BY ISO 9001:2015
OH&S SYSTEM CERTIFIED TO ISO 4801:2001
ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015

Status of movement – Covid 19

“Traffic behaviour is not the same as pre-pandemic (traditional morning/afternoon peak is much less pronounced and school start/finish times are much more pronounced), the current patterns are close enough to what probably is going to be a ‘COVID normal’ situation for at least the next year or two. Workplaces are currently not all yet open. These results should be used for indicative assessment only.”



Site Golf Rd

Direction ▼

[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	Date	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total
AM Peak	08:00	08:00	08:00	08:00	08:00	10:00	11:00	N/A	08:00	N/A	08:00	N/A	10:00
PM Peak	15:00	15:00	15:00	15:00	15:00	14:00	13:00	N/A	15:00	N/A	15:00	N/A	14:00
00:00	5	10	9	12	6	28	29	99	14	42	8	57	29
01:00	3	2	4	4	3	10	19	45	6	16	3	29	15
02:00	11	2	1	4	4	3	7	32	5	22	4	10	5
03:00	2	2	3	5	3	9	8	32	5	15	3	17	9
04:00	8	6	6	8	6	7	8	49	7	34	7	15	8
05:00	26	35	29	35	28	10	8	171	24	153	31	18	9
06:00	93	96	94	96	96	32	17	524	75	475	95	49	25
07:00	256	292	296	293	259	61	39	1496	214	1396	279	100	50
08:00	617	837	830	790	754	188	84	4100	586	3828	766	272	136
09:00	269	347	327	279	334	245	150	1951	279	1556	311	395	198
10:00	228	237	246	224	240	371	218	1764	252	1175	235	589	295
11:00	206	234	226	207	232	335	254	1694	242	1105	221	589	295
12:00	236	229	220	260	283	313	292	1833	262	1228	246	605	303
13:00	273	241	227	240	274	305	297	1857	265	1255	251	602	301
14:00	260	324	294	291	346	338	270	2123	303	1515	303	608	304
15:00	531	581	591	591	677	318	243	3532	505	2971	594	561	281
16:00	442	484	461	455	415	279	228	2764	395	2257	451	507	254
17:00	493	467	497	530	466	279	234	2966	424	2453	491	513	257
18:00	255	322	299	290	277	186	139	1768	253	1443	289	325	163
19:00	135	144	154	146	158	108	99	944	135	737	147	207	104
20:00	90	92	102	97	107	87	42	617	88	488	98	129	65
21:00	54	63	65	79	81	75	48	465	66	342	68	123	62
22:00	29	30	43	46	72	49	31	300	43	220	44	80	40
23:00	14	24	25	21	54	47	9	194	28	138	28	56	28
Total	4536	5101	5049	5003	5175	3683	2773	31320	4476	24864	4973	6456	3236
% Heavy	4.21%	3.37%	3.84%	3.64%	3.81%	2.85%	2.60%	3.55%		3.76%		2.74%	



Site Golf Rd

Direction ▼

[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	Date	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total
AM Peak	08:00	08:00	08:00	08:00	08:00	11:00	11:00	N/A	08:00	N/A	08:00	N/A	11:00
PM Peak	15:00	15:00	15:00	15:00	15:00	15:00	12:00	N/A	15:00	N/A	15:00	N/A	12:00
00:00	1	4	3	3	3	12	12	38	5	14	3	24	12
01:00	1	0	2	3	2	5	9	22	3	8	2	14	7
02:00	3	2	1	3	2	0	4	15	2	11	2	4	2
03:00	2	1	2	4	3	4	4	20	3	12	2	8	4
04:00	6	3	3	3	2	5	4	26	4	17	3	9	5
05:00	10	21	19	21	16	5	5	97	14	87	17	10	5
06:00	45	63	50	57	47	20	12	294	42	262	52	32	16
07:00	179	191	194	184	169	46	29	992	142	917	183	75	38
08:00	319	431	425	408	382	92	55	2112	302	1965	393	147	74
09:00	181	221	197	168	221	165	108	1261	180	988	198	273	137
10:00	141	140	142	144	132	180	131	1010	144	699	140	311	156
11:00	126	136	138	106	134	188	147	975	139	640	128	335	168
12:00	129	141	132	171	169	183	182	1107	158	742	148	365	183
13:00	170	133	130	138	160	177	169	1077	154	731	146	346	173
14:00	135	196	154	161	197	181	147	1171	167	843	169	328	164
15:00	299	326	345	323	399	210	144	2046	292	1692	338	354	177
16:00	259	277	274	267	235	175	131	1618	231	1312	262	306	153
17:00	279	272	273	297	267	166	150	1704	243	1388	278	316	158
18:00	140	176	158	158	167	108	72	979	140	799	160	180	90
19:00	76	87	80	85	86	59	53	526	75	414	83	112	56
20:00	41	56	51	58	59	42	24	331	47	265	53	66	33
21:00	23	32	35	34	42	36	26	228	33	166	33	62	31
22:00	16	17	14	20	43	23	15	148	21	110	22	38	19
23:00	9	10	12	6	20	23	4	84	12	57	11	27	14
Total	2590	2936	2834	2822	2957	2105	1637	17881	2553	14139	2826	3742	1875
% Heavy	4.32%	3.88%	4.20%	3.86%	3.82%	3.14%	3.24%	3.84%		4.01%		3.18%	



Site Golf Rd

Direction ▼

[Back to Site Summary Page](#)

Day Date	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total	Average
AM Peak	08:00	08:00	08:00	08:00	08:00	10:00	11:00	N/A	08:00	N/A	08:00	N/A	10:00
PM Peak	15:00	15:00	15:00	15:00	15:00	14:00	13:00	N/A	15:00	N/A	15:00	N/A	14:00
00:00	4	6	6	9	3	16	17	61	9	28	6	33	17
01:00	2	2	2	1	1	5	10	23	3	8	2	15	8
02:00	8	0	0	1	2	3	3	17	2	11	2	6	3
03:00	0	1	1	1	0	5	4	12	2	3	1	9	5
04:00	2	3	3	5	4	2	4	23	3	17	3	6	3
05:00	16	14	10	14	12	5	3	74	11	66	13	8	4
06:00	48	33	44	39	49	12	5	230	33	213	43	17	9
07:00	77	101	102	109	90	15	10	504	72	479	96	25	13
08:00	298	406	405	382	372	96	29	1988	284	1863	373	125	63
09:00	88	126	130	111	113	80	42	690	99	568	114	122	61
10:00	87	97	104	80	108	191	87	754	108	476	95	278	139
11:00	80	98	88	101	98	147	107	719	103	465	93	254	127
12:00	107	88	88	89	114	130	110	726	104	486	97	240	120
13:00	103	108	97	102	114	128	128	780	111	524	105	256	128
14:00	125	128	140	130	149	157	123	952	136	672	134	280	140
15:00	232	255	246	268	278	108	99	1486	212	1279	256	207	104
16:00	183	207	187	188	180	104	97	1146	164	945	189	201	101
17:00	214	195	224	233	199	113	84	1262	180	1065	213	197	99
18:00	115	146	141	132	110	78	67	789	113	644	129	145	73
19:00	59	57	74	61	72	49	46	418	60	323	65	95	48
20:00	49	36	51	39	48	45	18	286	41	223	45	63	32
21:00	31	31	30	45	39	39	22	237	34	176	35	61	31
22:00	13	13	29	26	29	26	16	152	22	110	22	42	21
23:00	5	14	13	15	34	24	5	110	16	81	16	29	15
Total	1946	2165	2215	2181	2218	1578	1136	13439	1922	10725	2147	2714	1364
% Heavy	4.06%	2.68%	3.39%	3.35%	3.79%	2.47%	1.67%	3.18%		3.44%		2.14%	

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

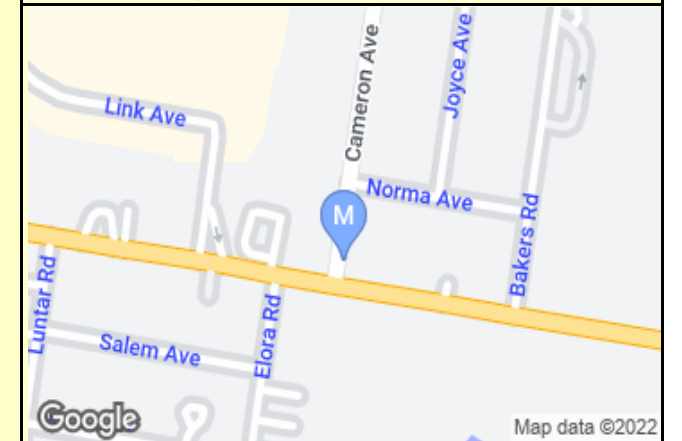
AUTOMATIC COUNT SUMMARY

Street Name :	Cameron Ave	Location :	Just North of Centre Rd
Suburb :	Oakleigh South	Start Date :	00:00 Wed 03/August/2022
Machine ID:	K365MK64	Finish Date :	00:00 Wed 10/August/2022
Site ID:	14134	Speed Zone :	50 km/h
Prepared By :	Vo Son Binh	Email:	binh@trafficsurvey.com.au

GPS information		Lat 37° 55' 27.69 South	Direction of Travel		
		Long 145° 5' 13.55 East	Both directions	Northbound	Southbound
Traffic Volume : (Vehicles/Day)	Weekdays Average		2,705	1,733	972
	7 Day Average		2,509	1,599	910
Weekday	AM	08:00	286	168	118
Peak hour starts	PM	17:00	281	187	94
Speeds : (Km/Hr)	85th Percentile		36.6	34.6	38.6
	Average		32.6	31.1	34.0
Classification % :	Light Vehicles up to 5.5m		94.9%	95.1%	94.4%

Location

GPS Information [Load Google Map \(internet required\)](#)
(Latitude, Longitude) -37.924359, 145.087097



[Speed Data](#) [Speed Graph](#) [Speed Bin](#)
[Volume Data](#) [Volume Graph](#) [Classification](#)



QUALITY ASSURED COMPANY BY ISO 9001:2015
OH&S SYSTEM CERTIFIED TO ISO 4801:2001
ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015

Status of movement – Covid 19

“Traffic behaviour is not the same as pre-pandemic (traditional morning/afternoon peak is much less pronounced and school start/finish times are much more pronounced), the current patterns are close enough to what probably is going to be a 'COVID normal' situation for at least the next year or two. Workplaces are currently not all yet open. These results should be used for indicative assessment only.”



Site Cameron Ave

Direction ▼

[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend		
	Date	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total	Average
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	10:00	11:00	N/A	08:00	N/A	08:00	N/A	10:00
PM Peak	17:00	17:00	17:00	17:00	15:00	13:00	12:00		N/A	17:00	N/A	17:00	N/A	13:00
00:00	4	6	4	7	3	14	24	62	9	24	5	38	19	
01:00	2	2	2	3	3	4	7	23	3	12	2	11	6	
02:00	5	1	1	2	2	2	3	16	2	11	2	5	3	
03:00	2	1	0	4	1	3	4	15	2	8	2	7	4	
04:00	4	2	3	4	3	4	6	26	4	16	3	10	5	
05:00	21	26	23	23	21	3	3	120	17	114	23	6	3	
06:00	50	60	57	63	55	21	7	313	45	285	57	28	14	
07:00	148	149	159	175	132	35	30	828	118	763	153	65	33	
08:00	243	355	299	260	272	95	45	1569	224	1429	286	140	70	
09:00	161	185	187	150	196	141	93	1113	159	879	176	234	117	
10:00	136	138	144	145	161	239	143	1106	158	724	145	382	191	
11:00	126	148	147	136	141	216	155	1069	153	698	140	371	186	
12:00	153	148	153	169	195	193	196	1207	172	818	164	389	195	
13:00	186	161	163	149	179	209	192	1239	177	838	168	401	201	
14:00	144	215	169	191	202	170	181	1272	182	921	184	351	176	
15:00	254	246	236	242	319	196	172	1665	238	1297	259	368	184	
16:00	265	241	253	240	229	177	132	1537	220	1228	246	309	155	
17:00	308	272	274	286	264	174	156	1734	248	1404	281	330	165	
18:00	169	197	171	174	150	110	98	1069	153	861	172	208	104	
19:00	80	100	96	99	80	74	70	599	86	455	91	144	72	
20:00	60	62	69	71	58	60	29	409	58	320	64	89	45	
21:00	41	35	46	54	49	63	30	318	45	225	45	93	47	
22:00	27	18	21	22	40	32	12	172	25	128	26	44	22	
23:00	6	11	13	12	29	18	7	96	14	71	14	25	13	
Total	2595	2779	2690	2681	2784	2253	1795	17577	2512	13529	2708	4048	2030	
% Heavy	5.93%	5.47%	5.76%	5.71%	5.82%	3.99%	2.56%	5.19%		5.74%		3.36%		



Site Cameron Ave

Direction Northbound ▼

[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	Date	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total
AM Peak	08:00	08:00	08:00	08:00	08:00	11:00	11:00	N/A	08:00	N/A	08:00	N/A	11:00
PM Peak	17:00	17:00	17:00	17:00	15:00	13:00	12:00	N/A	17:00	N/A	17:00	N/A	13:00
00:00	2	4	1	2	1	7	8	25	4	10	2	15	8
01:00	1	1	0	3	2	0	2	9	1	7	1	2	1
02:00	2	1	1	2	2	1	1	10	1	8	2	2	1
03:00	1	0	0	2	1	1	1	6	1	4	1	2	1
04:00	2	0	1	1	0	2	3	9	1	4	1	5	3
05:00	7	12	11	11	7	1	1	50	7	48	10	2	1
06:00	22	29	29	32	26	11	3	152	22	138	28	14	7
07:00	114	105	116	121	96	24	19	595	85	552	110	43	22
08:00	152	213	173	147	155	58	28	926	132	840	168	86	43
09:00	107	138	112	89	126	94	64	730	104	572	114	158	79
10:00	87	88	87	105	93	106	90	656	94	460	92	196	98
11:00	85	99	98	82	98	133	106	701	100	462	92	239	120
12:00	92	99	99	127	132	126	137	812	116	549	110	263	132
13:00	127	105	110	91	116	145	125	819	117	549	110	270	135
14:00	94	150	111	132	143	102	111	843	120	630	126	213	107
15:00	174	153	156	146	187	133	117	1066	152	816	163	250	125
16:00	190	156	169	158	157	124	81	1035	148	830	166	205	103
17:00	207	186	174	191	175	116	111	1160	166	933	187	227	114
18:00	110	128	111	113	105	71	50	688	98	567	113	121	61
19:00	48	66	52	65	44	45	37	357	51	275	55	82	41
20:00	38	37	38	43	33	34	19	242	35	189	38	53	27
21:00	22	20	24	27	26	35	21	175	25	119	24	56	28
22:00	16	14	8	10	23	13	7	91	13	71	14	20	10
23:00	3	3	5	6	12	12	4	45	6	29	6	16	8
Total	1703	1807	1686	1706	1760	1394	1146	11202	1599	8662	1733	2540	1275
% Heavy	5.40%	5.31%	5.63%	5.45%	5.45%	3.59%	2.71%	4.94%		5.45%		3.19%	



Site Cameron Ave

Direction ▼

[Back to Site Summary Page](#)

Day Date	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total	Average
AM Peak PM Peak	08:00 17:00	08:00 15:00	08:00 17:00	08:00 15:00	08:00 15:00	10:00 14:00	10:00 14:00	N/A N/A	08:00 15:00	N/A N/A	08:00 15:00	N/A N/A	10:00 14:00
00:00	2	2	3	5	2	7	16	37	5	14	3	23	12
01:00	1	1	2	0	1	4	5	14	2	5	1	9	5
02:00	3	0	0	0	0	1	2	6	1	3	1	3	2
03:00	1	1	0	2	0	2	3	9	1	4	1	5	3
04:00	2	2	2	3	3	2	3	17	2	12	2	5	3
05:00	14	14	12	12	14	2	2	70	10	66	13	4	2
06:00	28	31	28	31	29	10	4	161	23	147	29	14	7
07:00	34	44	43	54	36	11	11	233	33	211	42	22	11
08:00	91	142	126	113	117	37	17	643	92	589	118	54	27
09:00	54	47	75	61	70	47	29	383	55	307	61	76	38
10:00	49	50	57	40	68	133	53	450	64	264	53	186	93
11:00	41	49	49	54	43	83	49	368	53	236	47	132	66
12:00	61	49	54	42	63	67	59	395	56	269	54	126	63
13:00	59	56	53	58	63	64	67	420	60	289	58	131	66
14:00	50	65	58	59	59	68	70	429	61	291	58	138	69
15:00	80	93	80	96	132	63	55	599	86	481	96	118	59
16:00	75	85	84	82	72	53	51	502	72	398	80	104	52
17:00	101	86	100	95	89	58	45	574	82	471	94	103	52
18:00	59	69	60	61	45	39	48	381	54	294	59	87	44
19:00	32	34	44	34	36	29	33	242	35	180	36	62	31
20:00	22	25	31	28	25	26	10	167	24	131	26	36	18
21:00	19	15	22	27	23	28	9	143	20	106	21	37	19
22:00	11	4	13	12	17	19	5	81	12	57	11	24	12
23:00	3	8	8	6	17	6	3	51	7	42	8	9	5
Total	892	972	1004	975	1024	859	649	6375	910	4867	972	1508	759
% Heavy	6.95%	5.76%	5.98%	6.15%	6.45%	4.66%	2.31%	5.63%		6.25%		3.65%	

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

T. 1300 82 88 82 - F. 1300 83 88 83 - E. traffic@trafficsurvey.com.au - W. www.trafficsurvey.com.au

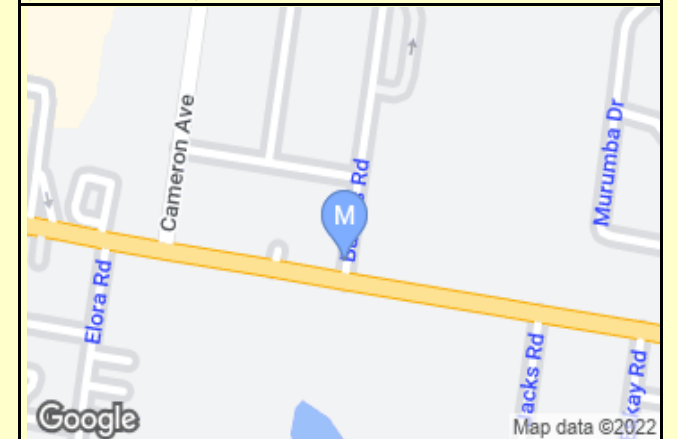
AUTOMATIC COUNT SUMMARY

Street Name :	Bakers Rd	Location :	Just North of Centre Rd
Suburb :	Oakleigh South	Start Date :	00:00 Wed 03/August/2022
Machine ID:	K367BTNR	Finish Date :	00:00 Wed 10/August/2022
Site ID:	14135	Speed Zone :	50 km/h
Prepared By :	Vo Son Binh	Email:	binh@trafficsurvey.com.au

GPS information		Direction of Travel		
Lat 37° 55' 28.79 South		Both directions	Northbound	Southbound
Long 145° 5' 20.84 East				
Traffic Volume :				
(Vehicles/Day)				
Weekdays Average		1,633	957	676
7 Day Average		1,383	821	562
Weekday	AM			
	08:00	392	233	159
Peak hour starts	PM			
	15:00	227	105	122
Speeds :				
(Km/Hr)				
85th Percentile		33.4	34.9	31.6
Average		29.6	31.1	27.4
Classification % :				
Light Vehicles up to 5.5m		97.2%	97.4%	97.0%

Location

GPS Information [Load Google Map \(internet required\)](#)
(Latitude, Longitude -37.924664, 145.089123)



[Speed Data](#) [Speed Graph](#) [Speed Bin](#)
[Volume Data](#) [Volume Graph](#) [Classification](#)



QUALITY ASSURED COMPANY BY ISO 9001:2015
OH&S SYSTEM CERTIFIED TO ISO 4801:2001
ENVIRONMENT MANAGEMENT SYSTEM CERTIFIED TO ISO14001:2015

Status of movement – Covid 19

“Traffic behaviour is not the same as pre-pandemic (traditional morning/afternoon peak is much less pronounced and school start/finish times are much more pronounced), the current patterns are close enough to what probably is going to be a ‘COVID normal’ situation for at least the next year or two. Workplaces are currently not all yet open. These results should be used for indicative assessment only.”



Site Bakers Rd

Direction ▼

[Back to Site Summary Page](#)

Day Date	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total	Average
AM Peak	08:00	08:00	08:00	08:00	08:00	11:00	11:00	N/A	08:00	N/A	08:00	N/A	11:00
PM Peak	15:00	15:00	15:00	15:00	15:00	15:00	12:00	N/A	15:00	N/A	15:00	N/A	12:00
00:00	3	1	3	7	2	10	5	31	4	16	3	15	8
01:00	1	1	1	2	1	4	4	14	2	6	1	8	4
02:00	0	3	0	1	0	0	5	9	1	4	1	5	3
03:00	1	0	1	2	1	0	0	5	1	5	1	0	0
04:00	1	2	1	1	2	2	1	10	1	7	1	3	2
05:00	6	9	6	7	5	2	6	41	6	33	7	8	4
06:00	23	32	22	25	25	10	5	142	20	127	25	15	8
07:00	57	60	63	55	66	15	11	327	47	301	60	26	13
08:00	389	395	403	390	381	28	19	2005	286	1958	392	47	24
09:00	87	79	91	91	100	63	34	545	78	448	90	97	49
10:00	68	77	73	58	71	89	60	496	71	347	69	149	75
11:00	61	59	61	77	59	93	76	486	69	317	63	169	85
12:00	61	61	54	60	79	70	61	446	64	315	63	131	66
13:00	75	72	79	68	93	61	59	507	72	387	77	120	60
14:00	99	104	95	100	109	64	61	632	90	507	101	125	63
15:00	225	222	225	217	246	73	50	1258	180	1135	227	123	62
16:00	141	154	139	171	113	49	57	824	118	718	144	106	53
17:00	111	108	98	127	116	65	54	679	97	560	112	119	60
18:00	69	63	72	70	78	44	39	435	62	352	70	83	42
19:00	46	37	52	39	62	24	29	289	41	236	47	53	27
20:00	41	40	29	33	64	19	17	243	35	207	41	36	18
21:00	15	11	14	23	17	16	12	108	15	80	16	28	14
22:00	12	10	17	13	12	19	8	91	13	64	13	27	14
23:00	7	7	5	9	9	11	2	50	7	37	7	13	7
Total	1599	1607	1604	1646	1711	831	675	9673	1380	8167	1631	1506	761
% Heavy	2.06%	2.92%	3.05%	3.77%	3.39%	1.32%	1.78%	2.81%		3.05%		1.53%	



Site Bakers Rd

Direction ▼

[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
	Date	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total
AM Peak	08:00	08:00	08:00	08:00	08:00	11:00	11:00	N/A	08:00	N/A	08:00	N/A	11:00
PM Peak	15:00	15:00	15:00	15:00	15:00	15:00	12:00	N/A	15:00	N/A	15:00	N/A	15:00
00:00	2	1	1	5	1	8	3	21	3	10	2	11	6
01:00	0	1	0	0	0	4	3	8	1	1	0	7	4
02:00	0	2	0	1	0	0	4	7	1	3	1	4	2
03:00	1	0	1	2	1	0	0	5	1	5	1	0	0
04:00	1	2	1	1	2	1	1	9	1	7	1	2	1
05:00	3	6	1	2	3	1	4	20	3	15	3	5	3
06:00	16	25	13	18	14	5	4	95	14	86	17	9	5
07:00	35	38	37	34	42	11	6	203	29	186	37	17	9
08:00	231	226	248	230	229	15	11	1190	170	1164	233	26	13
09:00	48	44	49	54	53	38	23	309	44	248	50	61	31
10:00	34	38	40	36	26	40	29	243	35	174	35	69	35
11:00	35	30	38	40	36	57	41	277	40	179	36	98	49
12:00	38	42	33	38	45	40	42	278	40	196	39	82	41
13:00	45	46	43	41	58	36	35	304	43	233	47	71	36
14:00	69	74	58	71	78	40	33	423	60	350	70	73	37
15:00	104	98	101	95	126	54	35	613	88	524	105	89	45
16:00	79	83	80	91	67	37	39	476	68	400	80	76	38
17:00	67	66	67	72	64	46	31	413	59	336	67	77	39
18:00	49	43	52	45	58	31	26	304	43	247	49	57	29
19:00	35	26	36	29	51	17	24	218	31	177	35	41	21
20:00	24	31	17	24	24	15	13	148	21	120	24	28	14
21:00	11	8	12	14	13	14	9	81	12	58	12	23	12
22:00	8	8	8	9	9	14	6	62	9	42	8	20	10
23:00	5	7	3	6	6	7	2	36	5	27	5	9	5
Total	940	945	939	958	1006	531	424	5743	821	4788	957	955	485
% Heavy	1.91%	3.07%	2.66%	3.03%	3.38%	0.75%	1.42%	2.52%		2.82%		1.05%	

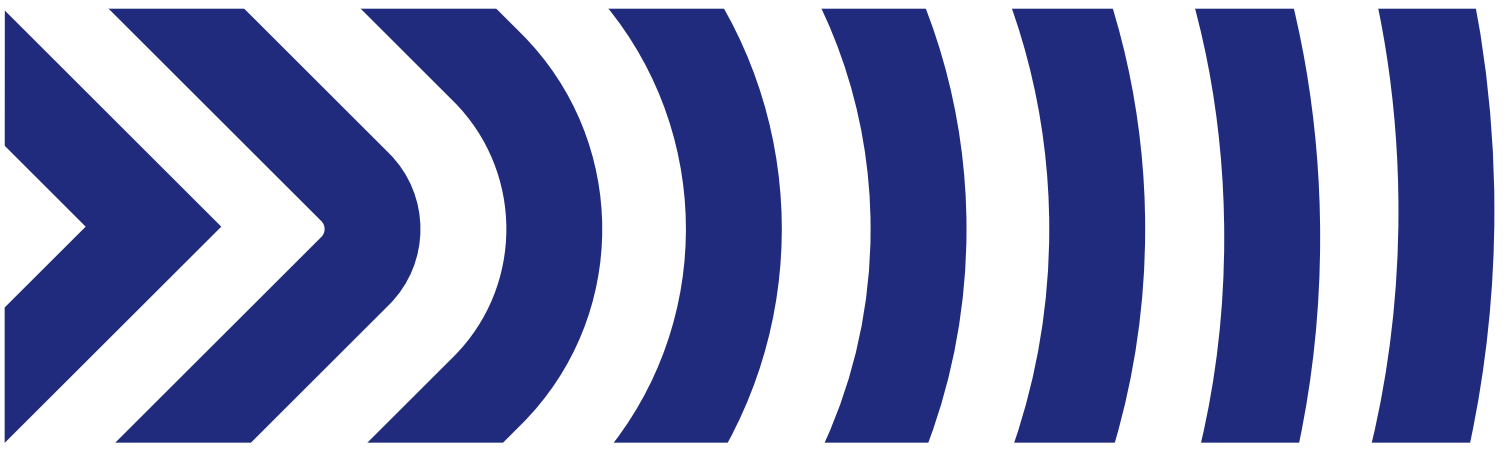


Site Bakers Rd

Direction ▼

[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend		
	Date	8/08/2022	9/08/2022	3/08/2022	4/08/2022	5/08/2022	6/08/2022	7/08/2022	Total	Average	Total	Average	Total	Average
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	10:00	11:00	N/A	08:00	N/A	08:00	N/A	10:00
PM Peak	15:00	15:00	15:00	15:00	15:00	15:00	12:00	14:00	N/A	15:00	N/A	15:00	N/A	14:00
00:00	1	0	2	2	1	2	2	10	1	6	1	4	2	
01:00	1	0	1	2	1	0	1	6	1	5	1	1	1	
02:00	0	1	0	0	0	0	1	2	0	1	0	1	1	
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	
04:00	0	0	0	0	0	0	1	1	0	0	0	1	1	
05:00	3	3	5	5	2	1	2	21	3	18	4	3	2	
06:00	7	7	9	7	11	5	1	47	7	41	8	6	3	
07:00	22	22	26	21	24	4	5	124	18	115	23	9	5	
08:00	158	169	155	160	152	13	8	815	116	794	159	21	11	
09:00	39	35	42	37	47	25	11	236	34	200	40	36	18	
10:00	34	39	33	22	45	49	31	253	36	173	35	80	40	
11:00	26	29	23	37	23	36	35	209	30	138	28	71	36	
12:00	23	19	21	22	34	30	19	168	24	119	24	49	25	
13:00	30	26	36	27	35	25	24	203	29	154	31	49	25	
14:00	30	30	37	29	31	24	28	209	30	157	31	52	26	
15:00	121	124	124	122	120	19	15	645	92	611	122	34	17	
16:00	62	71	59	80	46	12	18	348	50	318	64	30	15	
17:00	44	42	31	55	52	19	23	266	38	224	45	42	21	
18:00	20	20	20	25	20	13	13	131	19	105	21	26	13	
19:00	11	11	16	10	11	7	5	71	10	59	12	12	6	
20:00	17	9	12	9	40	4	4	95	14	87	17	8	4	
21:00	4	3	2	9	4	2	3	27	4	22	4	5	3	
22:00	4	2	9	4	3	5	2	29	4	22	4	7	4	
23:00	2	0	2	3	3	4	0	14	2	10	2	4	2	
Total	659	662	665	688	705	300	251	3930	562	3379	676	551	281	
% Heavy	2.28%	2.72%	3.61%	4.80%	3.40%	2.33%	2.39%	3.23%		3.37%		2.36%		



Appendix C

Car Parking Surveys

Supervised By: Kenneth Ewe Surveyed By: Sudath Arumaparuma		Survey Dates & Times: See below												
Location	Restriction	Capacity Min - Max	Wednesday, 3rd August, 2022						Saturday, 6th August, 2022					
			12noon	1pm	3pm	4pm	7pm	8pm	12noon	1pm	7pm	8pm		
ON-STREET CARPARKING														
Map Ref.	GOLF ROAD													
	East Side													
A	No. 28 (NB) to Barholme Court	Unrestricted (indented)	7	2	1	1	1	1	2	1	1	1	1	
		No Stopping	-	0	0	0	0	0	0	0	0	0	0	
B	Barholme Court to No. 52 (NB)	No Stopping	-	0	0	0	0	0	0	0	0	0	0	
		Bus Zone	-	0	0	0	0	0	0	0	0	0	0	
		No Stopping	-	0	0	0	0	0	0	0	0	0	0	
	No. 52 (NB) to Beryl Avenue (Subject Site)	No Stopping 7am-5pm Mon-Fri	7	0	0	0	0	0	0	0	0	0	0	
No Stopping		-	0	0	0	0	0	0	0	0	0	0		
West Side														
C	Delia Street to No. 97 (NB)	No Stopping	-	0	0	0	0	0	0	0	0	0	0	
		No Stopping 7-9am, 4-6:30pm Mon-Fri	5	0	0	0	0	0	0	0	0	0	0	
		Unrestricted (Indented Parking)	1	2	2	2	2	2	2	2	2	1	1	
		Bus Zone	-	0	0	0	0	0	0	0	1	0	1	0
		Unrestricted (Indented Parking)	2	3	2	1	1	1	3	3	3	3	3	
		No Stopping	-	0	0	0	0	0	0	0	0	0	0	
	No. 97 (NB) to Deroey Street	No Stopping	-	0	0	0	0	0	0	0	0	0	0	
		Bus Zone	-	0	0	0	0	0	0	0	0	0	0	
		No Stopping	-	0	0	0	0	0	0	0	0	0	0	
		No Stopping	-	0	0	0	0	0	0	0	0	0	0	
GOLF ROAD		Capacity	10 - 22	15	15	15	10	22	22	22	22	22	22	
		Total Number of Cars Parked	7	5	4	4	4	7	7	6	6	5		
		Total Number of Vacant Spaces	8	10	11	6	18	15	15	16	16	17		
		Percentage Occupancy	47%	33%	27%	40%	18%	32%	32%	27%	27%	23%		

Supervised By: Kenneth Ewe Surveyed By: Sudath Arumaparuma		Survey Dates & Times: See below											
Location	Restriction	Capacity Min - Max	Wednesday, 3rd August, 2022						Saturday, 6th August, 2022				
			12noon	1pm	3pm	4pm	7pm	8pm	12noon	1pm	7pm	8pm	
Map Ref.	CAMERON AVENUE												
	East Side												
D	Beryl Avenue to No. 16 (SB)	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		Bus Zone	-	0	0	0	0	0	0	0	0	0	0
		No Stopping 7-9am & 4-6pm Mon-Fri	10	1	1	0	0	0	0	0	0	0	0
	West Side												
E	No. 17 (NB) to Pitt Street	Unrestricted	9	2	2	2	0	0	0	0	0	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
F	Pitt Street to Roundabout	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		Unrestricted	2	0	0	0	0	0	0	0	0	0	0
		Bus Zone	-	0	0	0	0	0	0	0	0	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
CAMERON AVENUE		Capacity	11 - 21	21	21	21	11	21	21	21	21	21	21
		Total Number of Cars Parked		3	3	2	0	0	0	0	0	0	0
		Total Number of Vacant Spaces		18	18	19	11	21	21	21	21	21	21
		Percentage Occupancy		14%	14%	10%	0%	0%	0%	0%	0%	0%	0%
Map Ref.	DELIA STREET												
	North Side												
G	Dermot Street to Delos Street	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		Unrestricted	6	0	0	0	0	0	0	0	0	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
H	Delos Street to Golf Road	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		Unrestricted	6	0	0	1	2	0	1	0	0	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
	South Side												
I	Golf Road to No. 32 (WB)	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		Unrestricted	8	0	0	0	4	2	3	0	0	0	0
	No. 32 (WB) to No. 20 (WB)	Unrestricted	11	3	2	4	4	3	4	5	7	6	5
DELIA STREET		Capacity	19 - 19	19	19	19	19	19	19	19	19	19	19
		Total Number of Cars Parked		3	2	4	8	5	7	5	7	6	5
		Total Number of Vacant Spaces		16	17	15	11	14	12	14	12	13	14
		Percentage Occupancy		16%	11%	21%	42%	26%	37%	26%	37%	32%	26%
Note: Due to width of carriageway, parking can only be legally accommodated on one side of the road. Accordingly, we have only considered the capacity on one side.													

Supervised By: Kenneth Ewe Surveyed By: Sudath Arumaparuma		Survey Dates & Times: See below											
Location	Restriction	Capacity Min - Max	Wednesday, 3rd August, 2022						Saturday, 6th August, 2022				
			12noon	1pm	3pm	4pm	7pm	8pm	12noon	1pm	7pm	8pm	
Map Ref.	BERYL AVENUE												
	North Side												
J	Cameron Avenue to Bakers Road (Subject Site)	Unrestricted	23	0	0	5	2	0	0	0	0	0	0
		Unrestricted (indented)	2	0	0	2	0	0	0	0	0	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
K	Bakers Road to Riley Street	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		Unrestricted	21	0	0	0	0	0	0	0	0	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
	South Side												
L	Riley Street to Bakers Road	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		No Stopping 8:30am-9:30am, 3pm-4pm School Days; Permit Zone 8am-5pm Sat	19	0	0	0	0	0	0	0	0	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
M	Bakers Road to Joyce Avenue	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		No Stopping 8:30am-9:30am, 3pm-4pm School Days	4	0	0	0	0	0	0	0	0	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
N	Joyce Avenue to Cameron Avenue	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		No Stopping 8:30am-9:30am, 3pm-4pm School Days	5	0	0	1	0	1	0	0	0	2	1
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
BERYL AVENUE	Capacity	46 - 46	46	46	46	46	46	46	46	46	46	46	46
	Total Number of Cars Parked		0	0	7	2	0	0	0	0	0	0	0
	Total Number of Vacant Spaces		46	46	39	44	46	46	46	46	46	46	46
	Percentage Occupancy		0%	0%	15%	4%	0%	0%	0%	0%	0%	0%	0%
Note: Due to width of carriageway, parking can only be legally accommodated on one side of the road. Accordingly, we have only considered the capacity on one side.													

Supervised By: Kenneth Ewe Surveyed By: Sudath Arumaparuma		Survey Dates & Times: See below												
Location	Restriction	Capacity Min - Max	Wednesday, 3rd August, 2022						Saturday, 6th August, 2022					
			12noon	1pm	3pm	4pm	7pm	8pm	12noon	1pm	7pm	8pm		
Map Ref.	BAKERS ROAD													
	East Side													
O	Dead End to Beryl Avenue	Unrestricted	2	0	0	6	0	0	0	0	1	1	0	0
		No Stopping	-	0	0	0	0	0	0	0	0	0	0	0
P	Beryl Avenue to opposite No. 17 (NB)	No Stopping	-	0	0	0	0	0	0	0	0	0	0	0
		Permit Zone	4	1	1	2	2	1	1	0	1	2	2	
		P 2minute 8am-9am & 3-4pm School Days	6	0	1	3	0	2	3	0	0	0	0	
		Bus Zone	-	0	0	0	0	0	0	0	0	0	0	
		No Stopping	-	0	0	0	0	0	0	0	0	0	0	
West Side														
Q	No. 17 (NB) to Beryl Avenue	Permit Zone	15	1	0	1	1	0	0	0	0	0	1	1
		No Stopping	-	0	0	0	0	0	0	0	0	0	0	0
R	Beryl Avenue to Dead End (Subject Site)	Unrestricted	3	0	0	1	0	0	0	0	0	0	1	0
BAKERS ROAD		Capacity	9 - 9	9	9	9	9	9	9	9	9	9	9	9
		Total Number of Cars Parked		0	1	1	0	2	3	0	0	1	0	
		Total Number of Vacant Spaces		9	8	8	9	7	6	9	9	8	9	
		Percentage Occupancy		0%	11%	11%	0%	22%	33%	0%	0%	11%	0%	
Note: Due to width of carriageway, parking can only be legally accommodated on one side of the road. Accordingly, we have only considered the capacity on one side.														

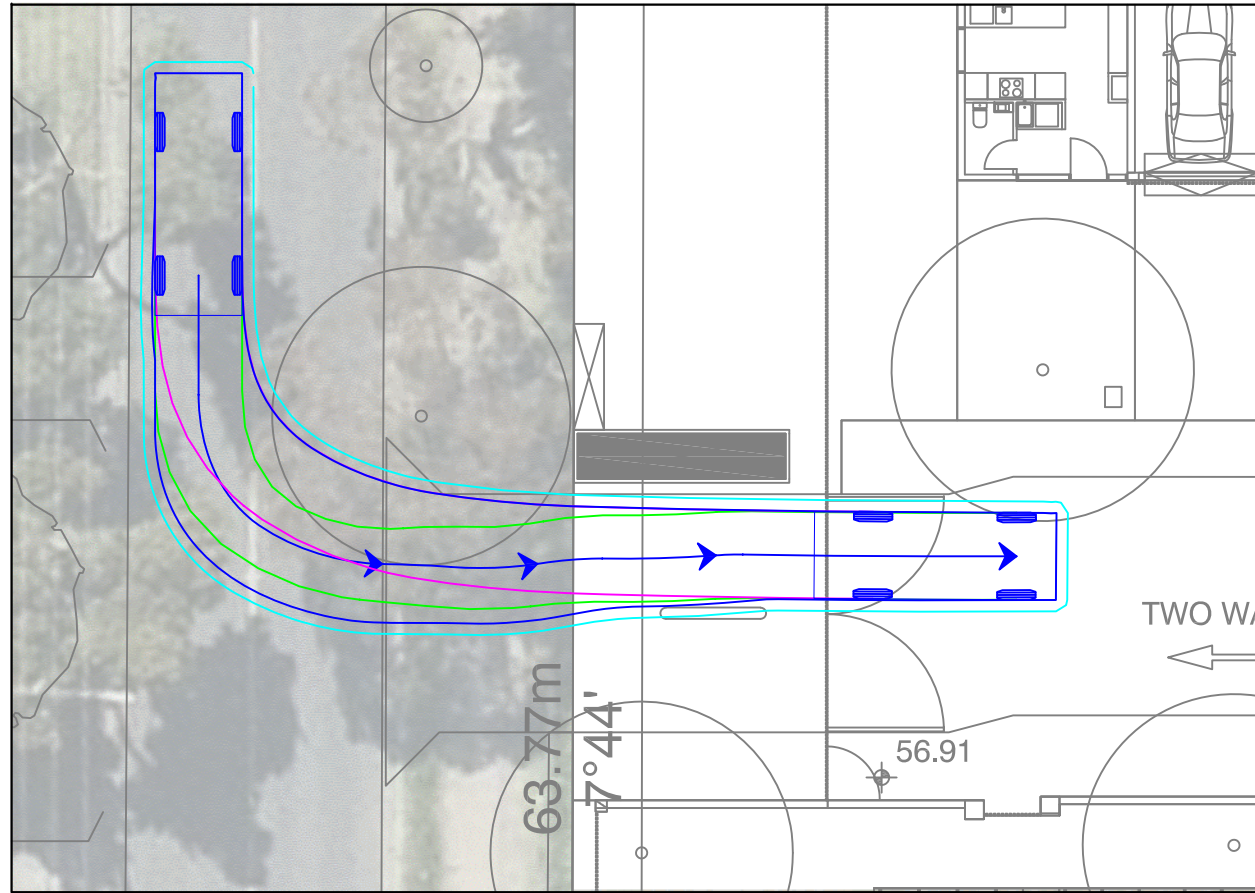
Supervised By: Kenneth Ewe Surveyed By: Sudath Arumaparuma		Survey Dates & Times: See below											
Location	Restriction	Capacity Min - Max	Wednesday, 3rd August, 2022						Saturday, 6th August, 2022				
			12noon	1pm	3pm	4pm	7pm	8pm	12noon	1pm	7pm	8pm	
Map Ref.	JOYCE AVENUE												
	West Side												
S	No. 15 (SB) to Beryl Avenue	Unrestricted	17	4	4	4	4	4	5	7	6	5	6
		No Stopping	-	0	0	0	0	0	0	0	0	0	0
	East Side												
T	Beryl Avenue to No. 16 (SB)	No Stopping	-	0	0	0	0	0	0	0	0	0	0
		Unrestricted	16	3	4	2	4	5	6	4	4	3	3
JOYCE AVENUE		Capacity	17 - 17	17	17	17	17	17	17	17	17	17	17
		Total Number of Cars Parked		4	4	4	4	5	6	7	6	5	6
		Total Number of Vacant Spaces		13	13	13	13	13	12	10	11	12	11
		Percentage Occupancy		24%	24%	24%	24%	24%	29%	41%	35%	29%	35%
Note: Due to width of carriageway, parking can only be legally accommodated on one side of the road. Accordingly, we have only considered the capacity on one side.													
SUMMARY => ON-STREET CARPARKING													
Car Parking Supply			112 - 134	127	127	127	112	134	134	134	134	134	134
Total Number of Cars Parked				17	15	22	18	15	22	19	19	18	16
Total Number of Vacant Spaces				110	112	105	94	119	112	115	115	116	118
Percentage Occupancy				13%	12%	17%	16%	11%	16%	14%	14%	13%	12%
Note: Public parking includes spaces that are available to the general public and excludes 'No Stopping', 'Permit Zone', 'Bus Zone', 'P 2 minute' and 'No Parking' areas, etc., during the relevant enforcement periods													
LEGEND: Public Parking Not available to the general public Not Available, illegally parked cars included in analysis No Stopping/ Other No Parking 													



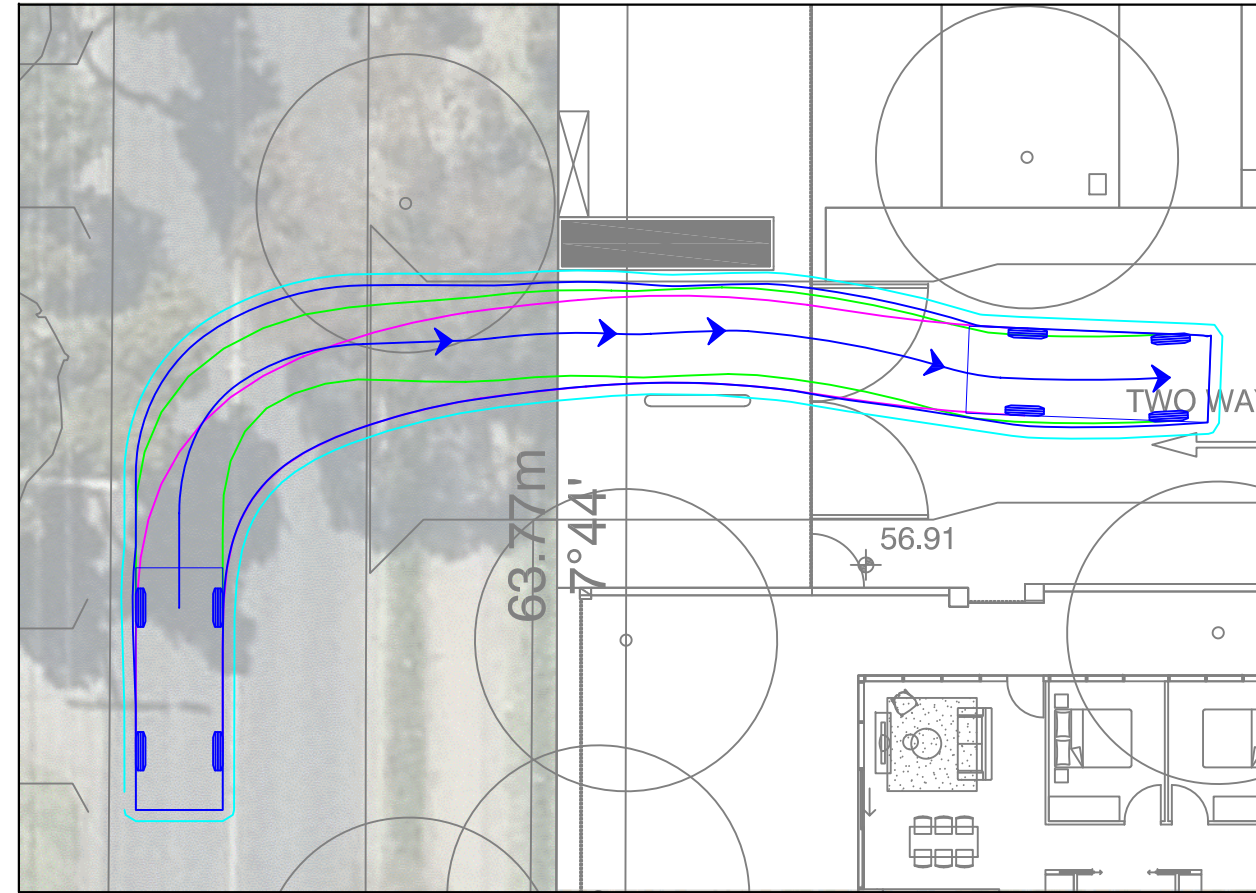
Appendix D

Swept Path Diagrams

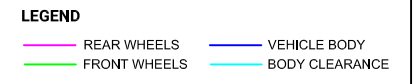
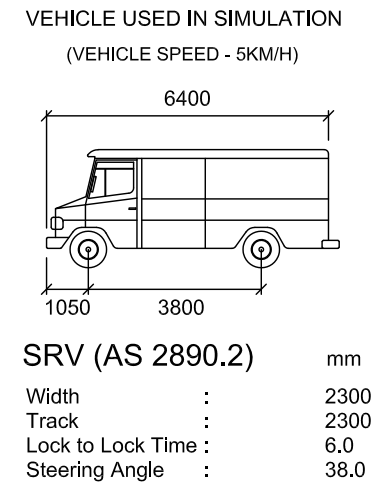
SITE ACCESS - 6.4m SRV - INGRESS (SOUTHBOUND)



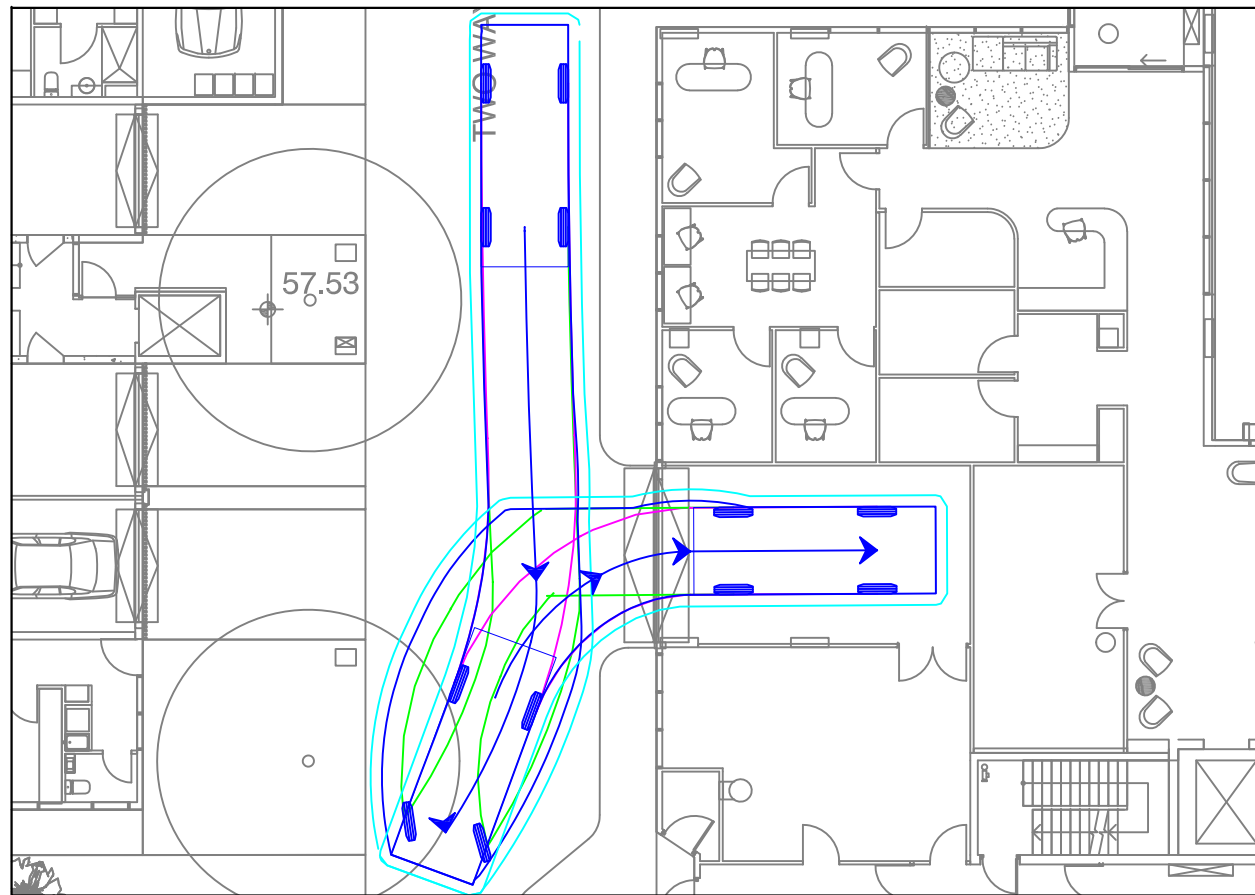
SITE ACCESS - 6.4m SRV - INGRESS (NORTHBOUND)



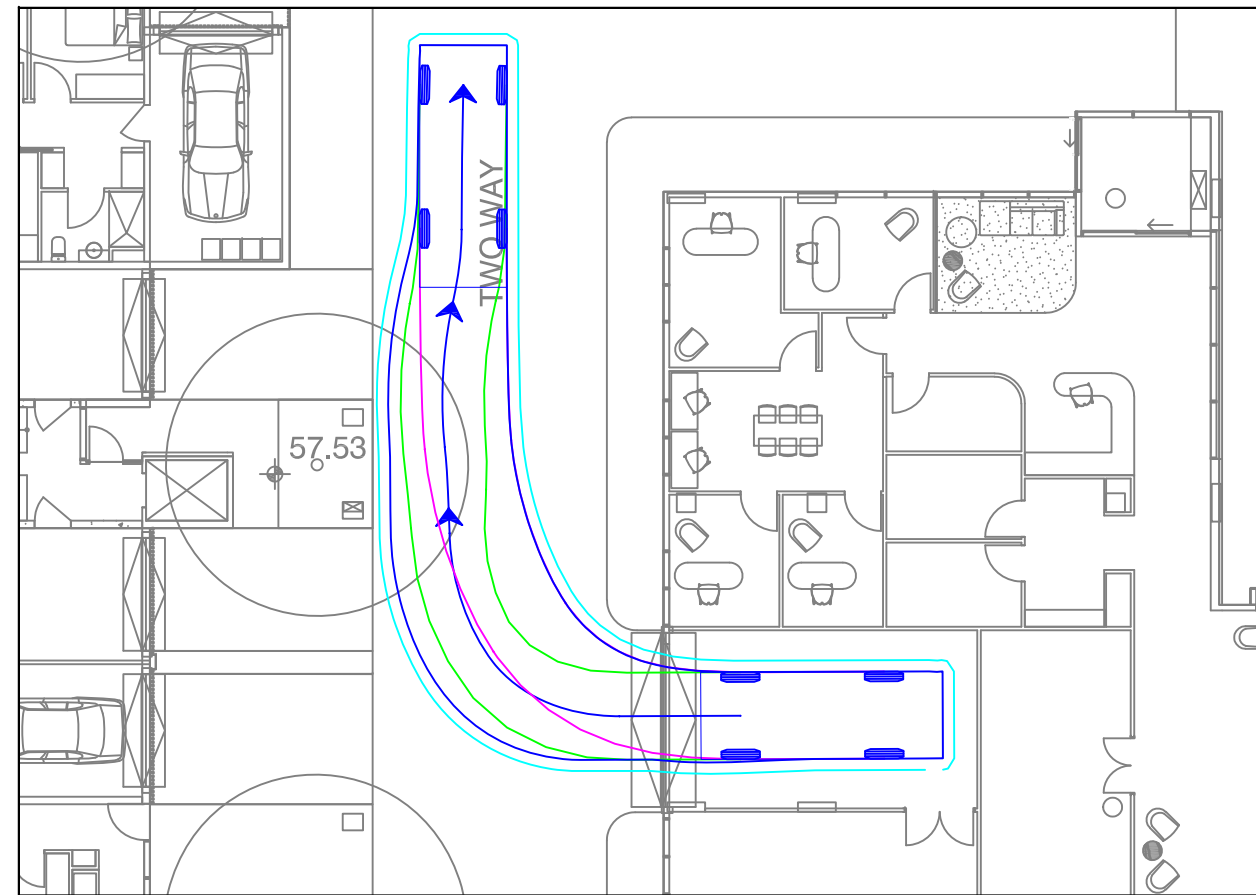
VEHICLE PROFILE



LOADING BAY - 6.4m SRV - INGRESS



LOADING BAY - 6.4m SRV - EGRESS



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	19/12/2022	TOWN PLANNING	K. EWE	M. WOOLLARD

52 GOLF ROAD, OAKLEIGH SOUTH
PROPOSED DEVELOPMENT PLAN FOR RESIDENTIAL AGED
CARE AND RETIREMENT VILLAGE DEVELOPMENT

GENERAL NOTES:
BASE INFORMATION FROM: "DP100a
INDICATIVE GROUND FLOOR PLAN.dwg"
DRAWINGS BY: Fender Katsalidis, dated
09/12/2022

FILE NAME: G31998-01
SHEET NO.: 01

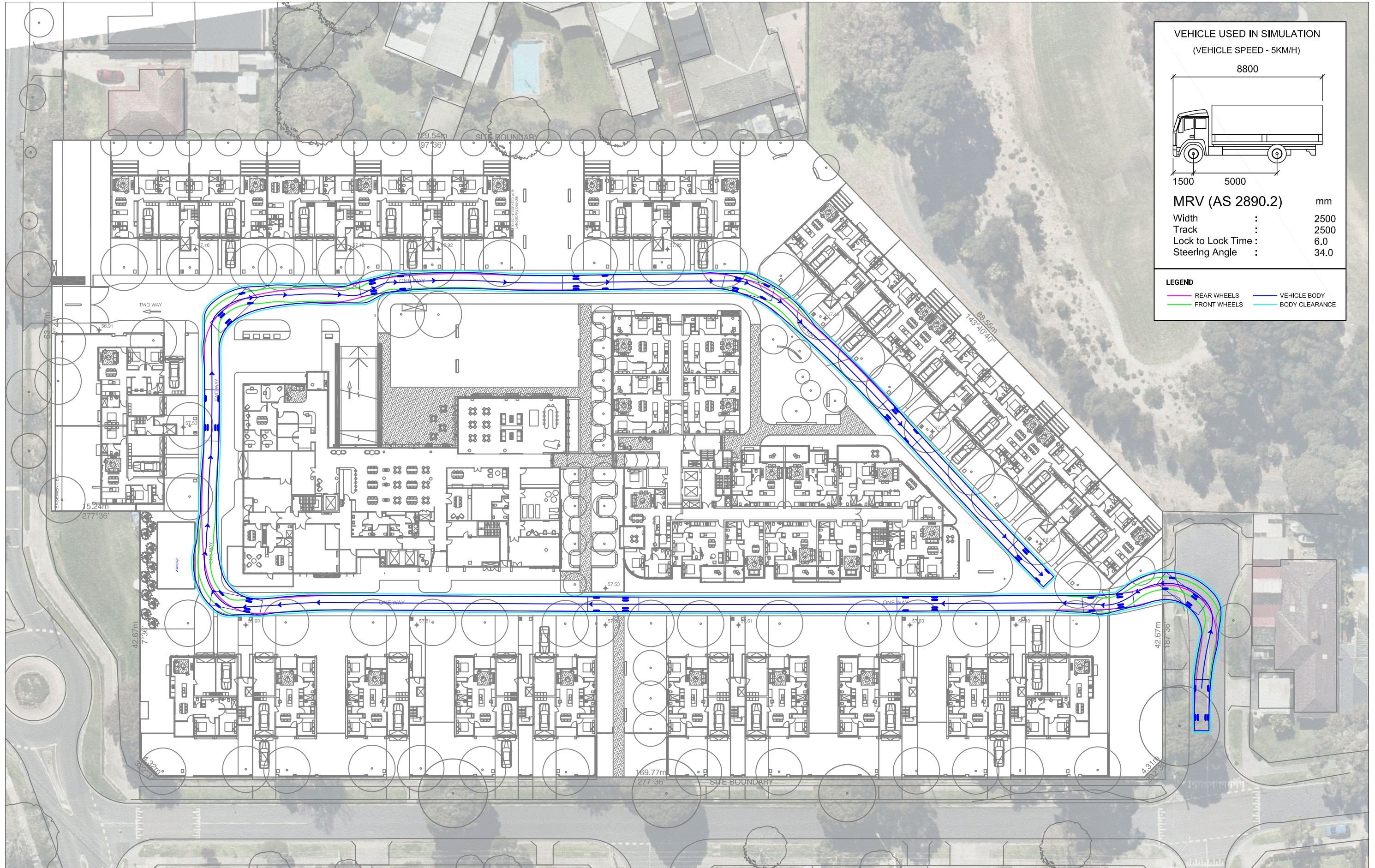


SCALE:
1:200 (A3)

COPYRIGHT: The Ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.

Traffix Group
Level 28, 459 Collins St, MELBOURNE VIC 3000
T: (03) 9822 2888
www.traffixgroup.com.au

SITE ACCESS - 8.8m MRV - CIRCULATION (INGRESS)



VEHICLE USED IN SIMULATION
(VEHICLE SPEED - 5KM/H)

8800
1500 5000

MRV (AS 2890.2) mm

Width : 2500
Track : 2500
Lock to Lock Time : 6.0
Steering Angle : 34.0

LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	19/12/2022	TOWN PLANNING	K. EWE	M. WOOLLARD

52 GOLF ROAD, OAKLEIGH SOUTH
PROPOSED DEVELOPMENT PLAN FOR RESIDENTIAL AGED CARE AND RETIREMENT VILLAGE DEVELOPMENT

GENERAL NOTES:
BASE INFORMATION FROM: "DP100a INDICATIVE GROUND FLOOR PLAN.dwg"
DRAWINGS BY: Fender Katsalidis, dated 09/12/2022

FILE NAME: G31998-01
SHEET NO.: 02



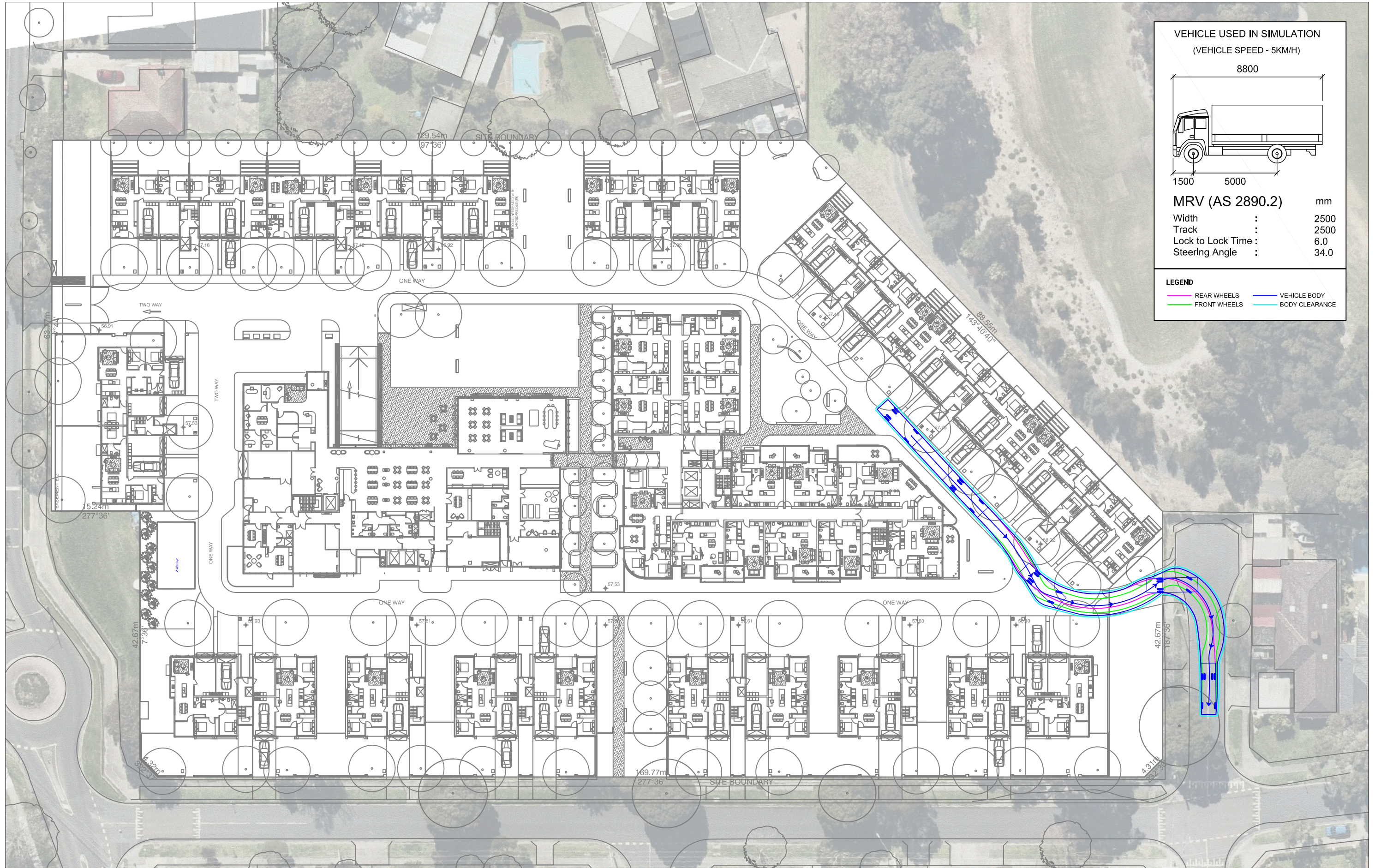
SCALE: 1:600 (A3)

COPYRIGHT: The ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.



Level 28, 459 Collins St, MELBOURNE VIC 3000
T: (03) 9822 2888
www.traffixgroup.com.au

SITE ACCESS - 8.8m MRV - CIRCULATION (EGRESS)



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	19/12/2022	TOWN PLANNING	K. EWE	M. WOOLLARD

52 GOLF ROAD, OAKLEIGH SOUTH
 PROPOSED DEVELOPMENT PLAN FOR RESIDENTIAL AGED
 CARE AND RETIREMENT VILLAGE DEVELOPMENT

GENERAL NOTES:
 BASE INFORMATION FROM: "DP100a
 INDICATIVE GROUND FLOOR PLAN.dwg"
 DRAWINGS BY: Fender Katsalidis, dated
 09/12/2022

FILE NAME: G31998-01
 SHEET NO.: 03

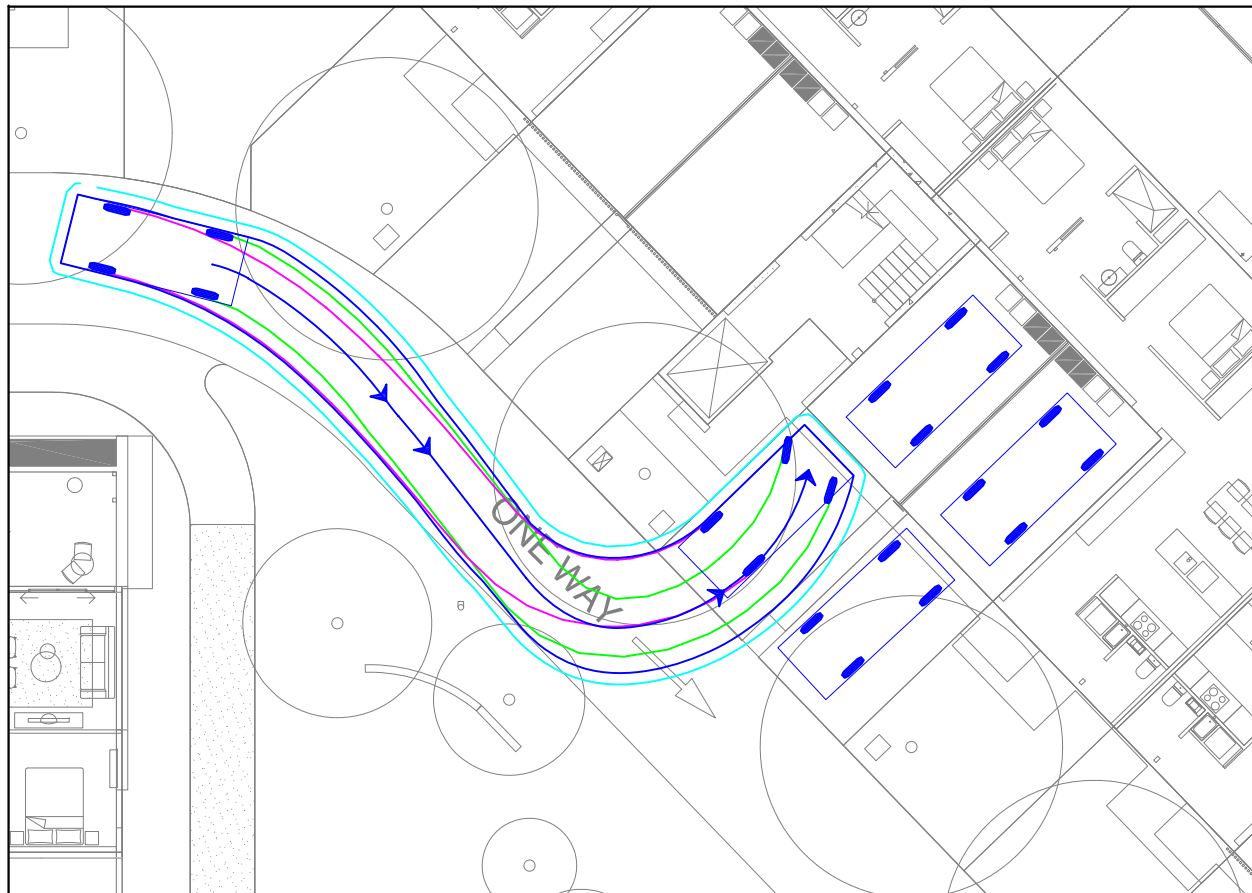


SCALE: 1:600 (A3)
 0 6 12

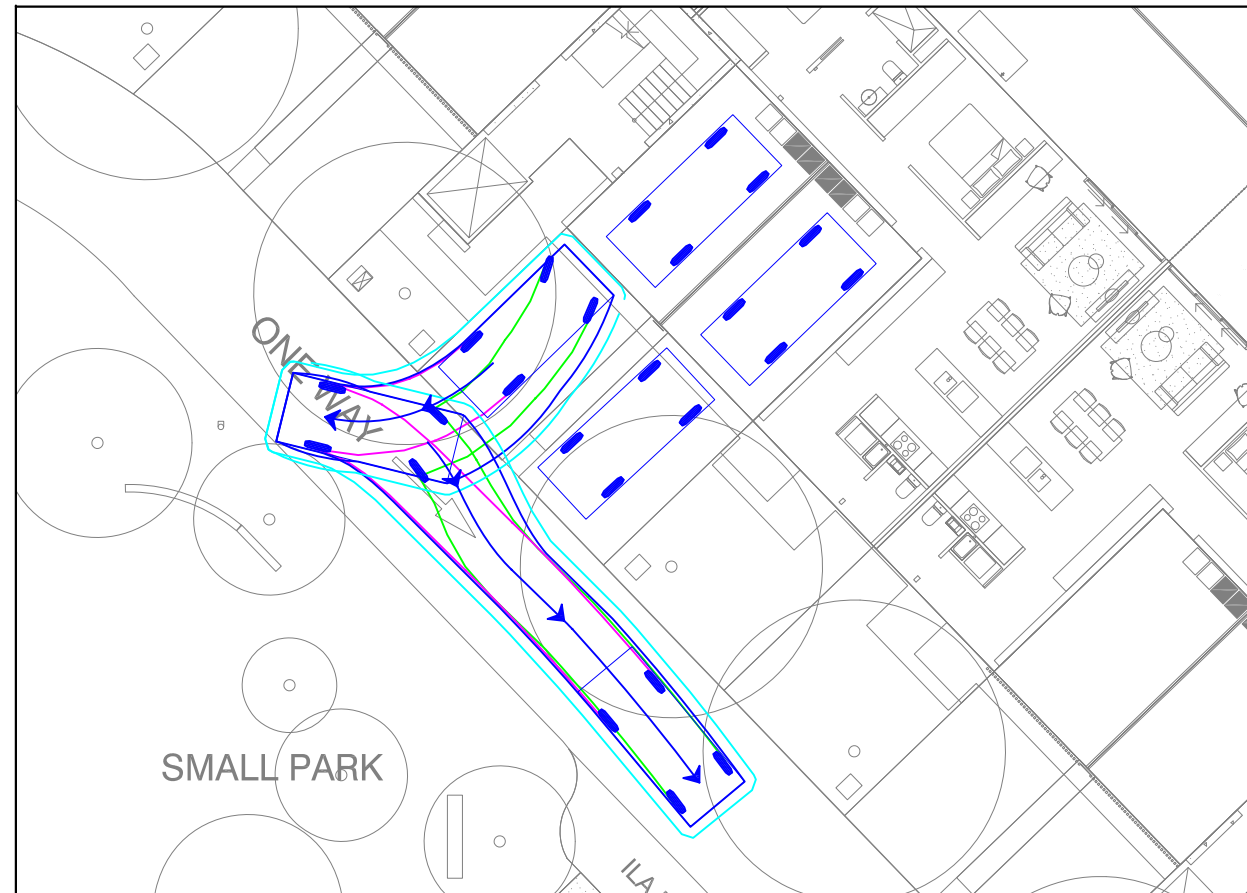
COPYRIGHT: The ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.

Traffix Group
 Level 28, 459 Collins St, MELBOURNE VIC 3000
 T: (03) 9822 2888
 www.traffixgroup.com.au

TYPICAL TOWNHOUSE TANDEM CAR SPACE 01 - INGRESS

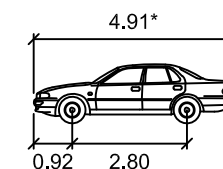


TYPICAL TOWNHOUSE TANDEM CAR SPACE 01 - EGRESS



VEHICLE PROFILE

VEHICLE USED IN SIMULATION
(VEHICLE SPEED - 5KM/H)



85th percentile
(AS/NZS 2890.1:2004)

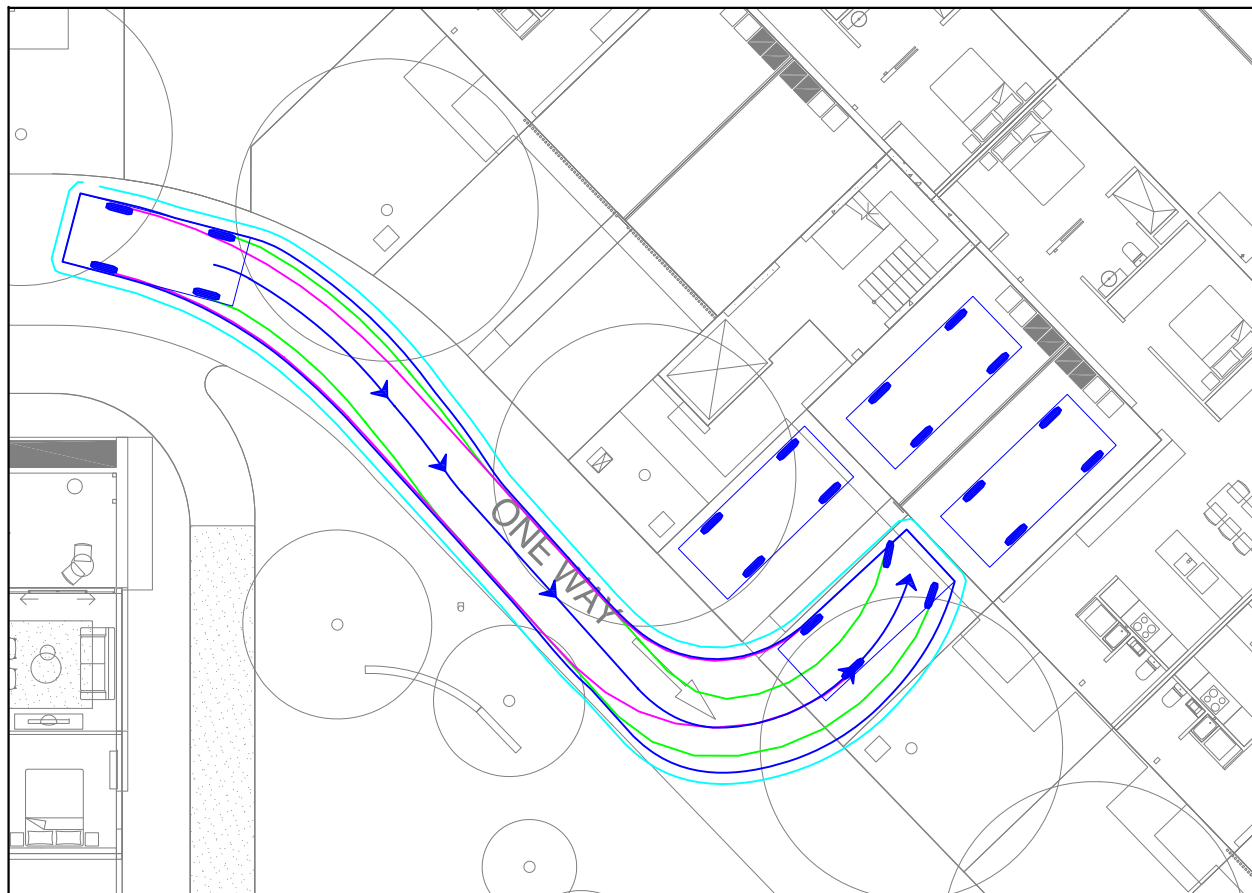
Width : 1.87m
Track : 1.77m
Kerb to Kerb Radius : 11.5m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

TYPICAL TOWNHOUSE TANDEM CAR SPACE 02 - INGRESS



TYPICAL TOWNHOUSE TANDEM CAR SPACE 02 - EGRESS



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	09/03/2023	TOWN PLANNING	K. EWE	M. WOOLLARD

52 GOLF ROAD, OAKLEIGH
PROPOSED AGED CARE/RETIREMENT VILLAGE
DEVELOPMENT

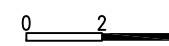
GENERAL NOTES:
BASE INFORMATION FROM: "DP100a
INDICATIVE GROUND FLOOR PLAN.dwg"
DRAWINGS BY: Fender Katsalidis, dated
01/03/2023

FILE NAME: G31998-01
SHEET NO.: 01



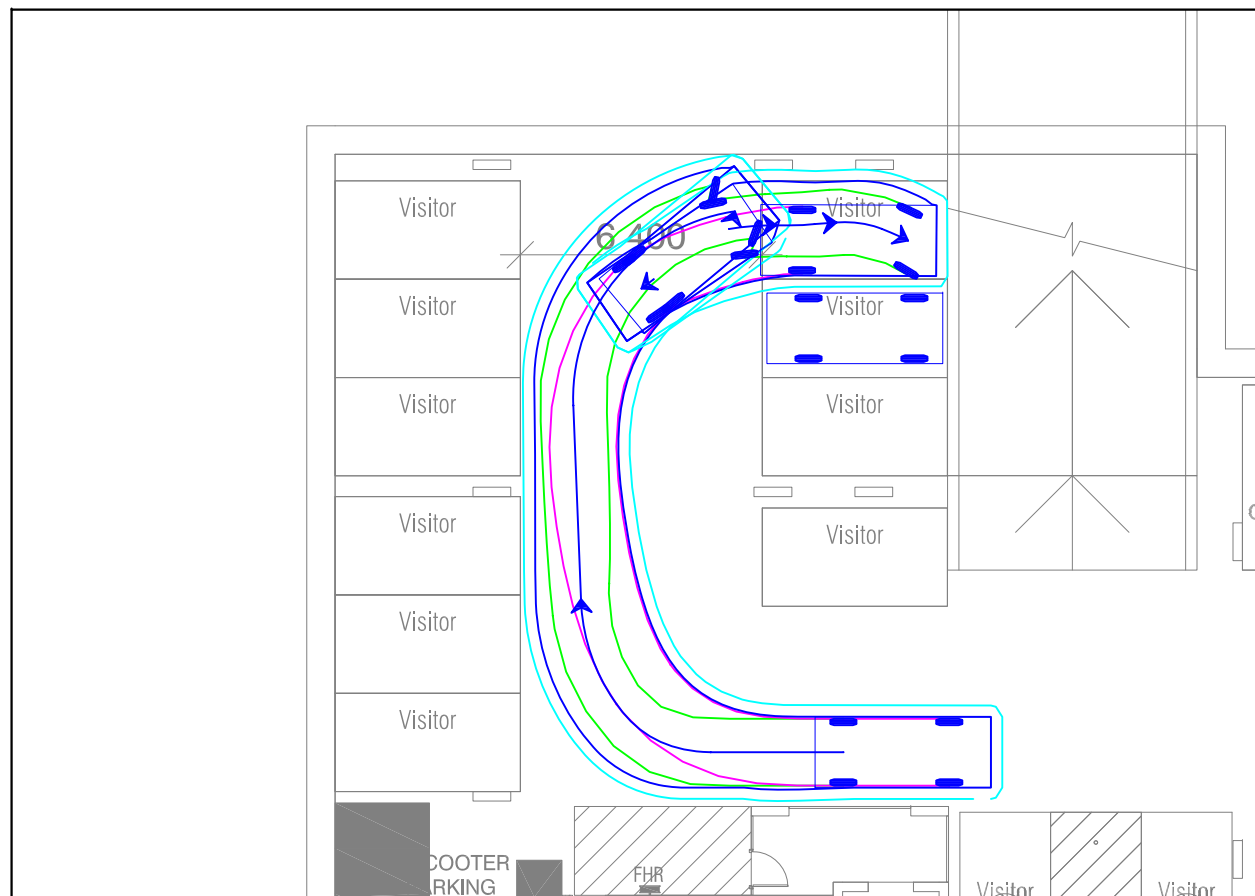
SCALE: 1:200 (A3)

COPYRIGHT: The Ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.

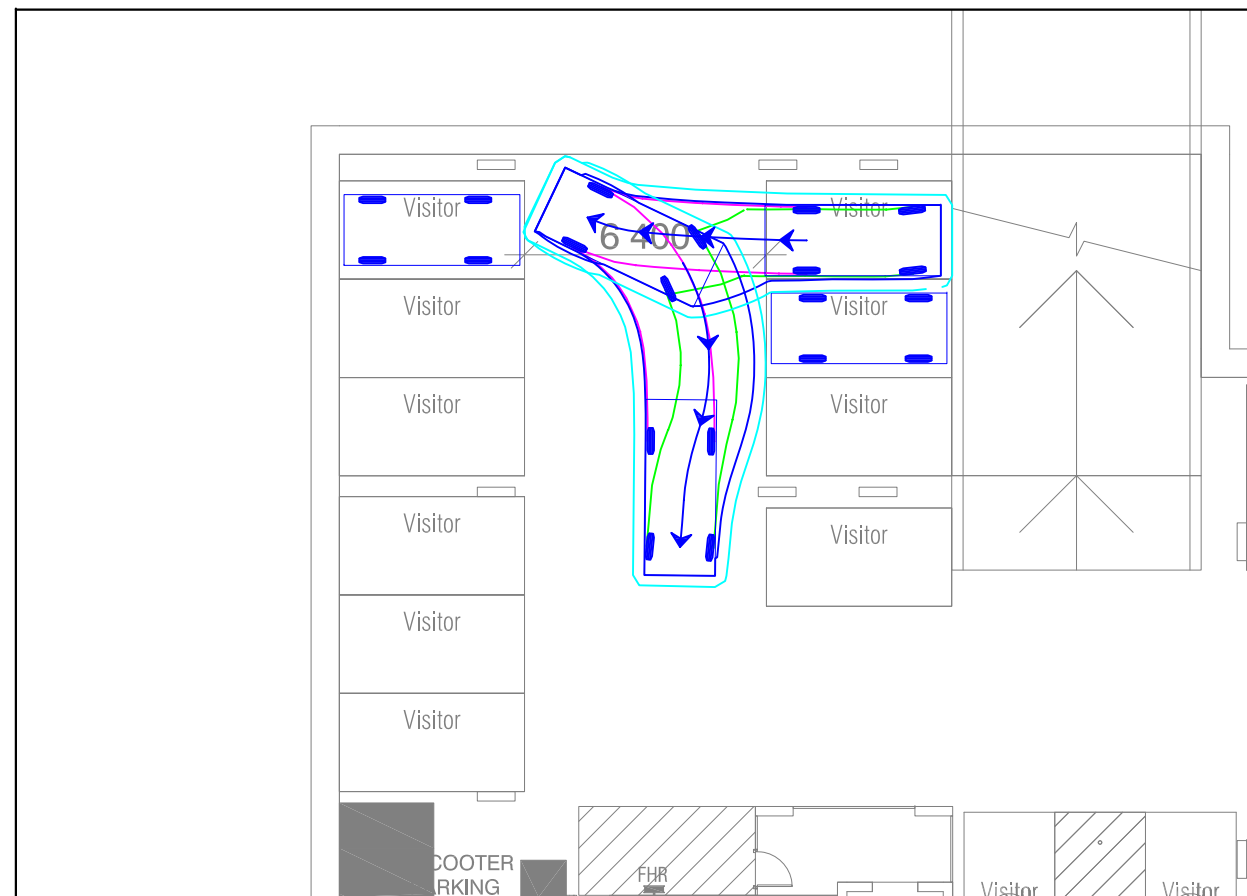


Traffix Group
Level 28, 459 Collins St, MELBOURNE VIC 3000
T: (03) 9822 2888
www.traffixgroup.com.au

VISITOR CAR SPACE 01 - INGRESS

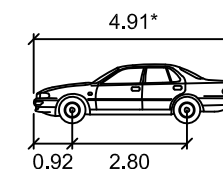


VISITOR CAR SPACE 01 - EGRESS



VEHICLE PROFILE

VEHICLE USED IN SIMULATION
(VEHICLE SPEED - 5KM/H)



85th percentile
(AS/NZS 2890.1:2004)

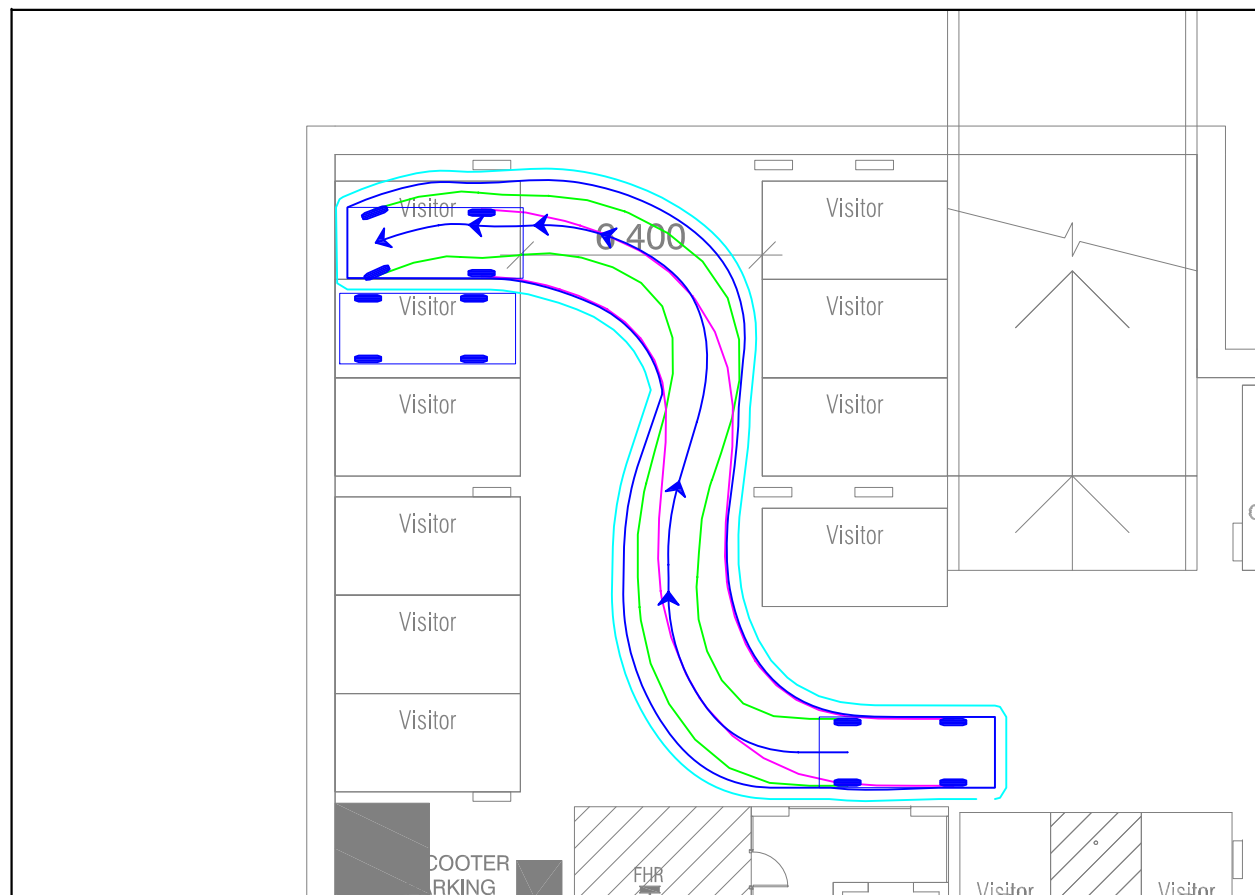
Width : 1.87m
Track : 1.77m
Kerb to Kerb Radius : 11.5m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

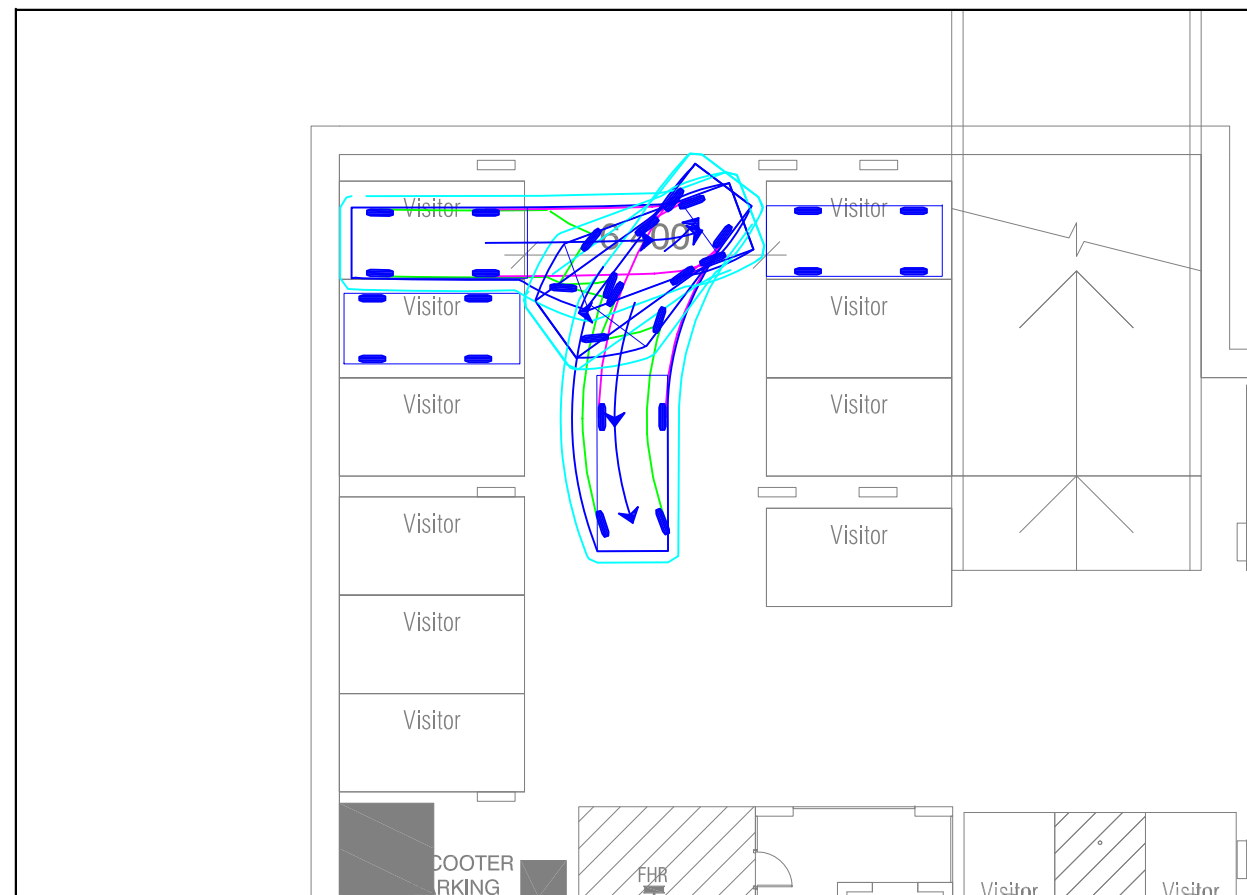
LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

VISITOR CAR SPACE 02 - INGRESS



VISITOR CAR SPACE 02 - EGRESS



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	09/03/2023	TOWN PLANNING	K. EWE	M. WOOLLARD

52 GOLF ROAD, OAKLEIGH
PROPOSED AGED CARE/RETIREMENT VILLAGE
DEVELOPMENT

GENERAL NOTES:
BASE INFORMATION FROM: "DP099a
INDICATIVE BASEMENT FLOOR PLAN.dwg"
DRAWINGS BY: Fender Katsalidis, dated
03/03/2023

FILE NAME: G31998-01
SHEET NO.: 02

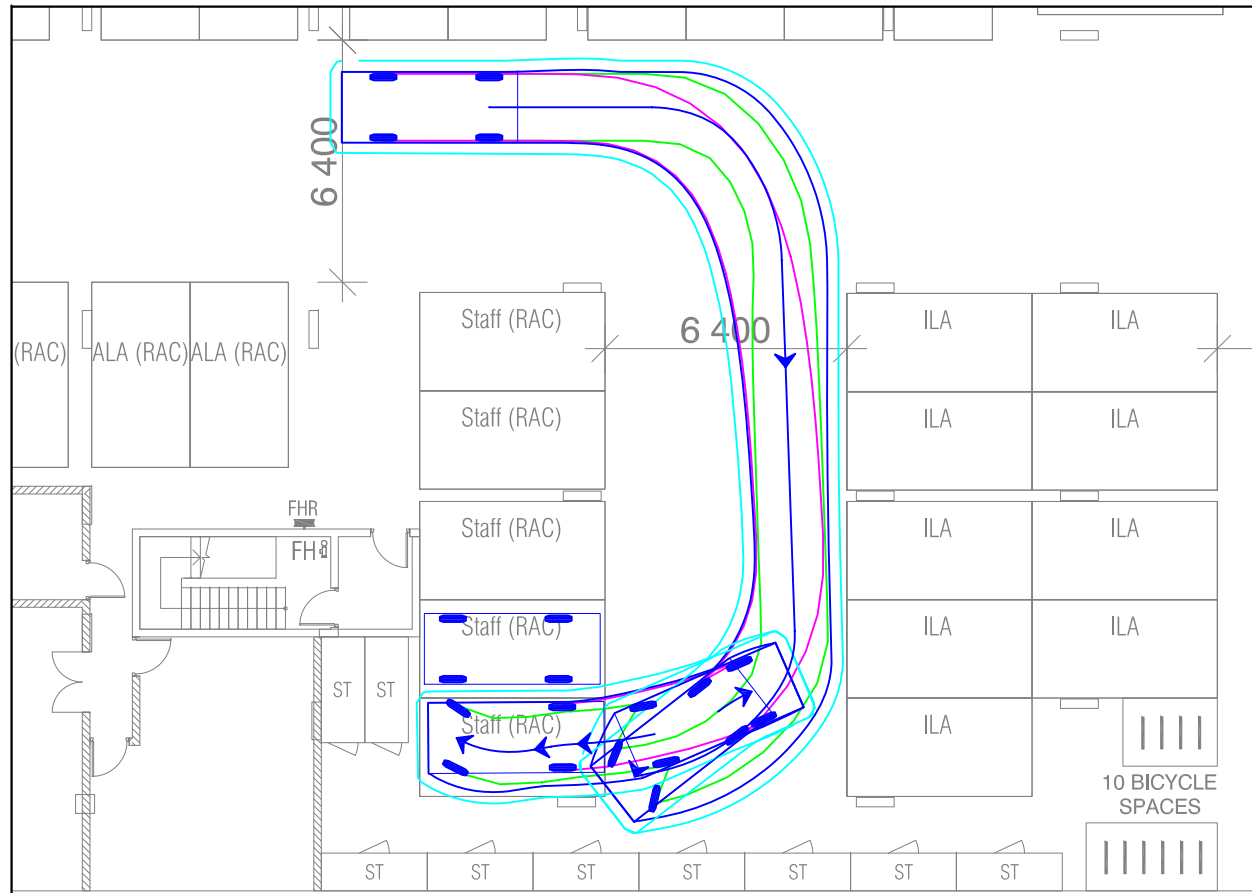


SCALE:
1:200 (A3)

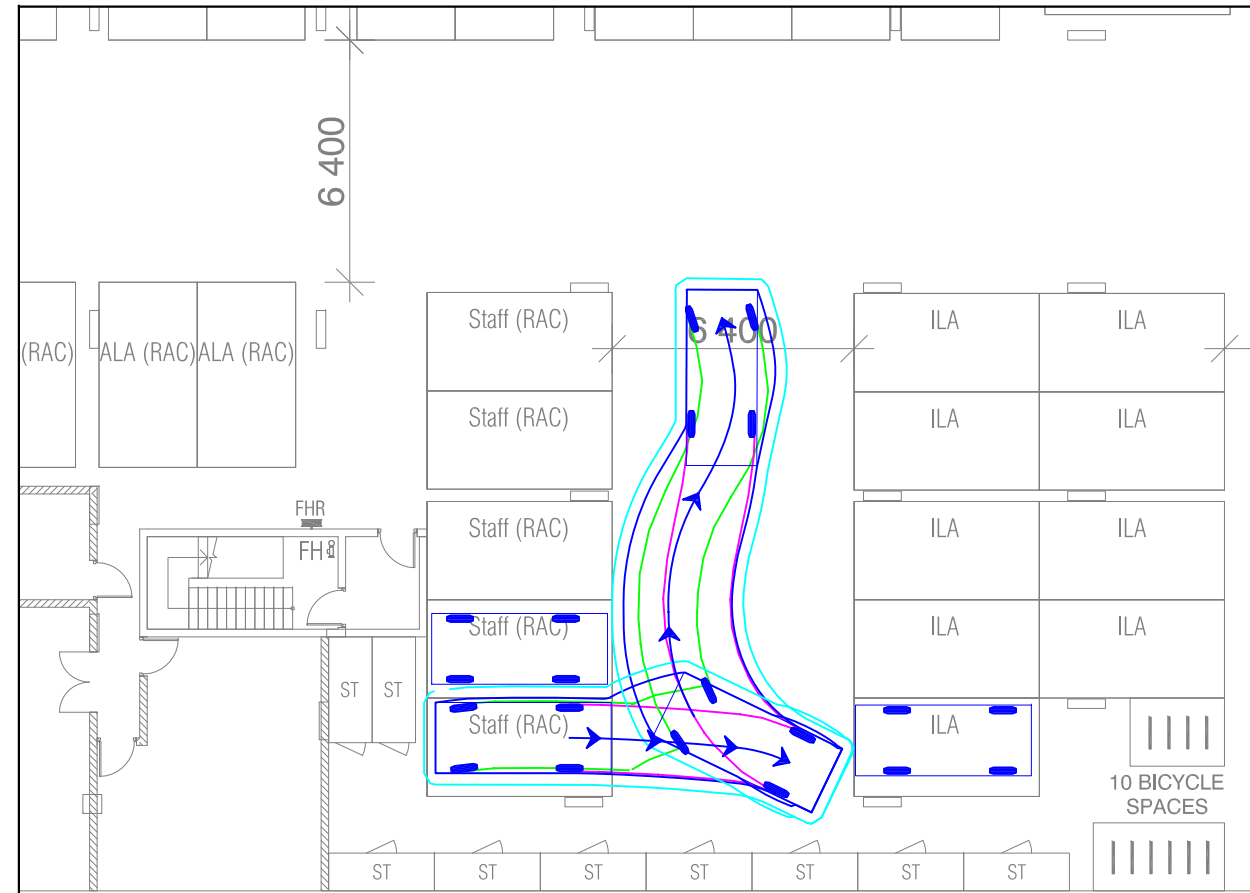
COPYRIGHT: The Ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.

Traffix Group
Level 28, 459 Collins St, MELBOURNE VIC 3000
T: (03) 9822 2888
www.traffixgroup.com.au

STAFF (RAC) CAR SPACE - INGRESS

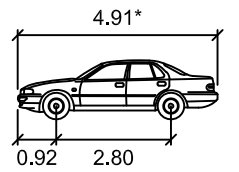


STAFF (RAC) CAR SPACE - EGRESS



VEHICLE PROFILE

VEHICLE USED IN SIMULATION
(VEHICLE SPEED - 5KM/H)



85th percentile
(AS/NZS 2890.1:2004)

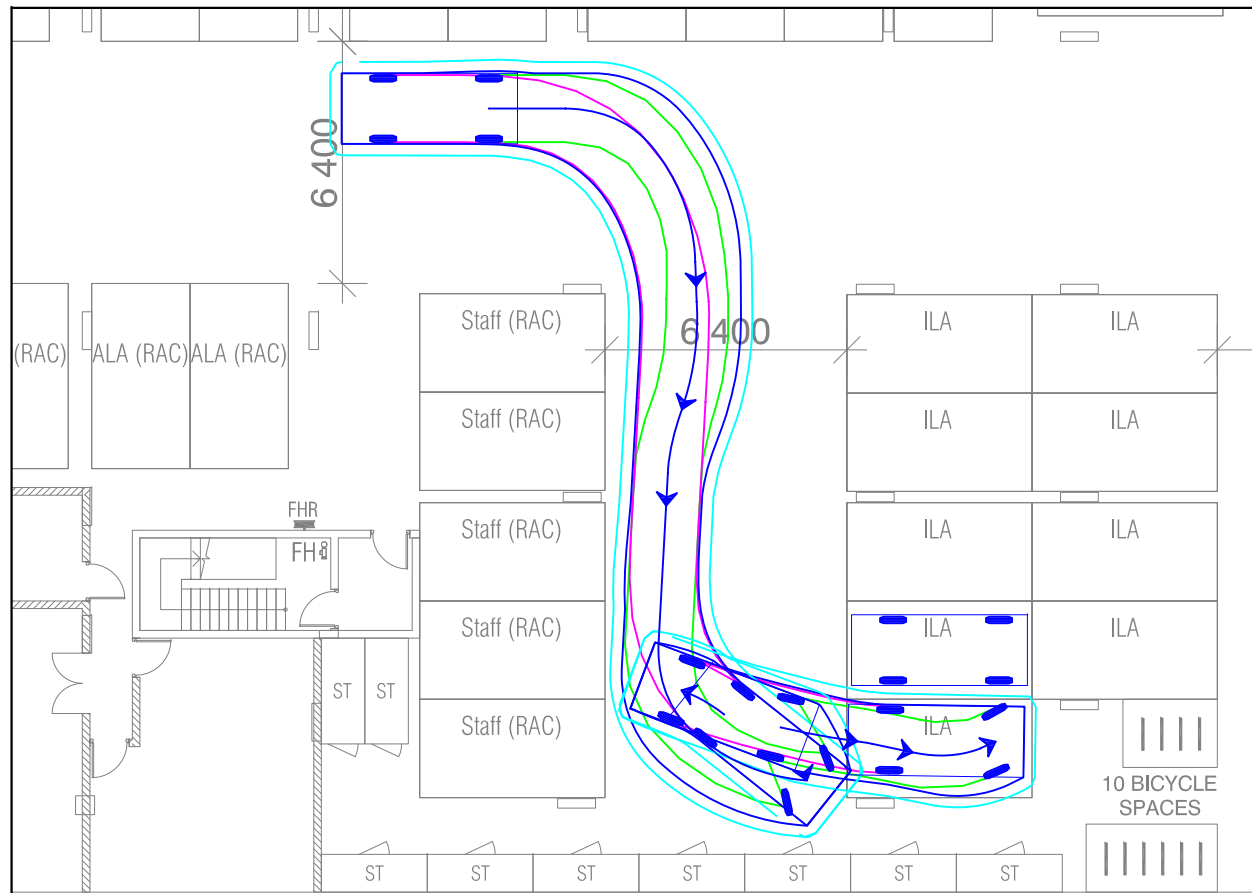
Width : 1.87m
Track : 1.77m
Kerb to Kerb Radius : 11.5m

* actual template based on 'relevant longitudinal dimensions that affect swept path' as set out in Section B2.1 of AS/NZS 2890.1:2004

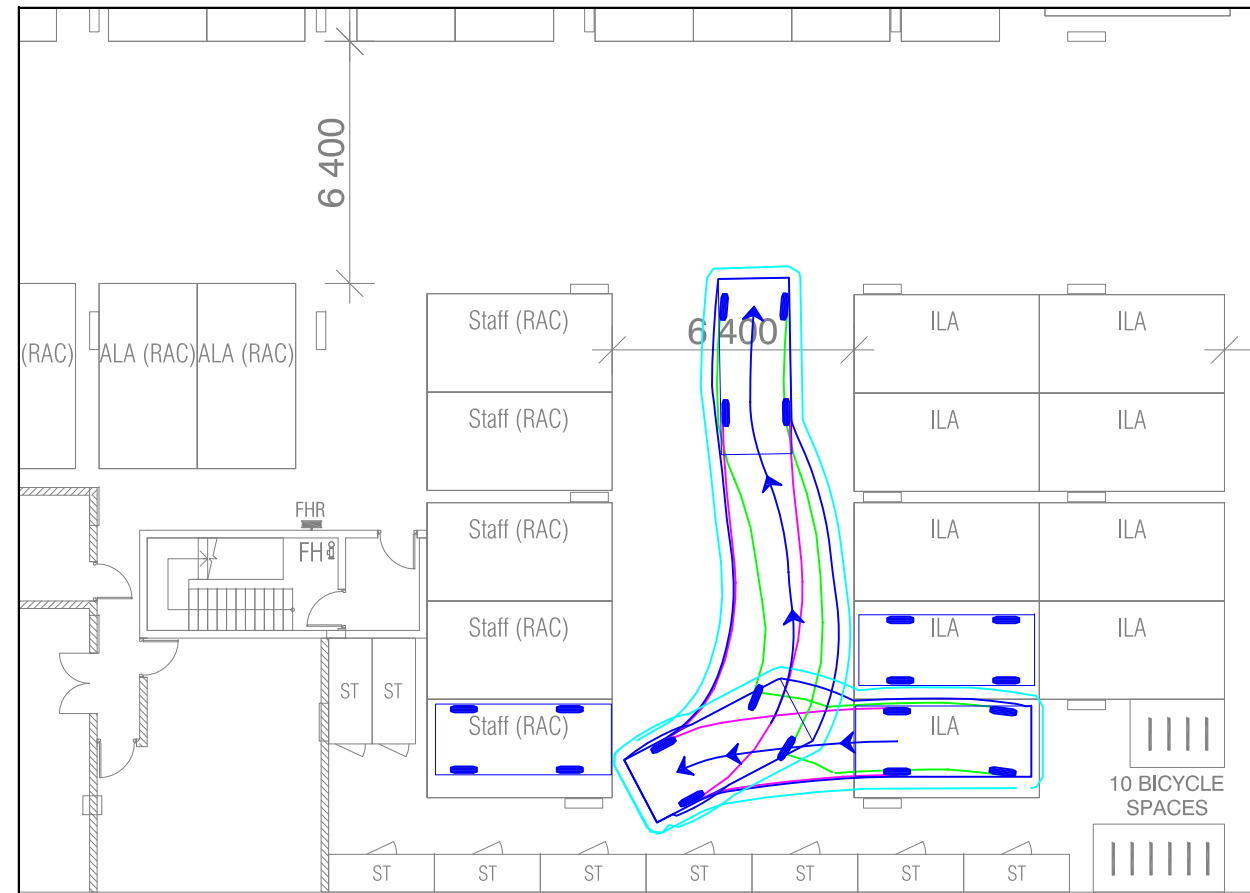
LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

VISITOR CAR SPACE 02 - INGRESS



ILA CAR SPACE - EGRESS



REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	09/03/2023	TOWN PLANNING	K. EWE	M. WOOLLARD

52 GOLF ROAD, OAKLEIGH
PROPOSED AGED CARE/RETIREMENT VILLAGE DEVELOPMENT

GENERAL NOTES:
BASE INFORMATION FROM: "DP099a INDICATIVE BASEMENT FLOOR PLAN.dwg"
DRAWINGS BY: Fender Katsalidis, dated 03/03/2023

FILE NAME: G31998-01
SHEET NO.: 03



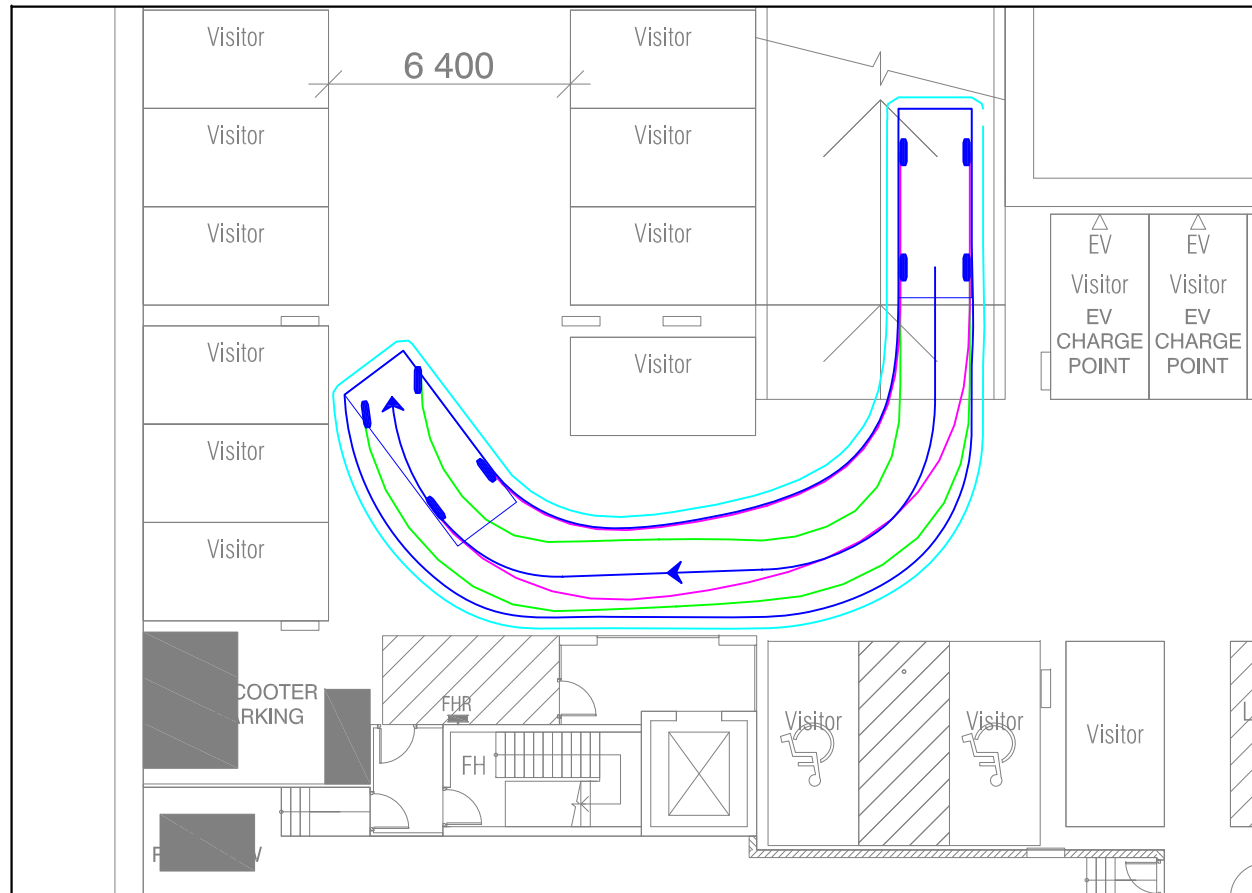
SCALE: 1:200 (A3)

COPYRIGHT: The Ideas and material contained in this document are the property of Traffic Group (Traffic Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffic Group constitutes an infringement of copyright.

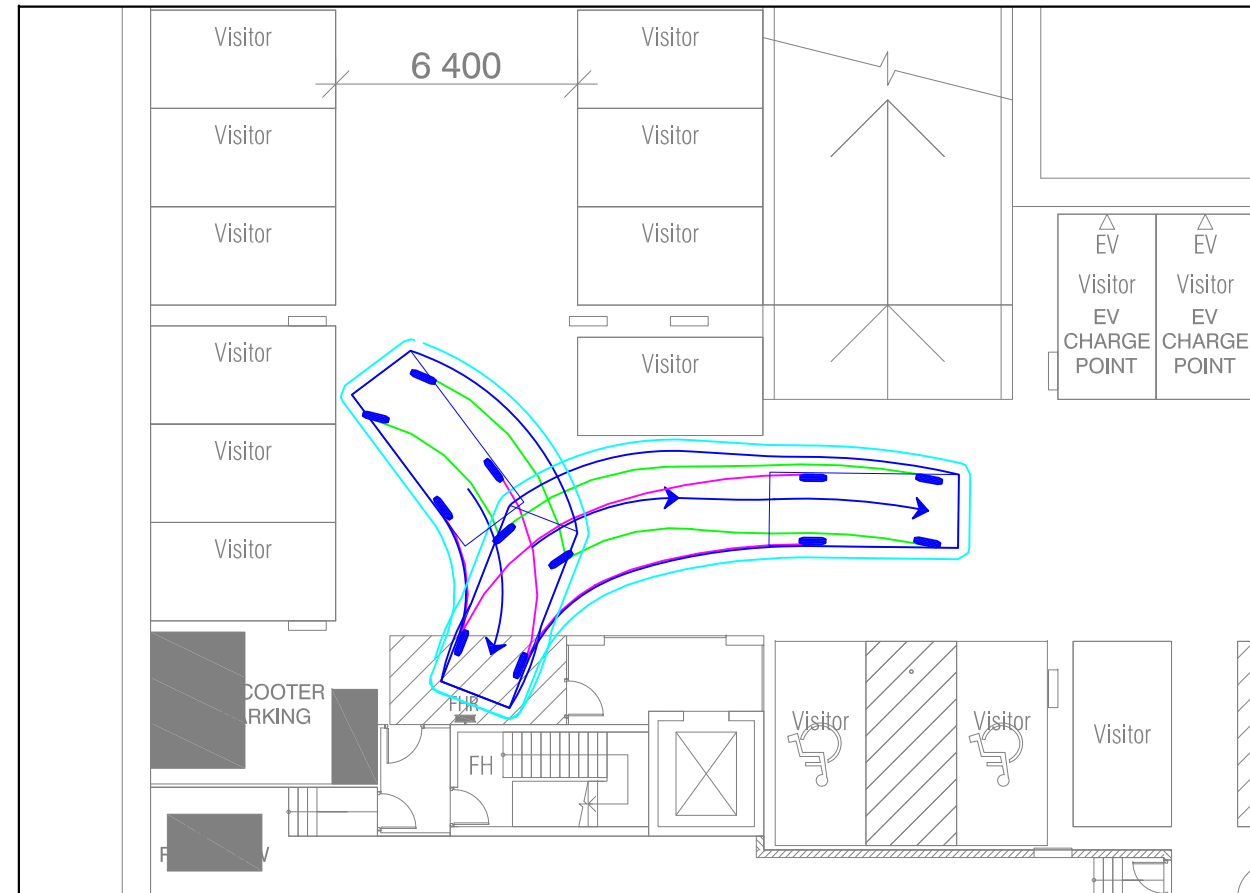
Traffic Group

Level 28, 459 Collins St, MELBOURNE VIC 3000
T: (03) 9822 2888
www.trafficgroup.com.au

B99 VEHICLE - TURNING CIRCLE - INGRESS

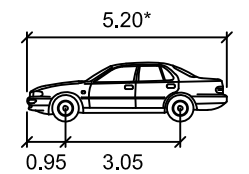


B99 VEHICLE - TURNING CIRCLE - EGRESS



VEHICLE PROFILE

VEHICLE USED IN SIMULATION
(VEHICLE SPEED - 5KM/H)



99th percentile
(AS/NZS 2890.1:2004)

Width : 1.94
Track : 1.84
Kerb to Kerb Radius : 12.5m

* actual template based on "relevant longitudinal dimensions that affect swept path" as set out in Section B2.1 of AS/NZS 2890.1:2004

LEGEND

- REAR WHEELS
- FRONT WHEELS
- VEHICLE BODY
- BODY CLEARANCE

REV	DATE	NOTES	DESIGNED BY	CHECKED BY
A	09/03/2023	TOWN PLANNING	K. EWE	M. WOOLLARD

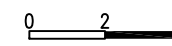
52 GOLF ROAD, OAKLEIGH
PROPOSED AGED CARE/RETIREMENT VILLAGE
DEVELOPMENT

GENERAL NOTES:
BASE INFORMATION FROM: "DP099a
INDICATIVE BASEMENT FLOOR PLAN.dwg"
DRAWINGS BY: Fender Katsalidis, dated
03/03/2023

FILE NAME: G31998-01
SHEET NO.: 04



SCALE:
1:200 (A3)



COPYRIGHT: The Ideas and material contained in this document are the property of Traffix Group (Traffix Group Pty Ltd - ABN 32 100 481 570). Use or copying of this document in whole or in part without the written permission of Traffix Group constitutes an infringement of copyright.

Traffix Group

Level 28, 459 Collins St, MELBOURNE VIC 3000
T: (03) 9822 2888
www.traffixgroup.com.au

**Traffic Engineering
Assessment**

52 Golf Road, Oakleigh South
