

TRAFFIC IMPACT ASSESSMENT

PROPOSED

TEMPUS

LIFESTYLE RETIREMENT AND
HEALTHCARE VILLAGE
DEVELOPMENT

TASMAN HIGHWAY
SWANSEA

November 2020

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ATTACHMENTS

Attachment A: Drawings of proposed development site layout

Attachment B: Highway Intersection Drawings (Gandy & Roberts)

REFERENCES:

- Australian Standard AS 1742.2-2009 – Manual of uniform traffic control devices Part 2: Traffic control devices for general use
- AUSTROADS – Guide to Road Safety Part 6: Road Safety Audit
- AUSTROADS – Guide to Road Design Part 4: Intersections and Crossings General (2017)
- AUSTROADS – Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (2017)
- AUSTROADS – Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings
- Australian Standard AS 2890 – Parking Facilities, Part 1 – Off-street car parking
- Australian Standard AS 2890 – Parking Facilities, Part 2 – Off-street commercial vehicle facilities
- Australian Standard AS 2890 – Parking Facilities, Part 6 – Off-street parking for people with disabilities
- Glamorgan Spring Bay Interim Planning Scheme 2015

1. INTRODUCTION

The owners of the Kelvedon Estate property along Tasman Highway, south of Swansea are proposing to develop the Tempus lifestyle retirement and healthcare village on a small part of the property.

This Traffic Impact Assessment (TIA) report has been prepared in support of the proposed development and to assist the Glamorgan Spring Bay Council as well as the Department of State Growth in assessing the development application.

The report describes the current road and traffic conditions along the Tasman Highway in the area of the development site. An assessment is made of the traffic that the development will generate and the effect of this traffic on the Tasman Highway.

Advice is also provided on the internal traffic circulation, parking provision and layout as well as access arrangements for the development site, including available sight distances along the Tasman Highway.

The report is based on the Department of State Growth Traffic Impact Assessment Guidelines.

The techniques used in the investigation and assessment incorporate best practice road safety and traffic management principles.

2. SITE DESCRIPTION

The development site is located on the Tasman Highway, just north of Swansea and around 1.7km south of the Addison Street junction, which is at the southern end of Swansea.

The site is on Kelvedon Estate, a large farming property to the south of Swansea.

The Tempus development site will be an 18ha area on the northeast corner of the farming property, on the western side of the Tasman Highway, opposite the Piermont Retreat development.

The location of the proposed development site is highlighted on the extract from the area map for this area, seen as Figure 2.1.

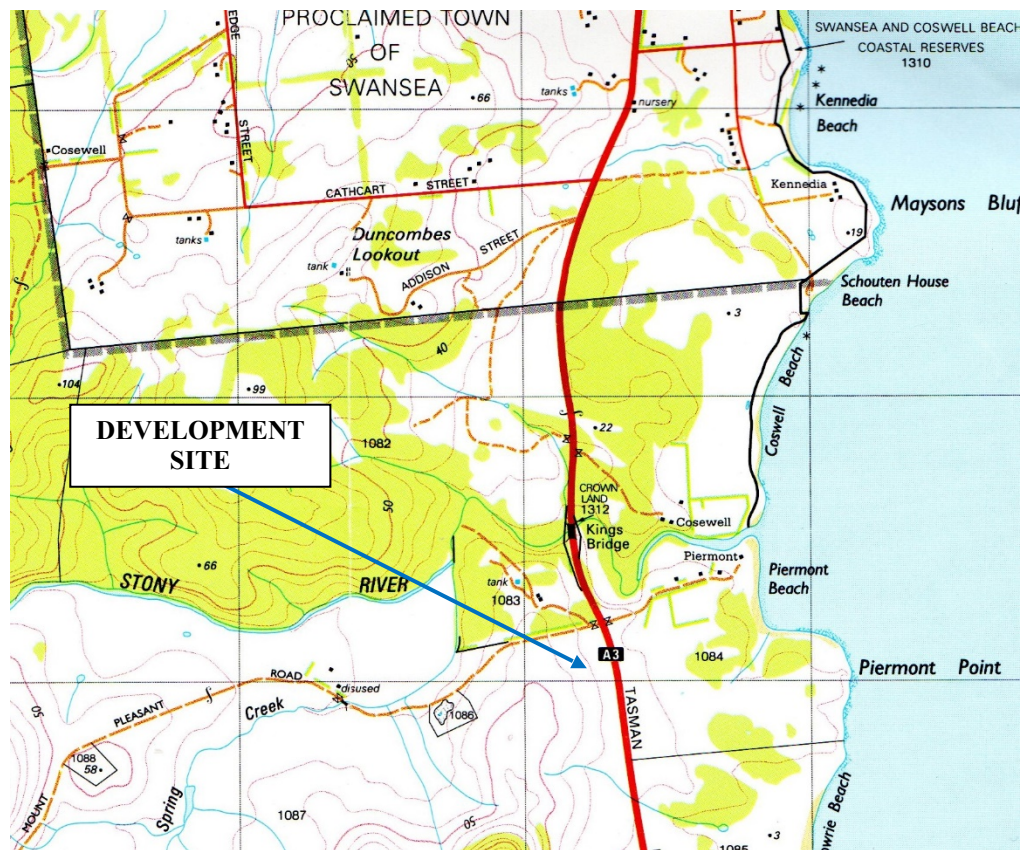


Figure 2.1: Extract of area map showing location of proposed development site

3. **DEVELOPMENT PROPOSAL**

The owners of the property propose to construct a retirement village on a small part of the property immediately to the west of the Tasman Highway.

The development will include 130 independent living units and 75 nursing home suites.

It will also provide a large range of activity facilities such as an 80 seat theatre and function hall, gymnasium, pool, conservatory and library, equestrian centre, men's shed, 200 seat amphitheatre, parking for boats and caravans, plus a shop/café/bar and consulting rooms.

The 'Tempus' development is likely to attract people wanting a rural retirement, with an offering of stabling for horses and dog-friendly homes, for people seeking an alternative to city retirement, currently not on offer in Tasmania to the quality and level of services proposed by Tempus.

Details of the proposed development site layout are outlined on the drawings included with this report as Attachment A.

The character of the land in the area of the development site can be seen from the view in Photograph 3.1, which shows part of the development site beyond the vineyard plantings.



Photograph 3.1: View of proposed development site

4. EXISTING ROAD AND TRAFFIC ENVIRONMENT

4.1 Road Characteristics

The Tasman Highway past the development site is owned and maintained by the State Government. It is classified as a Class 4 – Regional Access Road. Regional access roads provide safe and efficient access to regions of Tasmania.

The proposed access to the development site will be located on the Tasman Highway around midway between the new access road junction to Piermont Estate which is some 200m to the south of the proposed new access road and the junction of Mount Pleasant Road which is some 200m to the north of the proposed new access road.

In this area the Tasman Highway has a straight horizontal alignment on a relatively flat grade to the south of the proposed access road and a slight horizontal curve on a flat grade to the north. The radius of the horizontal curve reduces slightly beyond the initial 100m to the north of the proposed access road.

There are existing barrier line pavement markings along the middle of the road (no raised pavement markers) and guideposts are installed along both sides of the road.

Adjacent to the proposed access road location, the Tasman Highway is sealed to a width of around 5.9m. There are 0.3m to 0.6m wide gravel shoulders along both sides of the road.

Photographs 4.1 and 4.2 provide views along Tasman Highway on the approaches to the development site access road. These photographs were taken just before some roadside clearing was undertaken in the area.

While Mount Pleasant Road is identified as a ‘public road’, it provides access to a residential development of a side access located some 30m from the highway. Beyond the side access, Mount Pleasant Road continues westwards as a private access into the Kelvedon Estate property which has a locked gate some 40m from the highway.



Photograph 4.1: View to north along Tasman Highway from (approx) 200m south of the development site access road (Piermont access on right)



Photograph 4.2: View to south along Tasman Highway from (approx) 180m north of the development site access road

2. Traffic Activity

The most recent traffic survey data for the Tasman Highway, obtained from DSG, was recorded in November 2016 at a point 185m north of Francis Street, which is within the southern built up area of Swansea and some 2.5km north of the development site. The Tasman Highway between the survey site and the development site is a uniform traffic segment.

The traffic volume at the survey would be slightly less than the traffic passing the development site.

The data at the survey site show the following:

Average Weekday Traffic (November 2016):	- 1,802 vehicles/day
Morning Weekday Peak Hour Traffic at 11-12pm:	- 95 vehicles to north - 77 vehicles to south
Afternoon Weekday Peak Hour Traffic at 12-1pm:	- 98 vehicles to north - 69 vehicles to south

The average hourly traffic distribution for each direction of travel as well as the two-way traffic on weekdays and on Saturday and Sunday are shown graphically in Figures 4.1 to 4.3.

The seasonal traffic variation over the year at the survey site is consistent with Seasonal Group P51 for which the monthly variation is shown in Figure 4.4.

The traffic growth at the survey site on the Tasman Highway has been 2.8% p.a. over the last 20 years. Around 7.6% of the traffic is commercial vehicles.

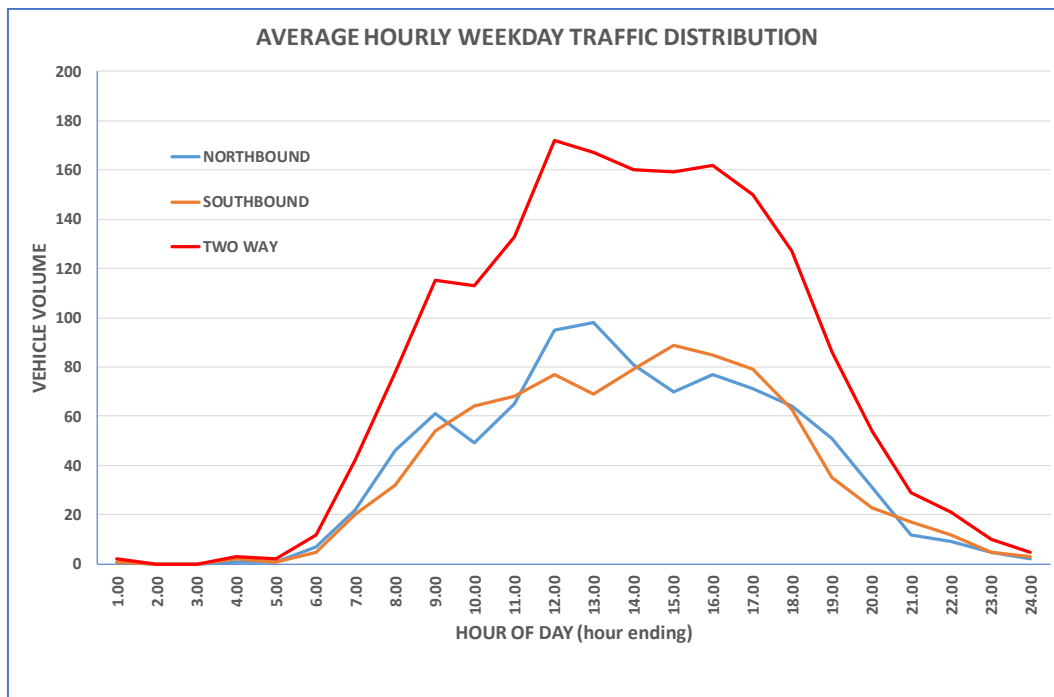


Figure 4.1: Average Hourly Weekday Traffic Distribution

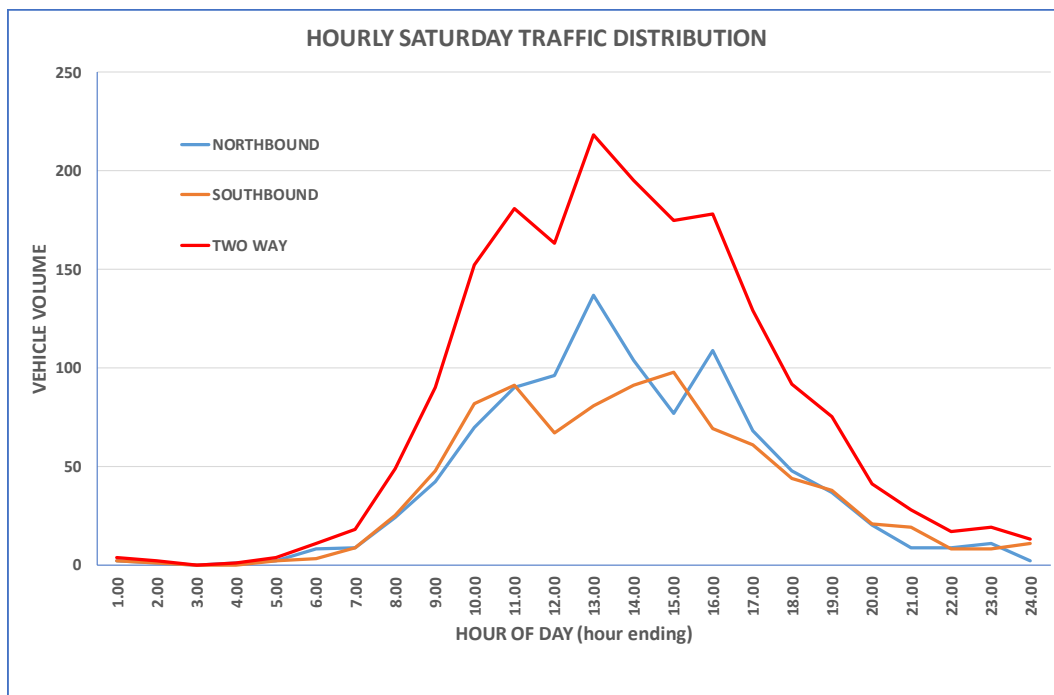


Figure 4.2: Average Hourly Saturday Traffic Distribution

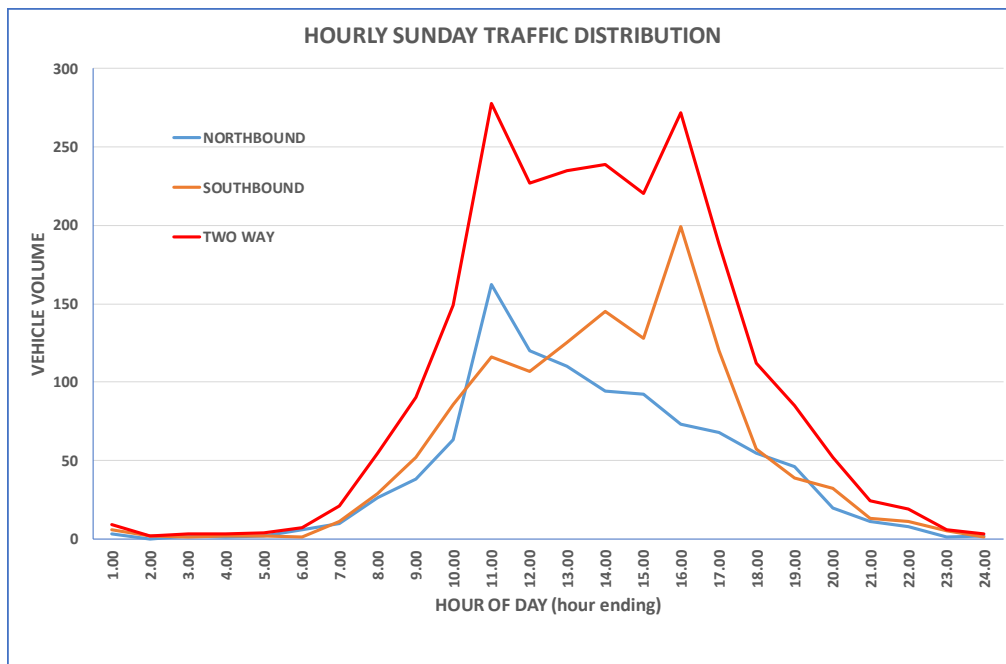


Figure 4.3: Average Hourly Sunday Traffic Distribution

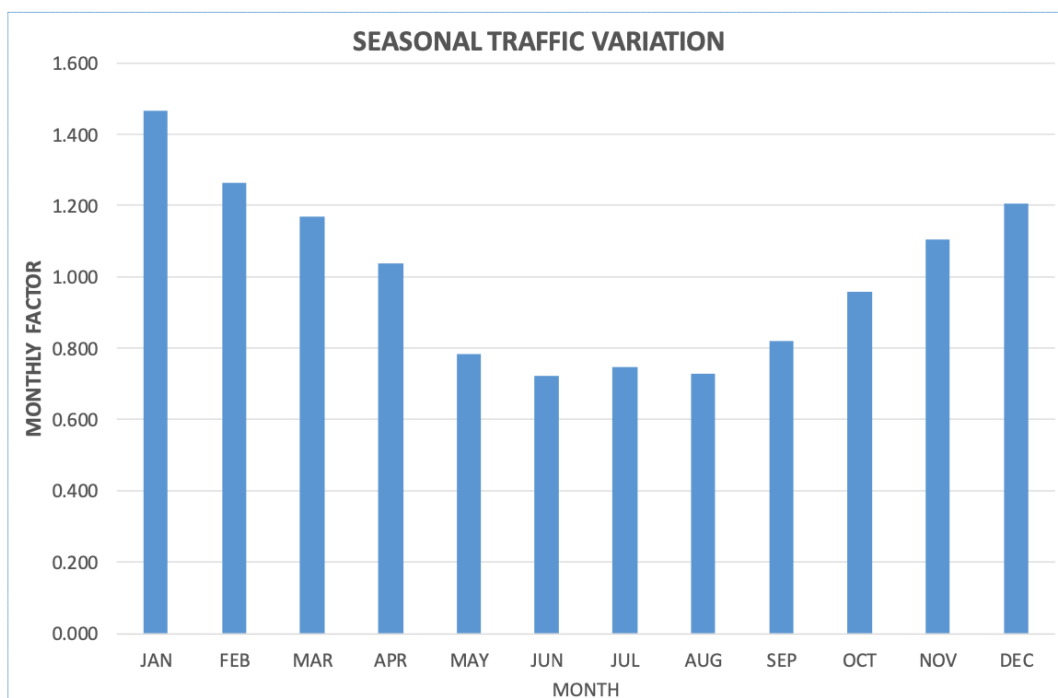
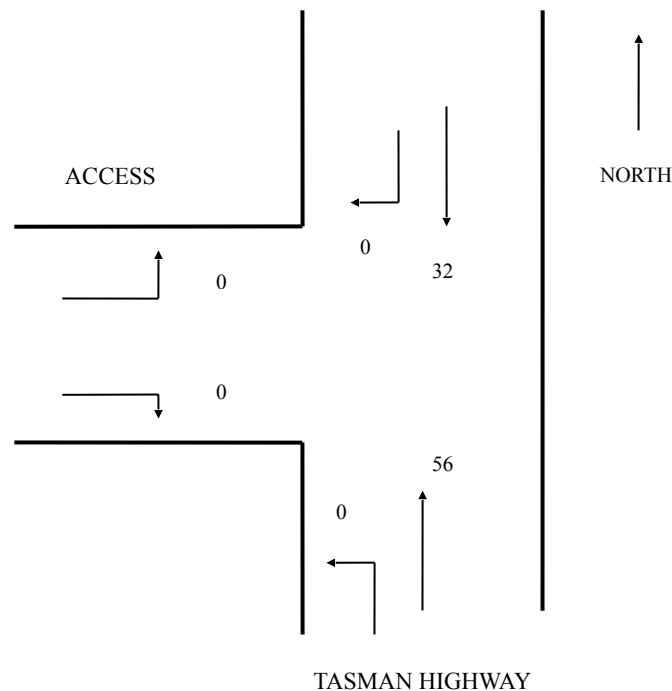


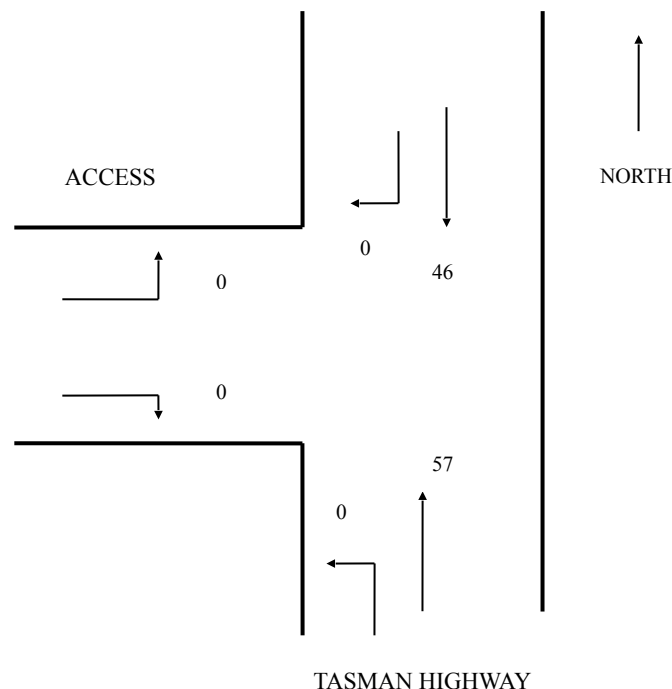
Figure 4.4: Seasonal Traffic Variation on Tasman Highway

In order to substantiate the current traffic volume for the Tasman Highway past the development site, a manual traffic volume survey was undertaken on the Tasman Highway at the development site during the 11:00am to 12:00noon and 1:00pm to 2:00pm periods on Wednesday 26 June 2019. The survey data has been presented in Figures 4.5 and 4.6.

Allowing for the seasonal traffic variation and annual traffic growth, a comparison of the DSG traffic volume data with the manual traffic volume survey data during the 11:00am to 12:00noon peak hour period, the traffic volume on the Tasman Highway passing development site have been determined to be around 80% that at the DSG traffic survey site in Swansea.



**Figure 4.5: Passing traffic at Tasman Highway/development site access road
11:00am to 12:00noon**



**Figure 4.6: Passing traffic at Tasman Highway/development site access road
1:00pm to 2:00pm**

3. Crash Record

All crashes that result in personal injury are required to be reported to Tasmania Police. Tasmania Police record all crashes that they attend. Any crashes that result in property damage only which are reported to Tasmania Police are also recorded even though they may not visit the site.

Details of reported crashes are collated and recorded on a computerised database that is maintained by the Department of State Growth.

Information was requested from the Department of State Growth about any reported crashes along Tasman Highway between the Addison Street junction and a point 4.0km to the south of Addison Street (to around 2.3km to the south of the proposed new access to the development site to just south of Cressy Beach).

There have been five reported crashes reported along this section of Tasman Highway over the past five and a half years since January 2014.

All have been single vehicle loss of control crashes. The crashes occurred in 2014 (two crashes), 2016 and 2018 (two crashes).

One of the crashes occurred at the Addison Street junction (in 2014) and the other four crashes occurred to the south of the Cressy Beach access with two crashes having occurred at the same location in 2018.

The 2014 and 2016 crashes resulted in minor injury while the two most recent crashes were property damage only incidents.

5. TRAFFIC GENERATION BY THE DEVELOPMENT

As outlined in Section 3 of this report, the proposed development will include 140 independent living units and 75 nursing home suites, plus 12 units for staff as well as a large range of facilities for various resident activities.

In considering the traffic activity that each retirement unit will generate when occupied, guidance is normally sought from the New South Wales, Road Traffic Authority document – Guide to Traffic Generating Developments. The RTA guide is a nationally well accepted document that provides advice on trip generation rates and vehicle parking requirements for new developments.

The updated Roads and Maritime Services (RMS) ‘Technical Direction’ to the Guide dated August 2013 advises that the trip generation on weekdays for ‘housing for seniors’ is 2.1 trips/dwelling/day with 0.4 trips/dwelling during the weekday peak hour. For these types of developments, the morning peak hour for the development does not generally coincide with the road network peak hour.

This trip generation rate is much the same as found through surveys undertaken by this consultant at a number of such developments in Tasmania.

As example, surveys that were undertaken at a retirement village in the Glenorchy Municipality a few years ago found the traffic activity to be as shown in Table 5.1.

TIME OF DAY	170 UNITS RETIREMENT VILLAGE	GENERATION RATE TRIPS/UNIT/HOUR
8.00-9.00AM	31	0.18
11AM-12.00 NOON	34	0.20
2.00-3.00PM	40	0.24
4.30-5.30PM	39	0.23

Table 5.1: Survey of trip generation rate for retirement village

These survey figures indicate that the hourly trip generation rates are around 0.18 to 0.24 trips per dwelling unit per hour with the average being 0.21 trips/unit/hour. Based on this being 10% of the average trips occurring over the day, it is the same level as indicated in the above RMS document at 2.1 trips/unit/day.

A turning traffic volume survey found the current 98 retirement units and 90 aged care beds in the Fairway Rise Lifestyle Village in Gordons Hill Road, Rosny Park generated 60 vehicles/hour in the afternoon peak hour or an average of 0.32 trips/unit or bed/hour.

Survey for an aged care centre in Glenorchy found the traffic generation to be as shown in Table 5.2.

TIME OF DAY	90 BED AGED CARE CENTRE VEHICLES/HOUR	GENERATION RATE TRIPS/BED/HOUR
8.00-9.00AM	9	0.10
11AM-12.00 NOON	32	0.35
2.00-3.00PM	18	0.20
4.30-5.30PM	15	0.17

Table 5.2: Trip generation rates for aged care facility

The figures in Table 5.2 indicate that the hourly trip generation rates are 0.10 to 0.35 trips per bed with the higher figure coinciding with staff shift changes and the main period for visitors. The average trip generation for the four hour period is 0.2 trips/bed/hour and if this is representative of 10% of the daily traffic then the daily trip generation rate is 2.0 trips/bed/day.

Survey findings for another aged care facility in Old Beach found a trip generation rate of around 0.40 trips/bed/hour during the 3:00pm afternoon staff changeover. For the 7:00am morning shift change, a trip generation rate of 0.26 trips/bed/hour was found between 6:30am and 7:30am; while during the afternoon normal traffic peak hour (4:30pm to 5:30pm) the trip generation rate by the facility was found to be 0.10 trips/bed/hour.

Based on this and with due regard to the above survey findings for facilities in the greater Hobart area as well as the RMS data, a trip generation rate of 0.4 vehicles/unit/hour would be applicable for both the aged care and retirement units.

On this basis, the 130 independent living units and 75 nursing home suites would therefore be expected to generate up to 82 vehicles/hour during peak times for the development.

The proposed development site is located in a rural area, nearly four kilometres from the centre of Swansea. The aged care facility is expected to have the same traffic generation rate as that for such a facility within a built up area with the peak traffic movement being mainly due to staff traffic.

The traffic generation by retirement units is expected to be significantly less (say half the urban rate) due to the site location away from immediate external facilities as well as range

of activities that will be provided on the site and the design environment of the development to not require regular visits away from the village.

If the traffic generation by the two types of residential accommodations were to coincide, the peak hour traffic would then be up to 56 vehicles/hour, but otherwise more likely around 40 vehicles/hour.

It is understood the village management intend to hold periodic community events at the village which will attract external visitors, mainly from the Swansea area. It is estimated the more regular events will generate some 10-20 vehicles/hour while the one or two exceptionally large events each year could see up to 40 vehicles/hour entering or leaving the village site.

6. TRAFFIC ASSESSMENT AND IMPACT

The main issues to be considered with respect to the proposed development is safety of motorists turning to and from the Tasman Highway when entering and exiting the retirement village as well as adequate access circulation and parking provisions within the site.

This section addresses the need for traffic management measures on the Tasman Highway and adequacy of sight distances along the highway at the access road to the development site as well as the internal layout, traffic circulation and parking arrangements within the development site.

6.1 Location of Proposed New Access Road to Development Site from the Tasman Highway

Consideration has been given to the possibility of locating the access road to the development at the Mount Pleasant Road junction.

As indicated earlier in the report, while the access road has been named, it is effectively a private road to a farming property with only around a 40m length open for public use.

The former access road to Piermont development was located directly opposite the Mount Pleasant Road junction.

The Tasman Highway has a more curved alignment in this area than at the location of the proposed access road to the development site and it is the reason for the access road to the Piermont development being moved southwards where the sight lines are better.

A view of the Mount Pleasant Road junction with the Tasman Highway is seen in Photograph 6.1.

Measurement of the available sight lines along Tasman Highway to the north and south of the Mount Pleasant Road junction from a point 3m back from the edge of highway seal has found that the distances are around 235m to the north but only around 105m to the south for vehicles waiting to enter the Tasman Highway.

The sight distances for right turning traffic into Mount Pleasant Road are around 150m to/ from the south and around 21m to the north.

The available sight lines are seen in Photographs 6.2 to 6.4.

A survey was undertaken of the speed of vehicles on the Tasman Highway approaching Mount Pleasant Road from each direction over a one and a half hour period during the late morning on 26 June 2019. This survey found that the 85th percentile vehicle speed is 94km/h for northbound traffic and 98km/h for southbound traffic. The speeds were measured to an accuracy of 3.5 km/h and confidence level of 98%.

Austroads Guide to Road Design Part 4A indicates that the required sight distances for these vehicle speeds along Tasman Highway, are around 228m to the south and 242m to the north.

There would be a need for some clearing of vegetation on the eastern side of the highway to the north of this location to achieve the required sight distances. However, as can be appreciated from the views in the photographs, to achieve the requirement sight distances to the south, will require not only major clearing of vegetation along the highway reserve but also significant sight benching works

Having regard to these findings and with due consideration to the geometric characteristics of the road, the proposed location for the access road further to the south is a better site.



Photograph 6.1: View of Mount Pleasant Road from Tasman Highway with dwelling access to right just before gated property driveway



Photograph 6.2: View to south along Tasman Highway from Mount Pleasant Road (3m back from seal)



Photograph 6.3: View to south along Tasman Highway from vehicle turning right into Mount Pleasant Road



Photograph 6.4: View to north along Tasman Highway from rear of vehicle turning right into Mount Pleasant Road

6.2 Operational Impact of Turning Traffic Activity at Proposed Development Site

Based on the analysis described in Section 5 of this report, it is expected that the proposed 130 independent living units and 75 nursing home suites will generate some 40-56 vehicles/hour at peak times for the development.

As indicated earlier in the report, Swansea is some four kilometres to the north of the site while the nearest town to the south is Triabunna which is over 40 kilometres away.

It is therefore expected nearly all vehicle movements (say 90%) will be to and from the north. The busiest hour of the day for traffic movement to and from the development will be between around mid-morning and mid-afternoon. For the purpose of the assessment of the future traffic conflict at the access road junction with the Tasman Highway, it will be assumed that on a weekday this occurs during the peak hour for the highway traffic at 11:00am - 12:00noon.

On this basis, the expected turning and through traffic volumes on the Tasman Highway at the development site access road in January 2030 is expected to be as seen in Figure 6.1.

The highway traffic volumes are from the DSG survey site, reduced by 20% (for reasons indicated in section 4.2 of the report) and increased by 80% to allow for the annual traffic growth of 2.8% p.a. and seasonal traffic different between November (month of DSG survey) and the January which is the highest trafficked month of the year.

In regard to traffic movement to and from the development site, a 60/40 split in the traffic has been assumed for this time of day.

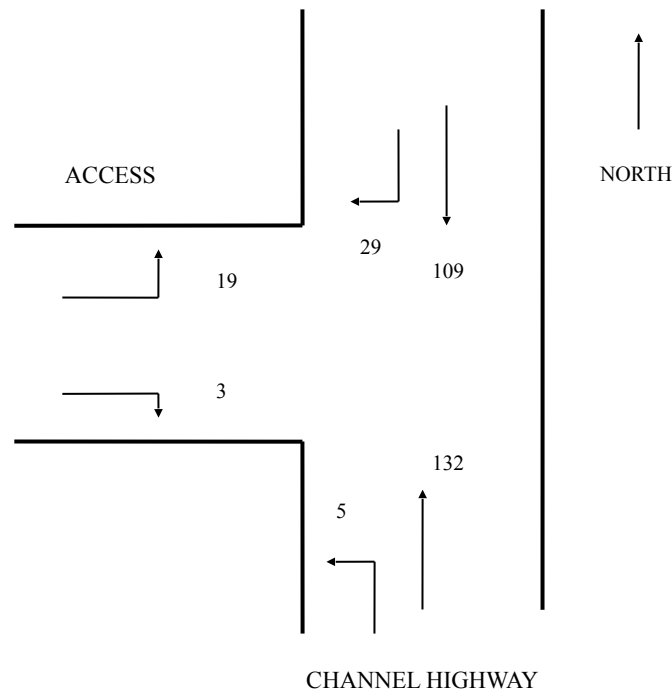


Figure 6.1: Expected turning traffic at Tasman Highway/development site access road at 11:00am to 12:00noon in January 2030

The resultant level of traffic conflict at the junction of the access road with the Tasman Highway during the middle part of the day will be around 330 vehicles/hour.

Intersections and junctions reach capacity when the total conflicting approach traffic volumes are around 1,500 vehicles/hour. The traffic conflict in this case will be less than 25% of this maximum volume. The traffic will therefore operate at a Level of Service A with low degree of saturation and there will be minimal queueing or traffic delay.

Therefore, no operational or capacity issues will arise on the Tasman Highway as a result of this development.

From the data in Section 4.2 of this report, Figures 4.2 and 4.3 indicate that the peak hour traffic on a Saturday and Sunday is respectively, some 27% and 62% higher than for a weekday.

If the development site generates the same traffic volume at these peak hours on the weekend, the conflicting traffic volumes will be around 380 vehicles/hour and 470 vehicles/hour, still only around 25% and 30% of the junction capacity.

6.3 Tasman Highway/Access Road Junction Layout

With the vehicle volume that the proposed retirement village development is expected to generate, there is a need to determine the form of junction treatment required on Tasman Highway at access road and the need for any passing or auxiliary lanes.

As indicated above, the peak hour traffic activity at the Tasman Highway/access road junction at the peak time on a weekday is expected to be as seen in Figure 6.1.

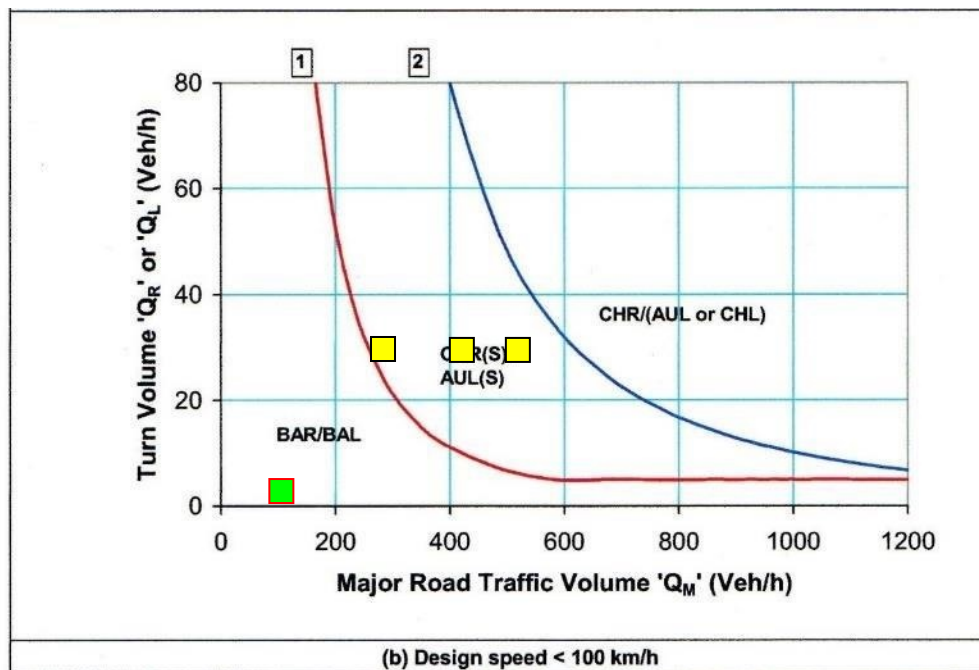
In order to determine what junction treatment is required with the expected future level of traffic activity, consideration is normally given to the advice given in the Austroads Guide to Road Design – Part 4A: Unsignalised and Signalised Intersections. Reference is made to Figure 6.2 below which is an extract from the guide that gives advice on the turn lane requirements at sign-controlled road intersections and junctions.

Applying the expected future traffic volumes at the intersection to the graphs in Figure 6.1, it can be seen that the need to provide a channelised right turn (CHR) treatment. The three yellow squared represent the weekday, Saturday and Sunday traffic volumes, again assuming the traffic generation is the same on weekdays and weekends.

While Figure 6.2 indicates the shorter (CHR(S)) treatment is sufficient, it is recommended a full CHR right turn treatment be installed given the main users of the proposed development as well as to cover the few hours each year when there may be even higher turning volumes on event days.

While there is not a need for any special measures for the left turn movement into access road, it is further recommended that the southwest corner of the junction be constructed with a short taper on the highway.

The access road into the development site will be sealed as discussed later in this report.



■ LEFT TURN MOVEMENT
 ■ RIGHT TURN MOVEMENT

Figure 6.2: Warrant for turn treatments at sign-controlled junctions

4. Sight Distances along Tasman Highway at Access Road Junction

Measurement of the available sight lines along Tasman Highway to the north and south of the access road junction from a point 3m back from the edge of highway seal has found that the distances are at present around 272m to the south and around 76m to the north for vehicles waiting to enter the Tasman Highway.

The sight distances for right turning traffic into the access road are around 272m to/from the south and over 225m to the north.

The available sight lines are seen in Photographs 6.6 to 6.8.

A survey was undertaken of the speed of vehicles on the Tasman Highway approaching the access road from each direction over a one and a half hour period during the early afternoon on 26 June 2019.

This survey found that the 85th percentile vehicle speed is 92km/h for northbound traffic and 94km/h for southbound traffic. The speeds were measured to an accuracy of 3.5 km/h and confidence level of 98%.

Austrroads Guide to Road Design Part 4A indicates that the required sight distances for these vehicle speeds along Tasman Highway, are around 228m to the south and 222m to the north.

Therefore, the required sight distances within the road reserve are sufficient for the speed environment (with the minor tree branch removal).



Photograph 6.6: View to south along Tasman Highway from proposed access road



Photograph 6.7: View to north along Tasman Highway from proposed access road



Photograph 6.8: View south along the Highway from vehicle turning right into the access road



Photograph 6.6: View to north along Tasman Highway from proposed access road



Photograph 6.7: View to south along Tasman Highway from vehicle turning right into the access road



Photograph 6.8: View to north along Tasman Highway from rear of vehicle turning right into the access road

6.5 Internal Traffic Access, Circulation and Parking

Consideration has been given to the layout of the proposed access roads as well as on-site access, circulation and parking arrangement within the development site.

The internal road network will consist of:

- a main access road from the Tasman Highway to the central communities building which will be a divided two lane two-way road (3m wide lanes);
- a two lane two-way road (6m width) off the main access road to the southwestern part of the site which will need to be accessed by service vehicles; and
- a series of circulation roads throughout the site providing access to the accommodation units, these roads will be 3m wide but with frequent passing areas at the double driveways to the parking area at each pair of units.

The traffic volume which the development will generate will disperse across the circulation roads, to and from the main access road, such that the circulation roads will carry very low traffic volumes. The proposed design parameters of the above internal roads are quite sufficient for traffic that the site will use these roads (maximum traffic generation of 60 vehicles/hour across say 10 circulation roads, carrying around an average 6 vehicles/hour).

The two lane two-way roads will be sealed, the other circulation roads will have a cobble stone type finish.

Parking Requirements

The current planning scheme requires one parking space for each retirement dwelling and one visitor parking space for every 4 dwellings in a retirement village. The required total parking for the 140 retirement dwellings and the 12 staff accommodation units is 152 resident parking spaces and 35 visitor car parking spaces. Given the location of the development, the number of visitors to the residents will be far less than such a development in a metropolitan location.

Residential aged care facility or respite centre 3 car parking spaces for every 10 licensed beds and 1 space for emergency services. The required total parking for the 75 aged care placements is 23 car parking spaces.

Each retirement dwelling will have one garage parking space. In addition, there will be at least another 150 car parking spaces across the site plus additional parking spaces for larger vehicles or car-trailer combination vehicles.

This number of car parking spaces is more than sufficient to meet planning scheme requirements and will provide additional parking for the influx of visitors on special event days.

Design Parking Area

All the resident, visitor and staff car parking spaces on the site are to be compliant with AS 2890.1. The specific dimensions that need compliance are as follows:

- All standard parking spaces at 5.4m long and 2.4m wide in accordance with User Class 1A for residential and visitor parking (as detailed in Figure 2.2 of AS 2890.1 for 90 or 45 deg parking);
- At least a 300mm clearance to the side walls or raised kerbs for door opening and manoeuvring (as detailed in Figures 2.3 and 5.2 of AS 2890.1);
- The width of the parking aisle at least 5.8m or 3.9m, respectively (as detailed in Figure 2.2 of AS 2890.1 for Class 1A 90-degree or 45- degree parking);
- A 1.0m extension to the end of any dead-end parking aisle for cars to reverse out of end spaces (as detailed in Figures 2.3 and 5.2 of AS 2890.1);
- Because all dimensions of the parking bays and parking aisle meet the manoeuvring dimensions of Figure 2.2 of AS 2890.1, there is not a need to demonstrate the turn paths all work;
- No height clearance issues (minimum clearance not less than 2.2m in all trafficable parts of the parking area);
- The grade in all parking areas will be not more than 5%, as detailed in Clause 2.4.6.1 of AS 2890.1,
- The grade of the driveways varying up to a maximum of 20%;
- Disabled car parking at 5.5m long and 2.4m wide with an adjacent shared area with the same dimensions and marked as detailed in AS 2890.6;
- Garages with a door opening of 2.7m and the apron width at least 6.3m (as detailed in Figure 5.4 of AS 2890.1).

The design of the proposed internal car parking spaces and parking areas will meet the requirements of AS2890 Part 1 and Part 6.

Lighting of driveway

The access roads and car park areas will have lighting; it does not need to meet the high level of lighting required by AS 1185 as indicated in Clause E6.7.7.

This standard applies to public places, whereas this is a private development. Therefore, Building Code of Australia requirements are applicable in this case.

Pedestrian Facilities

The design of the development site will provide a network of pedestrian footways and pedestrian links across the whole site. There will be pedestrian pathways each side of the main access road away from the road, alongside the circulation roads and as well as footpaths intersecting with the circulation roads plus walking tracks around the site. The whole site will be well serviced by pathways to meet all needs by pedestrians.

7. SUMMARY AND RECOMMENDATIONS

The owners of the property on part of the Kelvedon Estate property along the Tasman Highway, south of Swansea are proposing to develop the Tempus lifestyle retirement and healthcare village on a small part of the property.

The proposed development will include 140 independent living units and 75 nursing home suites, plus 12 units for staff as well as a large range of facilities for various resident activities. A new access road will be constructed to junction on the Tasman Highway at the development site frontage to service the development site. Consideration was given to having the access via Mount Pleasant Road, but this was dismissed as being an inferior site from an operational and safety consideration.

The Tasman Highway in this area functions as a Class 4 - regional access route. The highway is sealed to a width of around 5.9m and has gravel shoulders that are 0.3m to 0.6m wide along both sides of the road.

The Average Weekday Traffic using Tasman Highway some 2.5km north of the development site in November 2016 was 1,802 vehicles/day. The annual growth in traffic has been 2.8% p.a. over the last 20 years and around 7.6% of the traffic is commercial vehicles.

The crash database shows that between the Addison Street junction and a point 4.0km to the south of Addison Street (to around 2.3km to the south of the proposed new access to the development site), there have been five reported crashes reported over the past five and a half years since January 2014.

All have been single vehicle loss of control crashes. The crashes occurred in 2014 (two crashes), 2016 and 2018 (two crashes).

One of the crashes occurred at the Addison Street junction and the other four crashes occurred to the south of the Cressy Beach access

The traffic generation by the proposed development of 140 independent living units, 75 nursing home suites and 12 units for staff is expected to be around 45 vehicles/hour and be up to 60 vehicles/hour if the peak hour traffic for each of the two types of residential accommodations were to coincide.

It is understood the village management intend to hold periodic community events at the village which will attract external visitors, mainly from the Swansea area. At these times of the year and on such days, the movement of resident vehicles from and to the site will be much lower than on normal days, so that the peak movement would not be higher than the above 60 vehicles/hour.

In considering the required traffic management at the junction of the new access road, it is recommended the junction management include:

- a full CHR right turn treatment on the highway
- a short diverge taper on the highway at the southwest corner of the junction;
- the inclusion of pedestrian pathways to link the bus lay-bys to the pedestrian refuge and the footpath into the retirement village; and
- the lighting of the Tasman Highway junction.

Speed surveys and sight distance measurements have determined that all available sight distances will be quite sufficient for the speed environment with the minor tree branch removal on the highway to the south of the location of the access road.

The proposed internal network of access roads with some two lane two-way road and one lane circulation roads but with frequent passing areas throughout the site will provide sufficient access to the accommodation units and all other facilities.

The two lane two-way roads will be sealed, the other circulation roads will have a cobble stone type finish.

This number of car parking spaces is more than sufficient to meet planning scheme requirements and will provide additional parking for the influx of visitors on special event days.

The design of the proposed internal car parking spaces and parking areas will meet the requirements of AS2890 Part 1 and Part 6.

The access roads and car park areas will have lighting in accordance with the requirements of the Building Code of Australia.

The whole site will be well serviced by pathways to meet all needs by pedestrians.

Attachment A: - Drawings of proposed development site layout

- Drawings of proposed layout and management of new access road junction with Tasman Highway

Site Plan (All Stages) vQ

2 November 2020
1:1000 @ A1 12,000 @ A3

Accommodation Schedule

Independent Living Units	24
Type A	72
Type B	20
Type C	14
Type D	10
Type E	10
Total	140

Nursing Home

Assisted Living Units	30
Dementia Suites	12
High Care Suites	52
Nursing Home Suites	74
Staff Units	12

Key

- A The Enclave Communal Facilities
- Shop/Café/Bar
 - Medical Consulting Rooms
 - 81 Seat Theatre
 - 200 Seat Function Hall
 - Gymnasium & 20m Lap Pool
 - Conservatory & Library
- B Aged Care Facility
- C Stables & Indoor Arena
- D Detention Ponds
- E Workshops & Studios
- F Medivac Helipad
- G Horse Paddock
- H Caravan & Boat Parking
- J Lookout & Observatory
- K Utility Shed Housing Sewer
- L Fire Pit & BBQ Area
- M Bowling Green & Croquet Lawn
- N Staff Units
- P Greenhouse
- Q Emergency Fire Access Gates
- R Underground LPG Tank

