

# TRAFFIC IMPACT ASSESSMENT

PROPOSED
HOTEL VERGE
DEVELOPMENT

69-71 CIMITIERE STREET LAUNCESTON

DECEMBER 2017

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# TRAFFIC IMPACT ASSESSMENT

**PROPOSED** HOTEL VERGE **DEVELOPMENT** 

# 69-71 CIMITIERE STREET LAUNCESTON

DECEMBER 2017

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# **CONTENTS**

		Page N	Number
1.	INTRO	DUCTION	3
2.	DEVELOPMENT SITE		4
3.	DEVELOPMENT PROPOSAL		5
4.	EXISTING ROAD AND TRAFFIC ENVIRONMENT		7
	4.1	Road Characteristics	7
	4.1	Traffic Activity	7
	4.2	Crash Record	10
5.	TRAFF	FIC GENERATION BY THE DEVELOPMENT	11
6.	TRAFFIC ASSESSMENT AND IMPACT		12
	6.1	Impact of Traffic Activity Generated by Development	12
	6.2	Traffic Management along Tamar Street and Cimitiere Street in Area of Development Site	12
	6.3	Sight Distance Considerations	13
	6.4	Internal Traffic Arrangements	16
7.	SUMMARY AND RECOMMENDATIONS		21
8.	REFERENCES		22

#### ATTACHMENTS:

Attachment A – Drawings of proposed Hotel Verge site layout

#### 1. INTRODUCTION

A hotel development is proposed at 69-71 Cimitiere Street in Launceston. The site will have frontage to Tamar Street and Cimitiere Street.

This Traffic Impact Assessment (TIA) report has been prepared to assist the Launceston City Council in the assessment of the development application.

The report describes the current road and traffic conditions in the area around the development site. An assessment is made of the traffic that the proposed hotel development will generate and the effect of this traffic on Tamar Street and Cimitiere Street adjacent to the development site.

Consideration is also given to the proposed access driveways, internal circulation, parking supply and parking arrangements for the hotel development.

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. DEVELOPMENT SITE

The proposed hotel site is located at 69-71 Cimitiere Street near the south-western corner of the intersection of Tamar Street and Cimitiere Street.

The site is located in the urban mixed-use zone with land use activity in the area is varied. There is a hotel in Cimitiere Street opposite the development site, City Park is located opposite the development site in Tamar Street, there is a car park adjacent to the site and small retail and food businesses nearby.

The location of the hotel site is highlighted on the extract from the street atlas for this area seen in Figure 2.1.

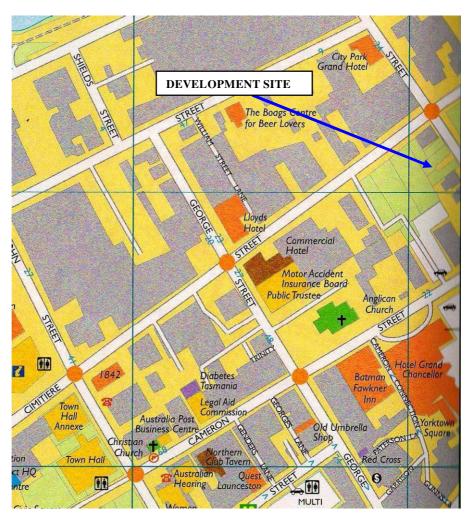


Figure 2.1: Extract from street atlas showing location of proposed hotel site

#### 3. DEVELOPMENT PROPOSAL

The development site for the proposed hotel is currently used as a car parking area.

The proposed hotel building will have five floor levels and will include the following:

- have 86 guest rooms;
- an 80-seat café on the ground floor;
- reception area on the ground floor;
- a conference area with seating for 100 people and board room for 10 people on the first floor; and
- a small (38.25m<sup>2</sup>) tenancy off Cimitiere Street.

Access to the hotel reception will be via a one-way driveway off Tamar Street which will lead to the hotel car surface parking area and a one-way exit driveway to Cimitiere Street from the hotel car parking area.

The car parking area will accommodate 35 cars, including one disabled parking space and four spaces in the entry driveway, outside reception for taxis/guest check-in. There will also be two motorcycle parking spaces, small delivery vehicle bay and bicycle parking.

Drawings detailing the proposed hotel site layout are included with this report as Attachment A.

Views of the development site frontage along Tamar Street and Cimitiere Street are seen in Photographs 3.1 and 3.2.





Photograph 3.1: View of development site from Tamar Street (section with trees)



Photograph 3.2: View of development site from Cimitiere Street (area on right beyond power pole)

#### 4. EXISTING ROAD AND TRAFFIC ENVIRONMENT

#### 4.1 Road Characteristics

Both Tamar Street and Cimitiere Street are relevant to the proposed development.

Tamar Street passes the eastern boundary of the development site. It is a major north-south circulation street for Launceston. It continues northward over North Esk River to become Invermay Road, which is a major collector road for the northern suburbs.

Adjacent to the development site it has a width of 12.9m between kerb faces. In this area, there are two southbound traffic lanes and one northbound lane with meter parking along the western side of the road.

Cimitiere Street passes the northern boundary of the development site. It is a major east-west circulation street for Launceston and provides a connection between the eastern suburbs and the main north-south arterial road for Launceston which is around 750m to the west of the development site.

Adjacent to the development site it has a width of 13.1m between kerb faces. In this area, there is one traffic lane in each direction with meter parking along both sides of the road.

Both roads have a straight alignment on a relatively flat grade.

The intersection of Tamar Street and Cimitiere Street is controlled by traffic signals with the standard two traffic lanes on each approach with no arrow markings in any lane.

The speed limit through this area is 50km/h.

## **4.2** Traffic Activity

The Department of State Growth was approached to provide lane traffic volumes at the Tamar Street and Cimitiere Street intersection which was recorded by the vehicle loop detectors in each lane.

The purpose of this was to gain knowledge of the peak traffic period of the day for traffic in this area.

The quarter hourly traffic volumes for Thursday 9 March 2017 were summarised into total hourly volumes for all the approach lanes. The results have been presented in Figure 4.1.



It can be seen the peak hour periods on that day were 8:00am-9:00am and 3:00pm-4:00pm.

However, a closer analysis of the peak hour based on the quarter hour volumes found the peak hour periods occurred at 8:15am-9:15am and 4:30pm-5:30pm.

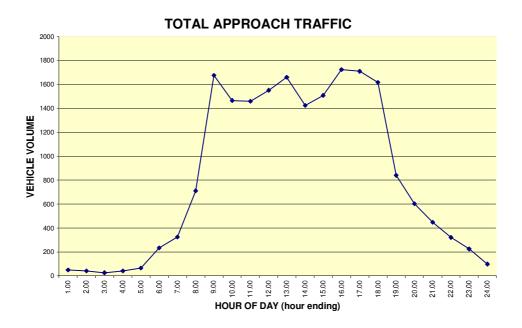


Figure 4.1: Total hourly traffic volumes approaching Cimitiere Street and Tamar Street intersection

In order to also have knowledge of the traffic volume on Tamar Street and Cimitiere Street past the development site, peak hour traffic volume surveys were undertaken along each street on Thursday 18 May 2017 at 4:30pm-5:30pm and Friday 19 May 2017 at 8:15am-9:15am.

The results from the survey have been summarised in Figures 4.2 and 4.3. They show the passing two-way traffic volumes on Tamar Street and Cimitiere Street are approaching 800 vehicles/hour during the morning peak hour and 850-870 vehicles/hour during the afternoon peak hour.

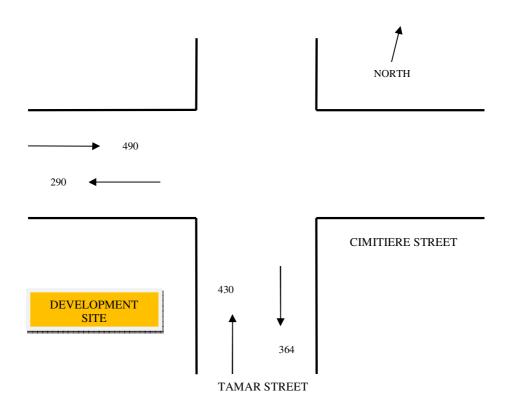


Figure 4.2: Passing traffic volumes along Tamar Street and Cimitiere Street past hotel driveways – 8:15am to 9:15am

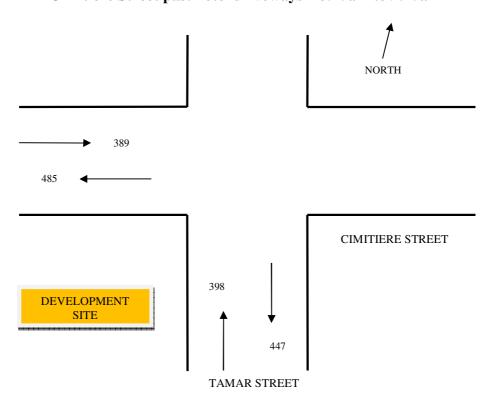


Figure 4.3: Passing traffic volumes along Tamar Street and Cimitiere Street past hotel driveways – 4:30pm to 5:30pm

#### 4.3 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 DSG.

Information was requested from DSG about any reported crashes along Tamar Street between Cameron Street and Cimitiere Street as well as along Cimitiere Street between Tamar Street and George Street, over the last five and half years since January 2012.

#### **Tamar Street**

The DSG database has record of five crashes along the section of Tamar Street between Cameron Street and Cimitiere Street not including the intersections at each end. Four of the crashes occurred in the last two years.

The crashes have involved two parking incidents, two rear end collisions and one crash where a vehicle was emerging from a driveway. The driveway crash occurred 2012 and resulted in minor injury; the other four crashes resulted in property damage.

#### Cimitiere Street

There have been six crashes along the section of Cimitiere Street between Tamar Street and George Street not including the intersections at each end. The crashes occurred over the three-year period between mid-2013 and mid-2016.

The crashes have involved three parking incidents, one loss of control crash, one involving a collision with a pedestrian (which occurred at 8:00pm on a Saturday night) and one crash where a vehicle was emerging from a driveway. The pedestrian collision resulted in serious injury; the other five crashes resulted in property damage.

#### Tamar Street/Cimitiere Street intersection

The crash database has record of 20 reported crashes at this intersection over the above period. These have included eight injury collisions and all but four of the crashes have been angle collisions.

There is no clear pattern with the crashes regards the time of day or day of week. The concerning factor with the crashes is that 10 of the collisions (half of the reported crashes) involved a vehicle driving through a red light.



#### 5. TRAFFIC GENERATION BY THE DEVELOPMENT

As described in Section 3 of this report, the proposed development for the site is an 86-room hotel, an 80-seat café, a 100-seat conference room and a 10-seat boardroom.

As is outlined in Section 6 of this report, the site is exempt from the provision of car parking on the site. However, as the site is currently used for car parking, it is proposed that part of the site be retained for this use to reduce the demand for car parking elsewhere within the Launceston CBD.

The car park will be for use by longer term parking by guests in the hotel suites and a few staff.

With 86 rooms and 35 car parking spaces, there will not be a car parking space for every room. However, it is not expected all guests will have a car, given the location of the hotel in the Launceston CBD. Some will use other forms of transport to and from the site while staying at the hotel or use other parking facilities.

If, at peak times, 28 car parking spaces (80% of spaces) are used by suite guests and the vehicle turnover is the same as indicated in the New South Wales - Road and Maritime Services (formally RTA) Guidelines for motels: -

a daily rate of 3 vehicle movements per parking space (rather than per room) and peak hour trips being 0.4 vehicles per space;

the traffic generation can be expected to be:

- 84 vehicles/day; and
- 12 vehicles/hour during peak hours, mostly around the 9:00-10:00am during the main morning departure period and around the 3:00-4:00pm during the main afternoon arrival period.

The hotel (located in the Launceston CBD) will be within walking distance for any conference attendees working in the city. It is likely that many other conference delegates would be staying at the hotel and have access to the onsite parking. Others would be able to use the city parking stations that are within walking distance of the hotel. The set down and pick up area in the Tamar Street driveway will be used by some travelling by taxi.

The hotel activity could generate a further 10 vehicles/hour with taxis, commercial traffic and staff.

On days when the conference area and meeting room has a very high attendance, the total peak hour traffic generation by the hotel would be up to some 30 vehicles/hour.



#### 6. TRAFFIC ASSESSMENT AND IMPACT

This section of the report assesses the impact that the traffic expected to be generated by the proposed development of the hotel site will have on Tamar Street and Cimitiere Street. Consideration is also given to the access driveway arrangements, the adequacy of sight distances and internal traffic circulation, parking supply and parking arrangements.

# 6.1 Impact of Traffic Activity Generated by Development

The proposed hotel is expected to generate up to around 20 vehicles/hour on other days during the highest peak traffic periods for the site and peak tourist season periods and around 30 vehicle/hour on some days when the conference facilities are fully used.

These traffic volumes are two-way vehicle movements to and from the site and they would occur mostly just outside the peak hour traffic period for the adjacent streets.

With the Tamar Street access driveway being one -way into the site and the Cimitiere Street access being one-way out of the site. On this basis, left and right turn movement to or from the site will not be greater than 10 vehicles/hour.

The passing two-way traffic volumes on Tamar Street and Cimitiere Street are up to 850 vehicles/hour; around half this for each direction of travel along each street.

It is clear the additional traffic to and from the hotel, allowing for future growth in the passing traffic volumes, will not create any operational issues. Traffic volumes of up to 1,500 vehicles/hour can generally be accommodated at intersections (as well as driveways) between conflicting traffic streams.

The traffic conflict at the access driveways during peak traffic periods in 10 years' time will still be around two thirds of this maximum traffic volume if the passing traffic volumes increase by 2% p.a.

Therefore, the turning traffic movements at the access driveways will operate at Level of Service B to C with acceptable delay and queueing.

# 6.2 Traffic Management along Tamar Street and Cimitiere Street in Area of Development Site

The volume of vehicles that will be using and turning at the proposed driveways to the hotel site will be quite low, so that there will not be a requirement for any traffic management improvements.



There is not a need to limit or restrict vehicle turn movements at either driveway.

The construction of the new driveways on both Tamar Street and Cimitiere Street with gutter cross overs will require removal and repositioning of metered parking spaces.

This is a matter that the council will need to address.

#### **6.3** Sight Distance Considerations

Consideration has been given to the available sight distances along Tamar Street and Cimitiere Street at the proposed access driveways.

Current views along Tamar Street to and from a vehicle waiting to enter the site and along Cimitiere Street to and from vehicles leaving the proposed access driveway are seen in Photographs 6.1 to 6.4.

Measurements have determined the currently available sight distances to and from both access driveways are over 100m, due to the straight alignment of both roads. This sight distance is more than sufficient to meet the interim planning scheme requirements for public road intersections.

The speed limit along Cimitiere Street and along Tamar Street is 50km/h. The 85<sup>th</sup> percentile speed of traffic would be less than this, at 40-45km/h.

The required sight distance for an 85<sup>th</sup> percentile speed of 50km/h is 80m, based on Code E4 of the planning scheme.

However, sight distances at private access driveways need to meet the sight distance requirements as set out in AS 2890.1 (which is referred to in the planning scheme and applied regularly in other jurisdictions in Tasmania) which are less than that required for public road intersections.

For the proposed access driveways and an approach speed of 45km/h, the desirable sight distance is around 62m.

In all cases the sight distances will be more than sufficient.





Photograph 6.1: View to south along Tamar Street from location of vehicle entering site access driveway



Photograph 6.2: View to north along Tamar Street from rear of vehicle entering site access driveway



Photograph 6.3: View to east along Cimitiere Street from vehicle at access driveway



Photograph 6.4: View to west along Cimitiere Street from vehicle at access driveway

#### **6.4** Internal Traffic Arrangements

The proposed layout of the internal traffic and parking arrangements, which will service the hotel, are shown on the site layout drawings in Attachment A.

The layout has been designed with due regard for the requirement of AS 2890 and the Launceston Interim Planning Scheme.

Relevant design elements of the proposed site layout related to traffic are discussed below.

### Access driveway

The two access driveways to the hotel will include a 3.0m wide one-way driveway off Tamar Street and a 3.0m wide one-way driveway to Cimitiere Street.

The driveway off Tamar Street beside and beyond the drop off area will have a width of 3.2m. Elsewhere the circulation road will be the parking aisle within the parking area, which will have a width of at least 5.8m.

This is quite sufficient to accommodate the two-way traffic movement to and through the car park.

The design provides for the movement of all vehicles in a forward direction to and from the site as well as each parking space within the site and will be more than sufficient for the two-way traffic movement.

#### Car parking supply

The development site is located within the Launceston Central Business District Parking Exemption Area. Clause E6.7 requires that either onsite car parking is not provided or not increased above existing car parking numbers as the permitted standard.

The proposed development will rely on the discretion that car parking numbers not exceed the existing number or the requirements of Table 6.1.

There are over 80 car parking spaces on the site currently and the development of the site will reduce the number of car parking spaces to 35.

The proposed parking supply is intended to meet the planning scheme requirements for the hotel accommodation, the café as well as meet the planning scheme parking requirements for other transport modes. The parking demand by those attending conferences or meetings in the board room and staying at the hotel will be included in the visitor accommodation parking considerations, given they are ancillary uses.

In this regard, the Launceston Interim Planning Scheme requires the parking as outlined below and this is compared with the proposed parking supply on the development site.



#### <u>Visitor Accommodation</u>

Based on the Planning Scheme requiring 1 car space per 4 beds for visitor accommodation and with one bed in each room of the 86 rooms, the parking requirement for this part of the development 22 car parking spaces.

#### Cafe

The Planning Scheme requires 1 car space per 15m<sup>2</sup> of café/restaurant floor area.

Total floor area of the café will be 172.75m<sup>2</sup> with 80 seats. The parking requirement is 12 car spaces.

The café will service both hotel accommodation guests as well as external customers. Cafés located within hotels are mostly patronised by hotel accommodation guests, possibly up to two thirds of café customers.

If 35% of café customers are not staying in the hotel, the parking supply will be (40% x 12) 5 parking spaces. The other 65% will be customers staying in the hotel and their parking demand has been included in the above visitor accommodation parking considerations.

However, having regard for more recent council interim planning schemes and documents such as the RTA Guide, the parking demand for restaurants and cafés is more accurately determine on the number of seat i.e. one parking space per three seats. This translates to a requirement for 10 parking spaces.

There will be three car parking spaces on the site allocated to staff,

Therefore, the car parking supply will meet the demand based on the assessment of planning scheme requirements.

#### Taxi parking

- Planning Scheme requires 1 car space per 50 car spaces after the first 50 spaces.

With 35 car spaces on the site there is no requirement for taxi parking. However, give the proposed use of the development, it is appropriate there is provision for four pick up/set down parking spaces at the entrance to the hotel. This parking facility is sufficient to meet such requirements.

#### Motorcycle parking

- Planning Scheme requires 1 car space per 20 car spaces.



With 35 car spaces on the site there is a need for 2 motorcycle parking spaces which are provided near the start of the main car parking area.

#### Disabled parking

The number of disabled parking spaces need to meet the requirements of the Building Code of Australia (BCA). The BCA requires one disabled car parking space per 100 cars for this type of use. With 35 car spaces on the site, one parking space on the site has been designated for disabled parking.

## Bicycle parking

Planning Scheme requires 1 bicycle parking space per 75m<sup>2</sup> of café floor area (food services use) and 1 space per 50m<sup>2</sup> gross floor area or 1 space per 40 seats (whichever is greater) for a 'community meeting or entertainment use'; it does not require bicycle parking for visitor accommodation.

The café with a total area of 172.75m<sup>2</sup>, requires 3 bicycle parking spaces. There will be provision for 3 bicycles to be parked near the reception area. The bicycle parking will need to be set up with the necessary level of security.

It is considered the conference and board room uses do not suitably fit the 'community meeting or entertainment use' and it would be highly unlikely to generate a bicycle parking need by attendees.

#### Car parking area design

A review of the design of the parking area, as detailed on the attached site drawings, has found that all relevant dimensions for the parking bays and manoeuvring areas as well as height clearance meet the requirements of Section 2 of AS 2890.1.

The specific dimensions that have been assessed are as follows:

- All parking bays will be 5.4m long and 2.5m wide in accordance with User Class 3 for short term parking (as detailed in Figure 2.2 of AS 2890.1 for 90-degree parking);
- There will be a 300mm side clearance to the side of end parking spaces for door opening and manoeuvring (as detailed in Figure 2.2 of AS 2890.1);
- There will be a 1.0m extension to the end of a parking aisle for reversing out of the end parking space into a 5.8m wide parking aisle (which is as detailed in Figure 2.3 of AS 2890.1);
- The width of the parking aisle will be 5.8m as detailed in Figure 2.2 of AS 2890.1 for Class 3 parking at 90-degree);



- The height clearance will be a minimum of 3.1m (2.2m height required by Clause 5.3.1 of AS 2890.1).

#### Pedestrian access

There will be a pedestrian footway beside the Tamar Street driveway leading to the reception area and the car park, passing the hotel entry point at the hotel pick up/drop off area.

There will also be a gated pedestrian access to/from Cimitiere Street beside the vehicle driveway.

#### Pedestrian sight lines at access driveway

Figure 3.3 of AS 2890.1 specifies the required sight lines (sight triangle) between vehicles on a driveway entering a public road and approaching pedestrian on the public road footpath.

There will not be any sight line issues at the Tamar Street access driveway because the driveway will carry one-way traffic with all vehicles entering from Tamar Street. The Cimitiere Street access driveway will carry one-way traffic from the site.

The proposed modifications to the Cimitiere Street fence line and the new fencing will ensure there will be sufficient visibility between motorists on the driveway exiting the site and pedestrians on the Cimitiere Street footpath approaching the driveway, as noted on the site drawing.

#### Commercial vehicles

The site will be serviced by small commercial vehicles for the delivery of goods and collection of waste etc.

A designated parking space for these vehicles in the parking aisle will allow a small rigid vehicle, as described in AS 2890.2, to access the site via the one-way traffic flow through the site (see turn path plot around corner of hotel building on site drawing).

The small rigid service vehicle parking space has been located opposite the staff parking spaces. While the vehicle is parking in this location for the short period of service, it will not prohibit passage of other vehicles or entry and exit manoeuvres for any of the parking bays, except Bays 28-29, where reverse entry into these bays will still be possible while the truck is in the loading bay. For this reason, the three parking bays have been designated or staff parking.

This arrangement is considered quite acceptable in this private car park.

The 3.1m minimum height clearance will allow small rigid vehicles to drive through the site and access to loading area. Although AS 2890.2 indicates the need for a 3.5m height clearance, this is to accommodate all the types of vehicles that would be included under this class.



However, there are also a large number of such small rigid commercial vehicles that have a height of around 2.3-2.5m that are widely use for serving, as required for this development and (Veolia) garbage trucks, used for private properties, that have a height of 2.6m. Therefore, the height clearance will not be a problem for the commercial servicing of the hotel.

# Overall site layout

The site has been assessed as providing the necessary access, traffic circulation arrangements and parking layout meet the requirements of AS 2890 and hence the planning scheme.

### On-street parking restrictions

There are parking restrictions along Tamar Street and Cimitiere Street where the access driveways to the site will be constructed.

In order to provide for the access driveways, there will be a need to:

- remove two 3P metered parking spaces in Tamar Street that are located across the proposed location of the driveway; and
- remove two 3P metered parking spaces in Cimitiere Street that are located across the proposed location of the driveway.

#### 7. SUMMARY AND RECOMMENDATIONS

A traffic assessment has been undertaken of the proposal to construct the hotel at 69-71 Cimitiere Street.

Access to the hotel reception will be via a one-way driveway off Tamar Street and the exit will be via one-way driveway to Cimitiere Street.

The hotel car parking area will accommodate 35 cars, including one disabled parking space as well as two motorcycle parking spaces and three bicycle parking. This includes a pick up and set down area for four cars in the Tamar Street driveway.

Traffic surveys have found the passing two-way traffic volumes on Tamar Street and Cimitiere Street are approaching 800 vehicles/hour during the morning peak hour and 850-870 vehicles/hour during the afternoon peak hour.

There have been five crashes along the section of Tamar Street between Cameron Street and Cimitiere Street and six crashes along the section of Cimitiere Street between Tamar Street and George Street.

The crashes have been mainly parking incidents, rear end collisions, collisions involving vehicles emerging from a driveway and a collision with a pedestrian.

There have been 20 reported crashes at the Tamar Street/Cimitiere Street intersection. The concerning factor with these crashes is that 10 of the collisions (half of the reported crashes) involved a vehicle driving through a red light.

The hotel accommodation is expected to generate:

- 84 vehicles/day; and
- 12 vehicles/hour during peak hours at say around the 9:00-10:00am during the main morning departure period and around the 3:00-4:00pm during the main afternoon arrival period.

The hotel activity could generate a further 10 vehicles/hour and on days when the conference area and meeting room has a very high attendance, a total peak hour traffic generation could be some 30 vehicles/hour.

These traffic volumes are two-way vehicle movements to and from the site and they would be mostly just outside the peak hour traffic period for the adjacent streets. No one turn movement to or from the site will be greater than 10 vehicles/hour.

It is clear the additional traffic to and from the hotel, allowing for future growth in the passing traffic volumes, will not create any operational issues. Traffic volumes of up to 1,500 vehicles/hour can generally be accommodated at intersections (as well as driveways) between conflicting traffic streams.



The traffic conflict at the access driveways during peak traffic periods in 10 years' time will still be around two thirds of this maximum traffic volume if the passing traffic volumes increase by 2% p.a.

Measurements have determined the currently available sight distances to and from each of the access driveways will be more than sufficient for the speed environment and there will be sufficient sight lines to pedestrians on the Cimitiere Street footpath.

The layout of the access driveways and parking arrangements have been designed with due regard for the requirement of AS 2890 and the Launceston Interim Planning Scheme.

The proposed parking supply meets the planning scheme requirements for the visitor accommodation, the café and some staff (including the tenancy) as well as meet the planning scheme parking requirements for other transport groups, including disabled parking, motorcycle parking, taxi parking and bicycle parking.

There will also be provision for small rigid vehicle servicing of the hotel building with deliveries and for garbage collection. Such vehicles accessing the site will have a height less than the 3.1m minimum clearance available in the trafficable areas of the site.

A review of the layout has found that all relevant dimensions for the parking bays and manoeuvring areas as well as height clearance meet the requirements of Section 2 of AS 2890.1 as well as small commercial vehicles.

There will be a need to remove two parking meters in Tamar Street and also in Cimitiere Street to allow for the access driveways.

Overall this traffic assessment has determined there are no operational or safety issues which would arise as a result of the hotel modifications and the proposed development can be supported on traffic grounds.

#### **8. 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 4A: Unsignalised and Signalised Intersections
- AUSTROADS Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings
- Road Traffic Authority NSW Guide to Traffic Generating Developments, 2002
- Road and Maritime Services (Transport) Guide to Traffic Generating Developments; Updated traffic surveys (August 2013)
- Australian Standard AS 2890 Parking Facilities, Part 1 Offstreet car parking
- Australian Standard AS 2890 Parking Facilities, Part 2 Offstreet commercial vehicle facilities
- Australian Standard AS 2890 Parking Facilities, Part 6 Offstreet parking for people with disabilities
- Launceston Interim Planning Scheme 2015



ATTACHMENT A

Drawings of proposed Hotel Verge site layout

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