

PROPOSED DEVELOPMENT 116-122 LYDIARD ST & 8 MAIR ST, BALLARAT

Transport Impact Assessment Report



efficient safe reliable    

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1 Introduction

1.1 Overview

A planning permit is being sought for a mixed use development of land located at 116-122 Lydiard Street and 8 Mair Street in Ballarat. To assist in the consideration of the development proposal, ESR Transport Planning has been engaged to assess relevant transport implications.

1.2 Scope of This Report

This report documents a transport impact assessment which investigates the following:

- Existing transport conditions in the vicinity of the site.
- Statutory transport planning requirements.
- Parking demands generated by the proposed land use.
- Anticipated impacts on local car parking conditions.
- Anticipated impacts on the surrounding road network.
- Design merit of proposed transport facilities.

1.3 Referenced Information

Documents

- Aecom, 2011, *Ballarat CBD Parking Strategy*.
- Australian Standards, AS2890, *Australian Standard for Parking Facilities*.
- Ballarat Planning Scheme.
- City of Ballarat, 2019, *Municipal Road Register*.
- City of Ballarat, 2017, *Ballarat Cycling Action Plan*.
- City of Ballarat, 2016, *Ballarat CBD Car Parking Action Plan*.
- Institute of Transportation Engineers (ITE), 2010, 4th Edition, *Parking Generation*.
- Roads and Traffic Authority (RTA), 2002, *Guide to Traffic Generating Developments*.
- SJB Urban, 11/04/14, *Ballarat Station Precinct Masterplan*.
- Transport NSW, 2013, *Guide to Traffic Generating Developments - Updated Traffic Surveys*.

Drawings / Data / Information

- Drawings of the proposed development, prepared by Plus Architecture, dated 05/05/22.
- Inspections of the site and surrounds late 2021 and early 2022.
- Online maps from Google, Nearmap, VicPlan, VicEmergency and Public Transport Victoria.
- Traffic volume and accident data from the Department of Transport (www.data.vic.gov.au).
- Traffic volume data from the City of Ballarat.
- Trips Database Bureau (TDB), 2018, *Trips Database*.

1.4 Terms

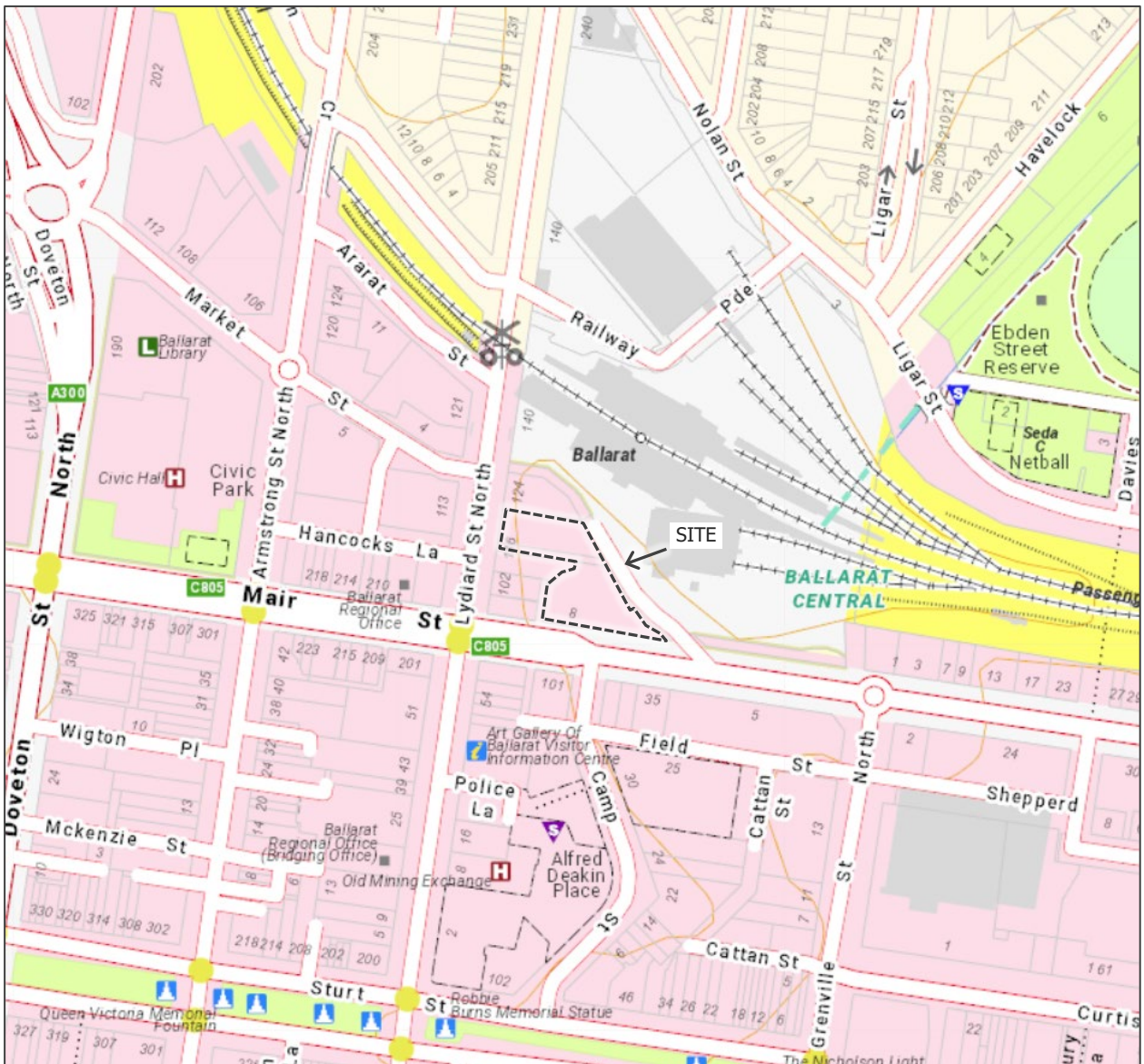
- AS Australian Standard
- CBD Central Business District
- GFA gross floor area
- ITE Institute of Transportation Engineers
- LFA leasable floor area
- NFA net floor area
- RA Responsible Authority
- RTA Roads and Traffic Authority
- TDB Trips Database Bureau
- VPA Victorian Planning Authority

2 Contextual Analysis

2.1 Site

The subject site is located within central Ballarat, a short distance south of Ballarat Station. The land is within the Commercial 1 Zone that encompasses Ballarat’s CBD. A Heritage Overlay also applies to the site and surrounds. The subject site encompasses several properties, two that front Lydiard Street (North) and a third that fronts Mair Street. It also has a boundary to Coffee Palace Lane.

Figure 2.1 Subject Site Locality Map



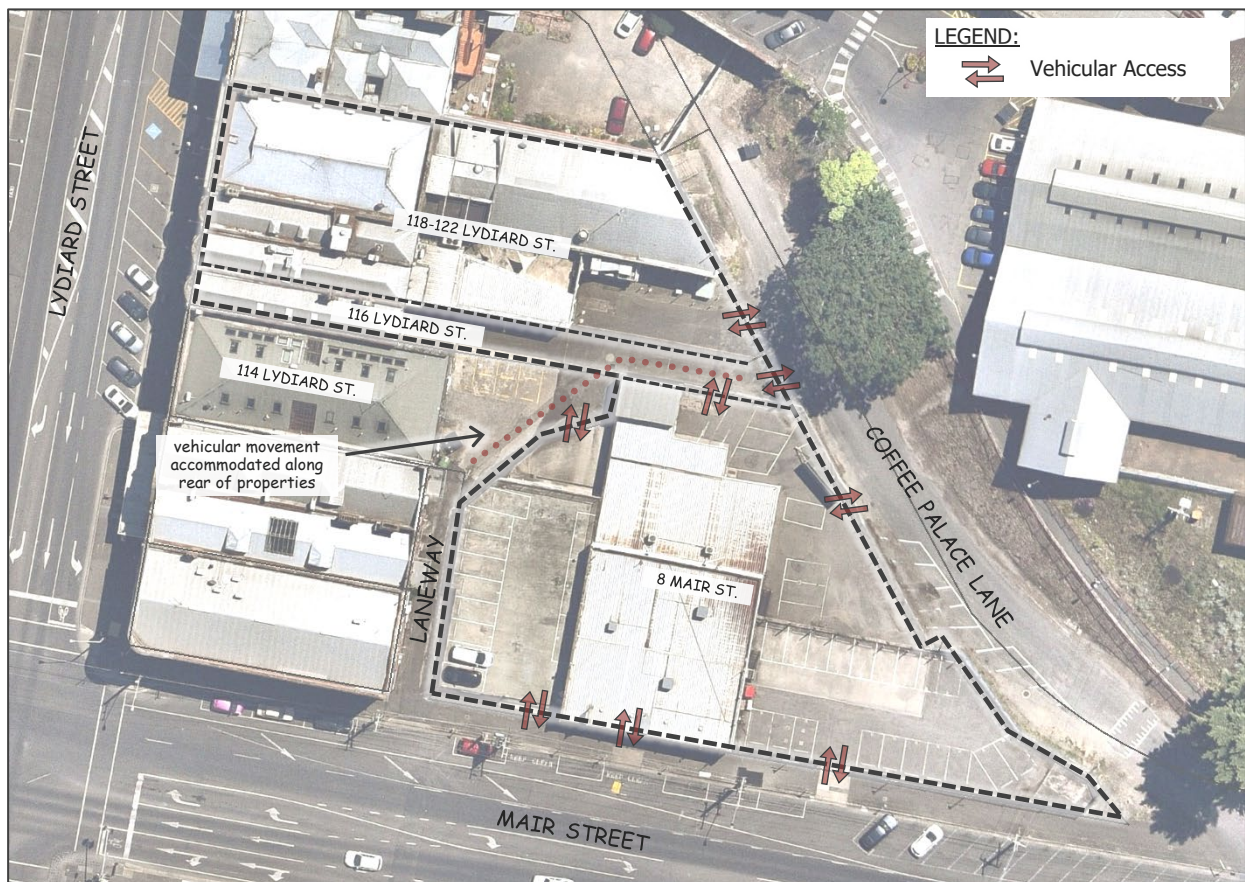
The property 116 Lydiard Street is a narrow site (approximately 5m width) containing a 2-storey building in the western half of the site. It’s floor area is estimated to be approximately 250m² and office is understood to be its previous use. Ground level pavement at the rear provides vehicle parking opportunities albeit in an informal manner, via access from Coffee Palace Lane.

The property 118-122 Lydiard Street contains buildings of up to 3 stories (basement, ground, first), and previously operated as an entertainment venue known as the Miners Tavern. Ground level pavement at the rear provides vehicle parking opportunities albeit in an informal manner, via access from Coffee Palace Lane. Planning Permit (PLP/2011/700) allowed its use as a ‘hotel’ with a limit of 990 patrons, and dispensation of car and bicycle parking.

The property 8 Mair Street was for many years the premises of a car sales dealership. It has a building with a ground floor fronting Mair Street and a level below. Numerous areas of the site are hardstand enabling vehicle parking / display. A laneway of approximately 30m length extends from Mair Street along the properties western boundary. Vehicle access includes numerous vehicle crossings to Mair Street and Coffee Palace Lane. Following relocation of the car dealership, a 2019 Planning Permit (PLP/2018/754) was issued allowing an ‘indoor recreation facility’ (gymnasium) within the building, with a maximum of 45 patrons, and an associated area of 16 on-site car parking spaces (0.35 spaces per patron). Other areas of the site are currently either vacant or being used as leased car parking.

The rear of the site’s Lydiard Street properties, and the neighbouring property at 114 Lydiard Street, do not obstruct vehicular movement between Coffee Palace Lane and the laneway that extends from Mair Street. We are not away of any formal access status, such as a carriageway easement. The property 8 Mair Street includes gated vehicular accessways from the rear of neighbouring properties. Refer Figure 2.2.

Figure 2.2 Aerial Image of Subject Site



2.2 Road Network

Lydiard Street (North) is classified as a Link Road and has nearby speed limits of 50kph north of Mair Street and 40kph south of Mair Street. Its cross section adjacent the site includes a traffic lane in each direction, central painted median or right turn lanes, and kerbside parking that is predominately 60 degree angle, except for some parallel spaces on the west side opposite the site.

Figure 2.3 Lydiard Street (facing south to Mair Street intersection)



Mair Street is classified as an Arterial Road (Transport Zone Category 2, managed by Department of Transport) and has a 50kph speed limit in the site's vicinity. To the west of Lydiard Street, its carriageway accommodates 2 through traffic lanes in each direction, kerbside parallel parking, and centre of road parallel parking. To the east of Lydiard Street, its carriageway generally accommodates a single through traffic lane and kerbside 60 degree angle parking. Just east of the Lydiard Street intersection is where the carriageway lanes either merge or flare between the 2 carriageway types, and parking alongside the site is parallel.

Figure 2.4 Mair Street (facing west towards site)



The Mair Street Upgrade Project has been part of city planning for many years and in recent years early stages of the project have been delivered. The upgrade will create a boulevard style divided

carriageway with 2 traffic lanes and a bicycle lane in each direction, together with kerbside parallel parking. To be delivered in stages, sections and intersections to the east have been completed.

Figure 2.5 Conceptual Image of Mair Street Upgrade



Source: Youtube (www.youtube.com)

Coffee Palace Lane is classified as an Access Street (secondary) without speed limit signage (default 50kph). It is a cul-de-sac that extends approximately 110m from Mair Street. Its pavement width varies and includes some linemarked 60 degree angle spaces adjacent the 8 Mair Street property, and undefined edge of roadway parking on the opposite side. Ground level at Ballarat Station is significantly higher than along Coffee Palace Lane, and a steep embankment extends alongside the roadway. It is noted that the road reserve is approximately 7m wide, with the embankment and part of the carriageway within rail reserve land.

Figure 2.6 Coffee Palace Lane (facing northwest)



The unnamed laneway along the west side of 8 Mair Street is a cul-de-sac that extends approximately 30m from Mair Street and has a width of approximately 4.3m. As described above, although being a cul-de-sac, vehicular movement between the end of the laneway and Coffee Palace Lane can be achieved through the rear of properties 114-116 Lydiard Street.

Figure 2.7 Laneway (facing north from Mair Street)



2.3 Traffic Volumes

Traffic volume data has been collated from the Department of Transport and City of Ballarat databases, with a summary of indicative weekday daily traffic volumes (two-way) shown in Figure 2.8.

Figure 2.8 Indicative Weekday Traffic Volumes



2.4 Public Transport

Overview

Comparative to other Ballarat localities, the site has excellent public transport accessibility with Ballarat Station nearby, providing both rail services and the Ballarat Bus Interchange.

Ballarat Station Redevelopment (North Side)

Following the Ballarat Station Master Plan, the station precinct has in recent years been subject to redevelopment works that continues, with a focus on north side of the rail line. The project includes a Quest Apartment Hotel (operational), a refurbished Goods Shed with events centre and retail premises (events hall operational), a bus interchange (operational since December 2021), a multi-level commuter car park (405 spaces, operational), and car parking for the hotel and conference centre (150 spaces, operational).

Ballarat Station Redevelopment (South Side)

The Victoria Planning Authority (VPA) commenced preparing the Ballarat Station Southside Precinct Master Plan in 2020. Community feedback identified two priority areas for improvement, pedestrian and vehicle access, and safety into and around the station and regional coach interchange. The VPA advise that to deliver these objectives, potential relocation of the regional coach terminal from the southern station entrance into the northern precinct requires further technical investigation. As of January 2022, the project has been paused for technical analysis to occur.

2.5 Walking & Cycling

Given its CBD location, the site is surrounded by pedestrian facilities providing a high degree of pedestrian accessibility. Footpaths are provided along both sides of nearby roads (but not along lanes). A footpath exists between the south side of Ballarat Station and Mair Street, extending alongside Coffee Palace Lane at the top of the embankment.

Signalised pedestrian crossings are available at the Mair Street / Lydiard Street intersection, and across Lydiard Street at the rail level crossing.

Shared paths exist along the north side of rail reserve land in the vicinity (Doveton Crescent and Nolan Street).

The Mair Street Upgrade Project is expected to deliver on-road cycling lanes, and improved off-road cycling connections to the Ballarat Station.

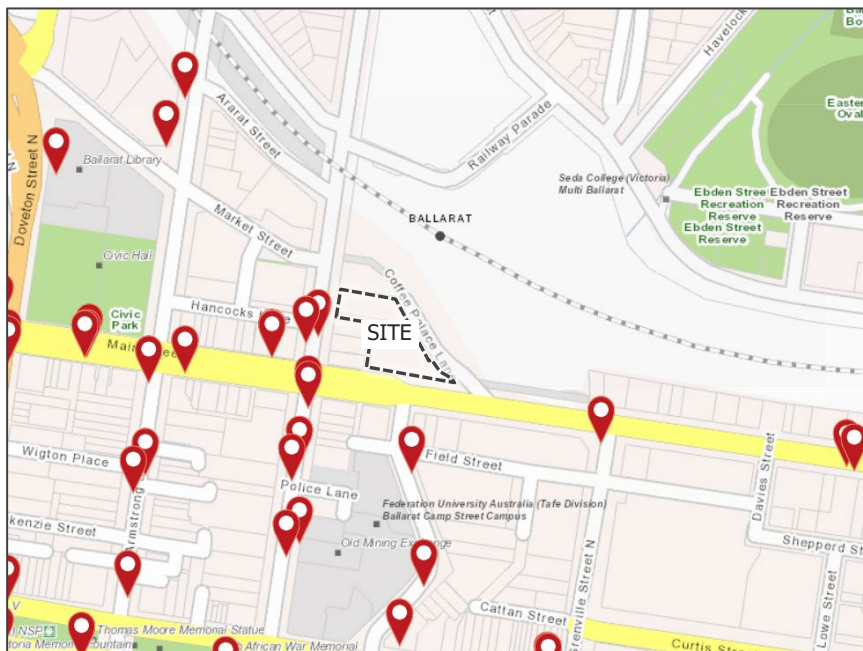
Figure 2.9 Extract of Ballarat CBD Bicycle Connections Map



Source: Ballarat Cycling Action Plan

Ballarat’s CBD includes numerous bicycle parking rails / racks, including 2 locations (a single rail and a double rail) on Lydiard Street opposite the site.

Figure 2.10 Bicycle Rack Map



Source: City of Ballarat

2.6 Car Parking

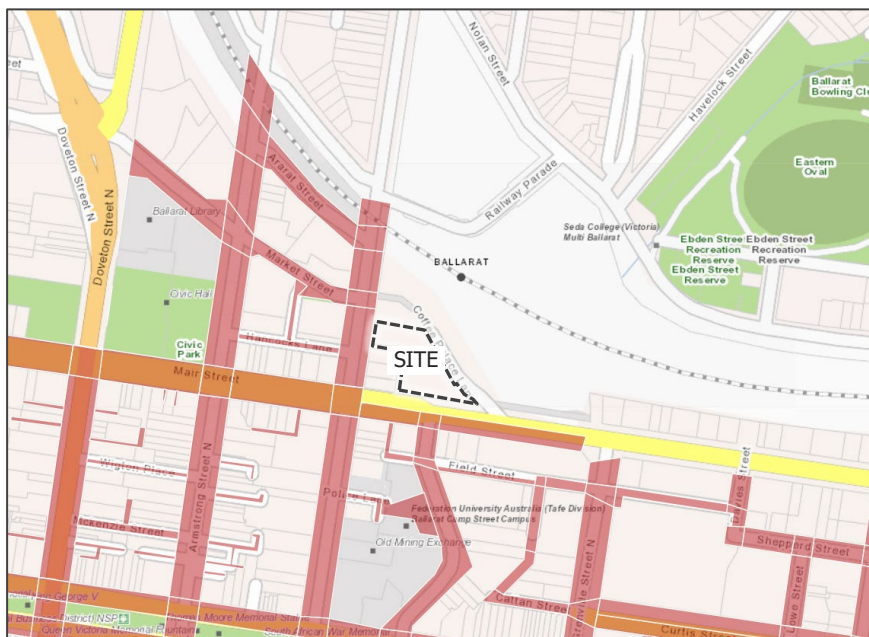
CBD Parking Management

Management of car parking within and surrounding the CBD is a key task for the City of Ballarat. The Ballarat CBD Car Parking Action Plan defined strategies including parking restriction changes, additional spaces and further investigation into new off-street carparks. The Smarter Parking scheme has since followed, with holistic parking management systems throughout the CBD and health precinct. In recent years, large numbers of additional parking spaces have been provided through projects such as the Creswick Road off-street carpark. And as part of a pledge by the Victorian Government, investigations are continuing into further additional parking facilities.

Existing Car Parking Facilities

Nearby public parking is managed under the Smarter Parking scheme that operates throughout the CBD. The vast majority of on-street car parking south of the rail line is managed as Zone 1 (no time restrictions, first hour free, then \$3 per hour). Most nearby on-street parking along Mair Street east of the site, and north of Ballarat Station is managed as Zone 2 (time restrictions apply, no fees). Restrictions generally apply between 9:00am - 5:30pm, Monday to Saturday. Several lengths of nearby on-street parking alongside rail land do not have any restrictions (i.e. free all day parking).

Figure 2.11 Smarter Parking Zone 1 Map



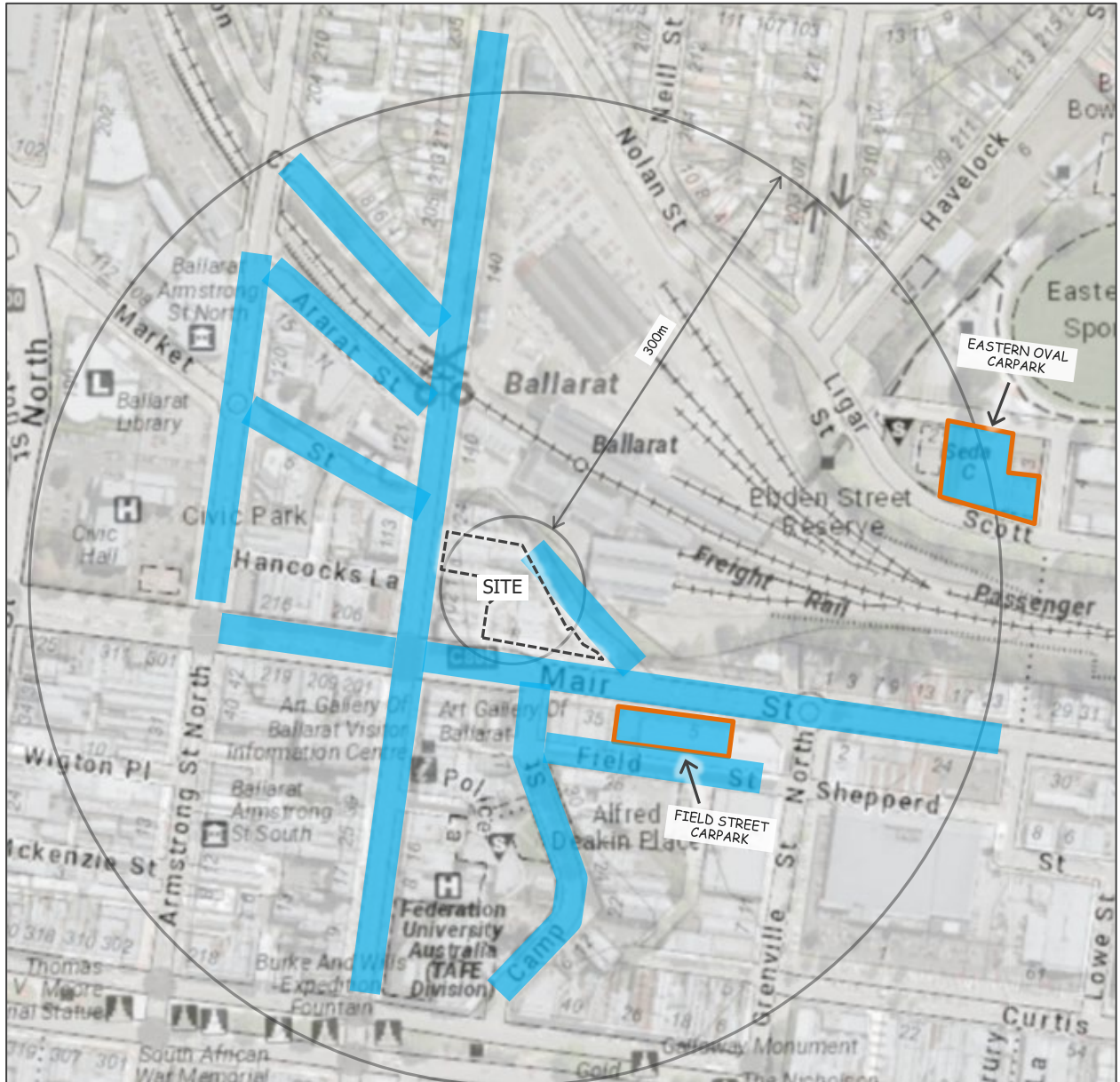
Source: City of Ballarat

There are numerous off-street public carparks throughout the CBD, several which cap fees at \$6.50 for all day parking, this includes a nearby off-street carpark adjacent Field Street approximately 170m southeast of the site. There is also free all day parking available at Ebdon Street Reserve (Eastern Oval) approximately 400m east of the site.

Existing Car Parking Demands

A survey of nearby public car parking has been undertaken, with the survey area shown in Figure 2.12. The total number of spaces surveyed was 764 spaces, with 572 on-street.

Figure 2.12 Car Parking Survey Area



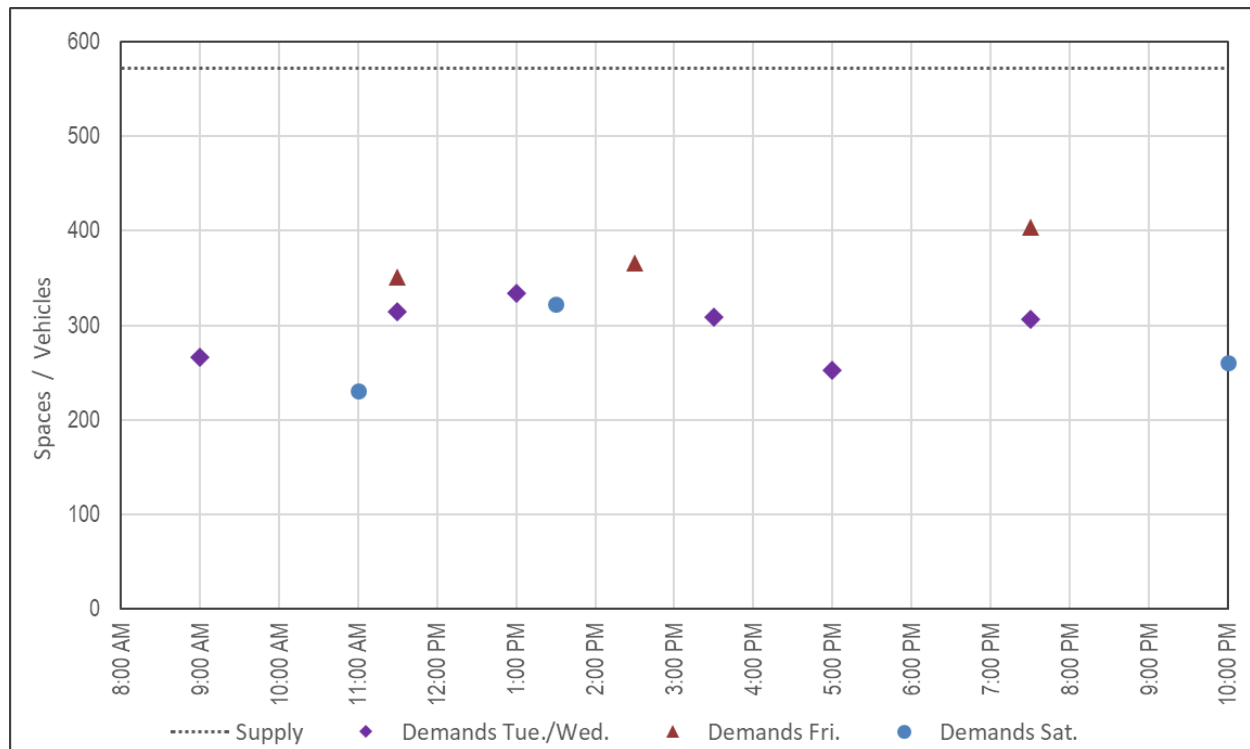
Parking demands within this area have been surveyed on various days and times of day, with full survey results presented in Appendix A.

The Field Street off-street carpark typically experienced low to moderate parking demands.

The Eastern Oval off-street carpark had very low occupancy at all times, with at most 19 vehicles observed within its 150 space capacity.

For on-street areas, total parking demands recorded are shown in Figure 2.13.

Figure 2.13 Total On-Street Car Parking Demands by Time and Day



Given the survey results as well as knowledge from numerous previous parking studies and time spent in the precinct, the following are some key observations of typical nearby car parking activity:

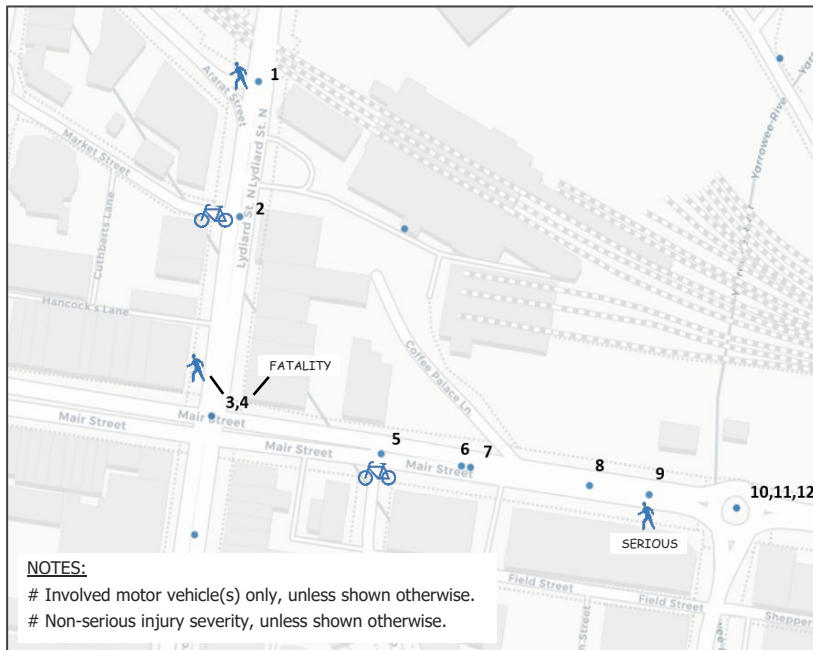
- Rail commuters fully occupy commuter carparks as well as nearby unrestricted on-street parking (e.g. Lydiard Street, Market Street, Doveton Crescent) throughout business hours.
- Nearby car parking with restrictions applicable (time restrictions and / or fees) mostly experience demands that could be described as moderate, with most street sections having a significant proportion of spaces remaining vacant.
- The entertainment and food and drink offerings within the CBD, particularly focussed in the area bound by Mair, Sturt, Camp and Doveton Streets, are key demand drivers for parking that is often fully occupied during early evenings within this area and surrounds. Noting that no parking restrictions apply at these times. Other areas of the CBD typically experience very low parking demands during evenings and weekends.
- From our surveys, the number of nearby spaces remaining vacant when parking demands were highest by day of week as follows :
 - Midweek: 392 (238 on-street + 154 off-street) vacancies
 - Fri. / Sat. daytime: 357 (206 on-street + 151 off-street) vacancies
 - Fri. evening: 360 (168 on-street + 192 off-street) vacancies

2.7 Accident History

A review of road accidents in the site's vicinity has been undertaken using the Department of Transport's Road Crashes for Five Years database which includes accidents reported to police which resulted in personal injury within the last 5 years. The review investigated Lydiard Street (rail line to Mair Street), Mair Street (Lydiard Street to Grenville Street) and Coffee Palace Lane.

In that time, several accidents have occurred across this area. None along Coffee Palace Lane or at its intersection with Mair Street. Figure 2.14 provides a summary of the data. Apart from a relatively high concentration of accidents along Mair Street, this review does not provide compelling evidence of atypical safety deficiencies within the nearby transport network.

Figure 2.14 Crashstats Accident Data Map



3 Proposed Development

The proposal incorporates a redevelopment of the site with new multi-storey buildings providing a range of land uses. Existing buildings at the rear of the Lydiard Street properties and those at the Mair Street property will be demolished. Buildings that front Lydiard Street will be retained with internal modifications. The Lydiard Street properties are termed Site A, where retained buildings and a new multi-storey building will provide the premises of a residential hotel. The Mair Street site is termed Site B, where a new multi-storey building will provide a range of uses including retail, office and childcare.

The upper ground level will provide building entries from the Lydiard and Mair Street footpaths, leading to circulation areas that extend between both sites. A further building entry is proposed from a proposed pedestrian bridge above Coffee Palace Lane connecting the site to Ballarat Station.

This level contains the hotel reception and associated hospitality areas and 5 tenancies within Site B that may accommodate retail or office.

Table 3.1 Proposed Development Land Use Schedule

SITE	LAND USE	SIZE (M ² NFA) / QUANTITY
A	residential hotel <i>with ancillary...</i>	104 rooms
	hospitality / retail (bar and dining areas - various levels)	835m ² , 469 patrons
	function / conference / dining (level 1)	515m ² , 265 patrons
	wellness centre (gym, pilates/yoga, library - lower ground & mezzanine)	673m ²
B	retail (hospitality expected - lower ground)	405m ² , 244 patrons
	commercial (either office / shop expected - upper ground)	1,221m ²
	commercial (office expected - levels 1-4)	4,440m ²
	childcare centre (level 4)	64 children
	retail (hospitality expected - level 4)	136m ² , 76 patrons (indoor)

Notes:

1. Development uses as specified by architect and town planner.
2. Number of patrons estimated based on total area multiplied by a 75% patron area, and m² per patron as specified by building surveyor.
3. Site B has a roof terrace outdoor dining area, which is to be ancillary to office and the adjoining hospitality venue.

The lowest 3 levels of the development contain on-site car parking facilities. Basement level parking extends underneath both sites, while lower ground and mezzanine level parking is within the Site B footprint. Total parking provision in these secure areas is 108 spaces, including 6 accessible (disabled) spaces. At lower ground level, the carpark is to have entry and exit via Coffee Palace Lane. An internal ramp connects lower ground and basement carparks. The basement carpark includes an area of 19 spaces that could have security gate separation from the remainder of the carpark. The mezzanine level carpark is to have entry and exit via the laneway alongside Site B’s western boundary, this carpark contains 21 spaces. These parking areas will have secure access and are planned as employee and hotel guest parking.

An additional 2 parking spaces in 90 degree configuration accessed directly from Coffee Palace Lane are to provide short term parking convenient to the residential hotel reception.

The site's frontage extends along much of Coffee Palace Lane's length, and the proposal anticipates a streetscape upgrade of the roadway, which will include a court bowl at end, formalisation of car parking spaces and pedestrian facilities. Part of the Site B building work is an outdoor staircase between the roadway level (lower ground) and the Ballarat Station bridge and circulation areas (upper ground).

The proposed development makes 3 vehicle crossings to Mair Street redundant, enabling the provision of an additional 2 on-street parking spaces.

At lower ground level of Site B is a bicycle parking area, providing 100 spaces. This area includes lockers and repair area. Directly above on mezzanine level, with stair access between, are end of trip facilities that include 4 change room areas (male, female, unisex retail staff, accessible). These facilities include showers, changing areas, toilets and lockers. A total of 15 shower stalls are provided.

At basement level of Site A is a bicycle parking area associated with the hotel. It incorporates 16 staff spaces, along with end of trip facilities including lockers and 3 shower / change / toilet stalls (including 1 accessible). A separate area will accommodate 20 spaces, incorporating 10 visitor (guest) spaces and 10 rental bike spaces.

Visitor bicycle parking spaces are proposed within the footpath area between building and Coffee Palace Lane, providing 10 spaces (5 rails).

A loading bay is proposed adjacent the Site A northern boundary at lower ground level with access from Coffee Palace Lane. As well as providing an area for deliveries, waste collection will also be accommodated within this loading bay.

4 Car Parking Assessment

4.1 Planning Scheme Standard Provision Requirements

Clause 52.06 (Car Parking) of the Ballarat Planning Scheme sets out planning controls with respect to car parking and Table 1 to Clause 52.06-5 specifies parking provision rates for various land uses. If a car parking requirement is not specified in the Table or elsewhere in the Planning Scheme, Clause 52.06 states that car parking spaces must be provided to the satisfaction of the responsible authority. The Planning Scheme also states that the standard provision can be reduced or fully waived.

The proposal incorporates a range of potential land uses, including spaces that are flexible in terms of the eventual occupant. For instance, anticipated hospitality spaces may be used as a restaurant, café, wine bar, or other food and drink premises. For the purposes of this report, where uncertainty exists regarding the eventual occupant the assessment of car parking requirements specified by the Planning Scheme adopts a land use definition that has the highest standard car parking requirement. This results in a conservative estimate of the proposed parking waiver.

Table 4.1 Planning Scheme Standard Car Parking Requirements

LAND USE	SIZE (M ² NFA) / QUANTITY	PROVISION RATE	PROVISION REQUIREMENT
residential hotel	104 rooms	not specified	to satisfaction of RA
retail (<i>restaurant rate applied</i>)	405m ² , 244 patrons	4 spaces / 100m ² LFA	97 spaces
commercial (<i>shop rate applied</i>)	1,221m ²	4 spaces / 100m ² LFA	48 spaces
commercial (<i>office</i>)	4,440m ²	3.5 spaces / 100m ² NFA	155 spaces
childcare centre	64 children	0.22 spaces / child	14 spaces
retail (<i>restaurant rate applied</i>)	136m ² , 76 patrons	4 spaces / 100m ² LFA	30 spaces
Total			344 spaces + to satisfaction of RA

RA = Responsible Authority

Table 4.1 indicates that the proposal may have a standard parking provision requirement of up to 344 spaces, plus an unspecified provision for the residential hotel.

Where a proposal seeks to reduce or waive the standard parking provision requirement, the Planning Scheme lists the following decision guidelines for consideration when making such an assessment:

- A Car Parking Demand Assessment.
- Any relevant local planning policy or incorporated plan.
- The availability of alternative car parking in the locality of the land, including:
 - Efficiencies gained from the consolidation of shared car parking spaces.
 - Public car parks intended to serve the land.
 - On street parking in non residential zones.
 - Streets in residential zones specifically managed for non-residential parking.
- On street parking in residential zones in the locality of the land that is intended to be for residential use.

- The practicality of providing car parking on the site, particularly for lots of less than 300 square metres.
- Any adverse economic impact a shortfall of parking may have on the economic viability of any nearby activity centre.
- The future growth and development of any nearby activity centre.
- Any car parking deficiency associated with the existing use of the land.
- Any credit that should be allowed for car parking spaces provided on common land or by a Special Charge Scheme or cash-in-lieu payment.
- Local traffic management in the locality of the land.
- The impact of fewer car parking spaces on local amenity, including pedestrian amenity and the amenity of nearby residential areas.
- The need to create safe, functional and attractive parking areas.
- Access to or provision of alternative transport modes to and from the land.
- The equity of reducing the car parking requirement having regard to any historic contributions by existing businesses.
- The character of the surrounding area and whether reducing the car parking provision would result in a quality/positive urban design outcome.
- Any other matter specified in a schedule to the Parking Overlay.
- Any other relevant consideration.

Of the above considerations, the decision guidelines considered most relevant to the proposed development are discussed in the following sections.

4.2 Car Parking Demand Assessment

A Car Parking Demand Assessment assesses the car parking demand likely to be generated by the proposed use. It takes into consideration multi-purpose trips, variation over time, alternative transport modes, empirical parking data and other relevant considerations.

A relatively high proportion of persons travelling to the proposed development are likely to generate a shared trip, that is, a single vehicle trip to the area and then walking to / from a range of local premises. Examples include persons visiting a range of CBD retail and hospitality offerings. Or a worker parking nearby, and combining a walking trip to work with dropping off and picking up a child at the proposed childcare. This proposed development is also likely to generate a relatively high proportion of trips using sustainable transport modes (e.g. walking, public transport).

Empirical data considered as part of this assessment includes TDB 2018, Transport NSW 2013, ITE 2010 and RTA 2002.

Residential Hotel

RTA 2002 sets out parking demand data for 'tourist hotels' (Sydney CBD sites incorporating retail, entertainment, conference facilities and health clubs), suggesting rates of 0.25 spaces / bedroom for 3 or 4 star premises and 0.2 spaces / bedroom for 5 star premises (rates that exclude the parking demand generated by other hotel functions such as conference activities).

ITE 2010 sets out parking demand data for ‘hotels’ (sites incorporating restaurants, dining areas, bars, meeting rooms and convention facilities, whose parking rates include demands associated with the ancillary uses). Average peak parking demand data includes:

- Urban 0.64 (weekday) and 0.90 (Saturday) spaces / occupied room.
- Suburban 0.89 (weekday) and 1.20 (Saturday) spaces / occupied room

ITE 2010 data for hotels with ancillary facilities sets out that peak parking typically occurs between 7:00pm-10:00pm. It is likely the accommodation component experiences its peak parking between late evening and early morning.

RTA 2002 indicates parking rates based on 85% room occupancy may be appropriate for analysis. Austrade’s Accommodation Monitor data (2018-19) defines an average annual room occupancy in Ballarat of 71%, which compares with Melbourne 82%, Geelong 80%, and Bendigo 60%. On this basis, it is likely that the proposed development will have a majority of days throughout the year with significantly less than full room occupation.

To estimate parking demands generated by the residential hotel component of the proposed development, two analysis methods have been compared as follows:

1. Adoption of the upper (suburban) rates from ITE 2010 which include demands from ancillary uses, and occupancy rates of 85% weekday and 90% weekend. This results in a peak parking demand estimate of 80 spaces on a weekday and 112 spaces on a Saturday.
2. Adoption of the upper rate from RTA 2002 to estimate accommodation demands of 26 spaces. And estimating ancillary use demands on the basis of a total of 500 patrons in attendance that are not hotel guests (being the capacity of conference areas plus half the capacity of hospitality areas) and a peak parking rate of 0.2 spaces / patron¹, equating to 100 additional parking spaces, and a total of 126 spaces.

Given the above, this report adopts peak residential hotel parking demands of 90 spaces (Sunday to Thursday evenings) and 130 spaces (Friday and Saturday evenings).

Commercial (office)

A range of empirical data has been considered to determine an appropriate peak car parking rate for offices in Ballarat’s CBD, including TDB 2018, Transport NSW 2013, ITE 2010, RTA 2002, and Census data for Journey to Work and Land Use and Employment. Peak parking rates from these sources vary in the order of 2.0-3.2 spaces / 100m² GFA. Employee densities vary in the order of 2.6-4.8 employees / 100m² GFA.

Based on this data, the office peak parking rate adopted for the purpose of this report is 2.2 spaces / 100m² GFA. Which is equivalent to an employee density of 3.5 employees / 100m² GFA, a car occupancy of 1.1 and a mode share of 70%.

The rate above is considered higher than applicable to shops in Ballarat’s CBD, therefore, this assessment conservatively applies an office rate to all commercial areas of the proposal.

¹ A rate typical for uses including place of assembly, entertainment, restaurant and bar where limited parking is available and private car mode share is low.

Therefore, the commercial component of the proposal is expected to generate peak parking demands in the order of 159 spaces².

Offices generate peak parking demands during the middle of business hours on weekdays, with minimal demands during evenings and weekends.

Childcare

Empirical data for childcare centres, typically sites with ample parking, yield similar peak parking rates to the standard Clause 52.06 rate. In this locality, the childcare centre is likely to be popular with CBD workers, who may often combine one trip to their CBD employment with dropping off and picking up a child at the proposed childcare (multi-purpose trip). Accordingly, the proposed childcare could be expected to generate peak parking at comparatively lower levels than typical. Accordingly, peak parking of the proposed childcare centre has been estimated adopting a rate of 0.18 spaces / child, equating to a peak demand of 12 spaces.

Childcare centres generate peak parking demands during weekday morning and afternoon drop-off / pickup times, and are typically closed and not generating parking demands during evenings and weekends.

Retail (hospitality)

Given their location, the proposed hospitality venues are likely to be popular with guests of the proposed hotel, Ballarat Station commuters and CBD workers and visitors. Accordingly, rates of shared / multi-purpose trips are likely to be very high, and car parking rates are likely to be very low, comparative to empirical data of stand-alone sites. Parking rates per patron in the order of 0.3-0.4 are typical of stand-alone sites, whereas a typical rate for low private car mode share sites is 0.2 spaces / patron, equating to an expectation of a peak parking demand of 64 spaces.

A restaurant or bar could be expected to generate peak parking during evenings, typically on Fridays and Saturdays. A café could be expected to generate peak parking during lunchtimes Monday to Saturday.

Total Parking by Time Period

The car parking assessment above has been utilised to plot parking demands generated by the proposed land uses for a Monday-Thursday weekday, a Friday and a Saturday by time of day, as shown in Figure 4.1. The time of day profiles are sourced from the empirical data sources. And the Monday-Thursday weekday assessment assumes hospitality demands are two thirds of those on Friday and Saturday as per the hotel empirical data.

² GFA of the commercial / office areas has been calculated from the architectural development schedule using the commercial / office NFA plus circulation / services area on levels upper ground - level 4, which totals 7,233m² GFA.

Figure 4.1 Car Parking Demand Assessment

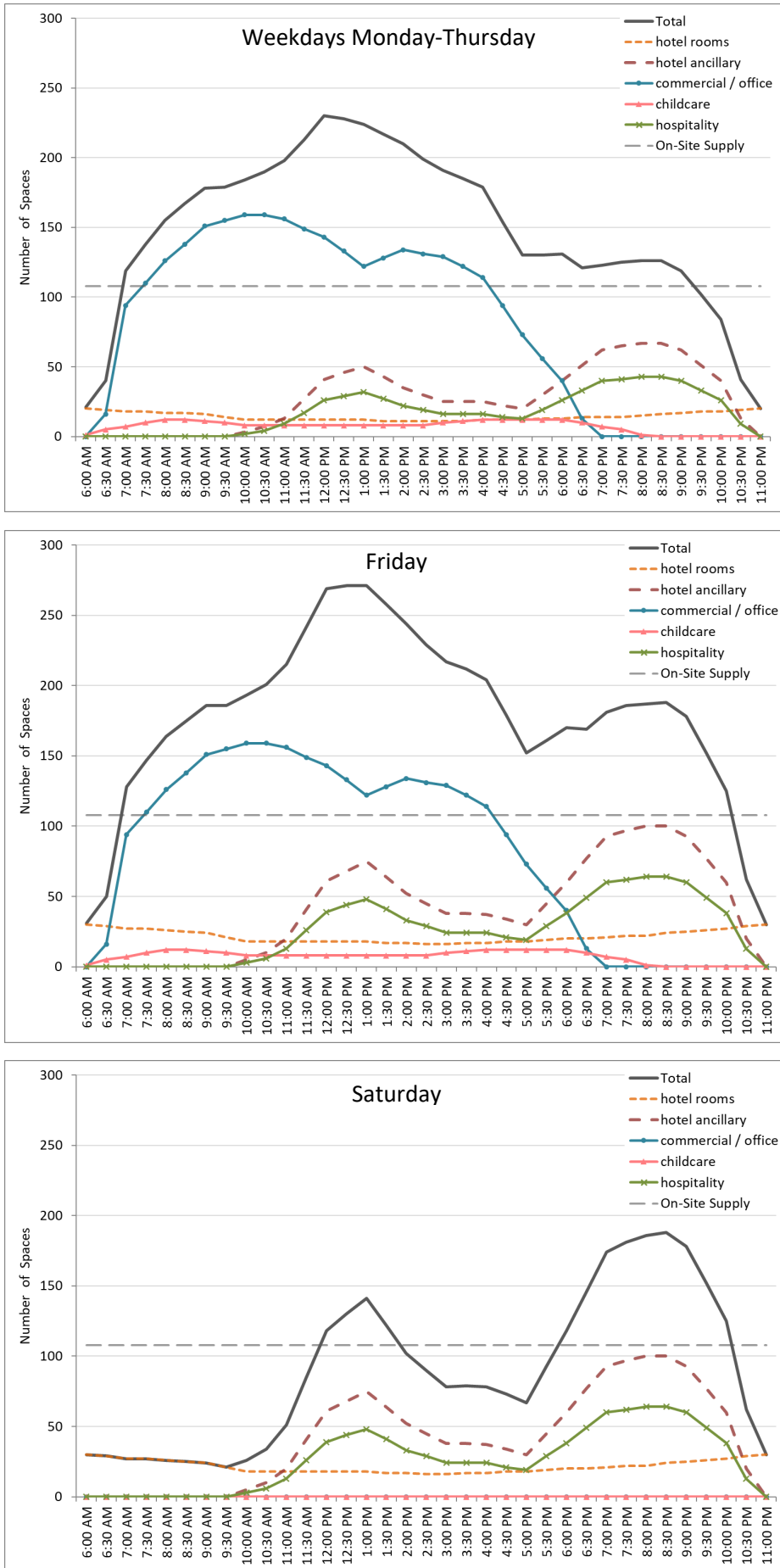


Figure 4.1 shows significant variation in parking demands generated by time period. Peak parking on most weekdays totals 230 spaces, and on Friday's 271 spaces. Lower demands on weekends are expected.

Note all plots above are based on significant numbers of patrons using the hotel's ancillary convention and hospitality spaces that are not hotel guests. Whereas patronage could be expected to be sporadic, such that not all days of the week will experience demands as high as shown. And all plots conservatively assume office rather than shop demands for the upper ground level commercial area.

4.3 Availability of Parking in the Locality

Section 2.6 of this report describes nearby car parking facilities and demands.

A survey of nearby parking identified a total of 764 spaces. Parking demands within this area varied depending on location and type of parking restriction. Highest demands were during the evening. During the daytime, spaces without restrictions were highly occupied, whereas restricted parking experienced moderate demands. Surveys at various days and times set out that as a minimum 357 vacant spaces remained available at the peak time.

How different users of the proposed development may utilise nearby parking is set out as follows:

- **Staff** - It is understood that the on-site carpark will be primarily available for staff of the proposed development. However, anticipated staff parking demands will exceed the available on-site supply, and therefore some will seek spaces nearby. The car parking demand assessment above indicates staff demands will exceed on-site supply by approximately 50-100 spaces during the peak time (weekday late morning). Whilst some staff may choose to pay for very convenient parking, most could be expected to seek free long term parking. The Eastern Oval carpark could be utilised given it provides free long term parking, is a relatively short walk to the site, and ample vacancies typically exist.
- **Hotel Guests** - Whilst some on-site car parking may be allocated to hotel guests, particularly on weekends when office staff will not be generating demands, some are expected to require nearby parking. The peak time for hotel check-in is late afternoon to evening. Although some nearby areas can experience very high demands during evenings, many vacant parking spaces are likely to exist alongside the site frontages or to the north and east. Overnight parking is available nearby without time and fee restrictions.
- **Hospitality Patrons** - During the daytime, such as for lunch, short term parking will be suitable for most hospitality patrons. And nearby parking with either short term time restrictions, or fees payable after an hour free are typically available in abundance. During evenings (dinner peak), some nearby areas can experience very high demands as discussed above, but again many vacant parking spaces are likely to exist alongside the site frontages or to the north and east.
- **Childcare Parents and Guardians** - A very small number of childcare parent / guardian parking spaces will be required for the proposed development, predominately at the morning drop-off and afternoon pick-up times. At these time, abundant parking exists alongside the site's frontages or very nearby to fulfill these requirements.

It is relevant to note that the planned Mair Street Upgrade Project will result in less parking along Mair Street as angle parking will be converted to parallel parking, however, the reduction is considered minor in the context of the total nearby parking supply. And drawings of the proposed

Coffee Palace Lane upgrade show 13 spaces, compared to existing conditions of 10 formal spaces and 25 total spaces (although future design refinement of this concept is anticipated which could lead to a greater space provision).

Notwithstanding, it is clear that sufficient nearby parking vacancies exist to accommodate parking demands generated by the proposed uses that will not be accommodated on-site.

4.4 On-Street Parking In Residential Zones

Residential neighbourhoods exist nearby north of the rail line. Given their location, and the comments above about where users of the proposed development may access nearby parking, the proposed development is not anticipated to have a significant detrimental impact to residential parking amenity. Notwithstanding, growth to CBD parking demands does place increasing pressure on managing the impact of commercial parking spreading to nearby residential areas. It is also noted that the City of Ballarat does provide a residential parking permit scheme as part of its management of CBD parking.

4.5 Practicality of Providing Car Parking On-Site

Due to site buildings being retained that are of heritage significance, it is not practical to provide car parking within the total site footprint. The proposal does incorporate 3 levels of car parking, and it is noted that additional basement levels are detrimental to the financial feasibility of projects of this nature.

4.6 Car Parking Deficiency Associated with Existing Use

The current permitted land uses of the site incorporate an associated waiver of statutory car parking requirements that is quite significant.

Most notably is the Miners Tavern at 118-122 Lydiard Street, nominated as a 'hotel' land use, with a capacity of 990 patrons. Its Clause 52.06 standard car parking requirement equates to 396 spaces (0.4 spaces / patron), which has been fully waived as no formal on-site car parking is provided.

The office use of 116 Lydiard Street may have a standard provision requirement of approximately 8 spaces, either fully or mostly waived depending on any allowance given for some informal parking at the site's rear.

At 8 Mair Street, its recent use as 'indoor recreation facility' (gymnasium) does not have a standard provision rate. However, with parking provided for this use, a waiver is not considered applicable. As a former car sales dealership, some on-site vehicle storage was provided for staff and customers, however, a significant reliance for on-street car parking by customers is our experience of operation at the time.

The above sets out that the site has previously had a significant waiver of parking granted for its uses. These uses would have generated significant staff and visitor parking demands that were likely accommodated in nearby public parking facilities, both during the day, and also high demands during the evening. The previous waiver / deficiency is a total of approximately 400 spaces. In comparison, the proposal is seeking a similar parking waiver.

4.7 Access to Alternative Transport Modes

Within the Ballarat Planning Scheme, there are various policies, strategies and objectives encouraging the following:

- Reduced reliance on private motor vehicles.
- Promotion of sustainable transport.
- Efficient car parking through the consolidation of facilities and their shared use.
- Concentrating higher intensity development within activity zones leading to sustainable transport outcomes.

The proposed development is considered to be in an ideal location to facilitate sustainable transport choices as opposed to private motor vehicle travel, and consistent with the above objectives. It is also noted that the proposed development incorporates a large number of desirable bicycle parking and end of trip facilities.

4.8 Character of the Surrounding Area

Ballarat's CBD incorporates a vast number of retail, entertainment and hospitality uses. Examples include the Regent Multiplex Cinema, Ballarat Art Gallery, Ballarat Civic Hall and numerous hotels, restaurants and the like. Most often these types of nearby uses do not have customer car parking on-site, and it is common for CBD buildings to rely significantly on public parking facilities. The waiver of standard parking requirements being sought is considered equitable with much of the local precinct.

4.9 Activity Centre Parking Management

VCAT Precedence

The Victorian Civil and Administrative Tribunal (VCAT) has considered many cases regarding developments that are likely to increase car parking demands within an already busy activity centre. The Tribunal has provided direction on these matters and cites a 'centre based' approach to carparking, described as follows:

The basic approach in these decisions is that in important activity centres car parking considerations should not be determinative, instead the land use mix in a centre should arise from a combination of strategic planning and economic forces at work in the centre. Car parking issues have a part to play in this but should not dominate. At the level of the individual site where there is a change in circumstances, car parking shortfalls should be waived if it is consistent with the strategic plan for the centre, firstly because the most equitable solution is to deal with car parking on a centre wide basis, and secondly because, even in saturated car parking conditions, a balance will occur between the level of activity and the car parking supply.

The 'centre based' approach responds to the fact that a municipality can cater for parking in centralised shared facilities, which is far more efficient than individual sites with small inefficient layouts of unshared parking.

Council Strategies

The Ballarat CBD Parking Strategy identified that although there are areas of high parking demand, the CBD as a whole has adequate parking supply. In the future, CBD visitors should

not expect to park directly adjacent their destination but rather the CBD should be developed to promote pedestrian movement and lessen the desire for motorists to have parking available in all places at all times.

Council strategies and projects are in place to increase nearby parking provision and manage parking into the future as CBD growth and change occurs.

4.10 Parking Assessment Summary

The proposed development will rely on nearby parking facilities to partly accommodate demands generated by its use. The quantum of expected public parking impact is considered relatively minor to area wide parking operations, given the vast quantity of parking supply and demands in the CBD.

There appears to several grounds supporting a waiver of standard car parking requirements. These include the large number of public parking facilities to cater for increased city centre parking demands, the large waiver applicable to the site's previous use, practicalities of site design and character of the local precinct. Together with case guidance indicating a 'centre based' approach should apply where car parking considerations should not be determinative and waivers applied at the individual site level.

Car parking impacts of permit applications are one aspect the Responsible Authority must consider. This report provides discussion around a range important considerations with respect to car parking waivers and it is expected that the Responsible Authority must weigh up potential car parking impacts with positive outcomes generated by the proposal.

5 Bicycle Parking Assessment

Clause 52.34 (Bicycle Facilities) of the Ballarat Planning Scheme sets out planning controls with respect to the provision of bicycle facilities such as parking and change room facilities. Table 1 to Clause 52.34-3 specifies provision rates for various land uses.

An assessment of the bicycle facility requirements for the proposed development using Planning Scheme rates is presented in Table 5.1.

A permit can be granted to vary, reduce or waive these requirements.

Table 5.1 Planning Scheme Bicycle Facility Requirements

LAND USE & SIZE (M ² NFA) / QUANTITY	EMPLOYEE PARKING RATE	VISITOR / SHOPPER PARKING RATE	EMPLOYEE REQUIREMENT		VISITOR PARKING REQUIREMENT
			PARKING	SHOWERS	
residential building, 104 lodging rooms	1 / 10 lodging rooms	1 / 10 lodging rooms	10 spaces	1	10 spaces
hospitality (retail rate applied), 405m ²	1 / 300m ² LFA	1 / 500m ² LFA	1 space	-	1 space
commercial (retail rate applied) 1,221m ²	1 / 300m ² LFA	1 / 500m ² LFA	4 spaces	-	2 spaces
commercial office, 4,440m ²	1 / 300m ² NFA	1 / 1000m ² NFA	15 spaces	2	4 spaces
childcare ,64 children	none	none	-	-	-
hospitality (retail rate applied), 136m ²	1 / 300m ² LFA	1 / 500m ² LFA	-	-	-
Total			30 spaces	3	17 spaces

Shower / change room rate = If at least 5 employee spaces are required, 1 shower with direct access to a change room is required, plus 1 shower to each 10 spaces thereafter.

Employee parking must be within a locker or lockable compound.

Visitor parking must be at a bicycle rail.

The proposed on-site facilities are well in excess of the above standard provision requirements.

6 Traffic Impact Assessment

The proposed development will generate traffic movements that will be dispersed to a range of destinations given the mix of car parking locations to be utilised by vehicle drivers associated with the proposed uses. And the different land uses will generate peak traffic activity at varying times of the day.

The total traffic generation associated with the proposed land uses will be relatively minor in comparison to the many thousands of vehicle movements along the key roadways in the site's vicinity such as Mair and Lydiard Streets. And likely to be of a relatively similar magnitude to previous use of the site.

Therefore, it is expected that development traffic can be absorbed by the local road network without significant impact to efficient traffic flow.

7 Design and Traffic Management Assessment

Preamble

A design review of development drawings has been undertaken to assess the ability of proposed transport facilities to accommodate safe and efficient movement for all road users. The Ballarat Planning Scheme, Australian Standard for Parking Facilities (AS2890) and various other transport planning texts such as Austroads publications have been referred to for design guidance.

The proposed development anticipates transport infrastructure projects external to the site such as the Coffee Palace Lane upgrade and infill parking spaces along Mair Street. It is expected that should the proposal be granted a planning permit, a subsequent civil design and approvals process will apply to these works, and detailed design matters will be addressed at that time. Accordingly, only high level matters of layout and functionality are addressed in this report for external works.

It is noted that ESR Transport Planning has reviewed and provided design input to previous versions of development drawings.

The following are key outcomes of our assessment, and key design items that may require review as part of any future design development.

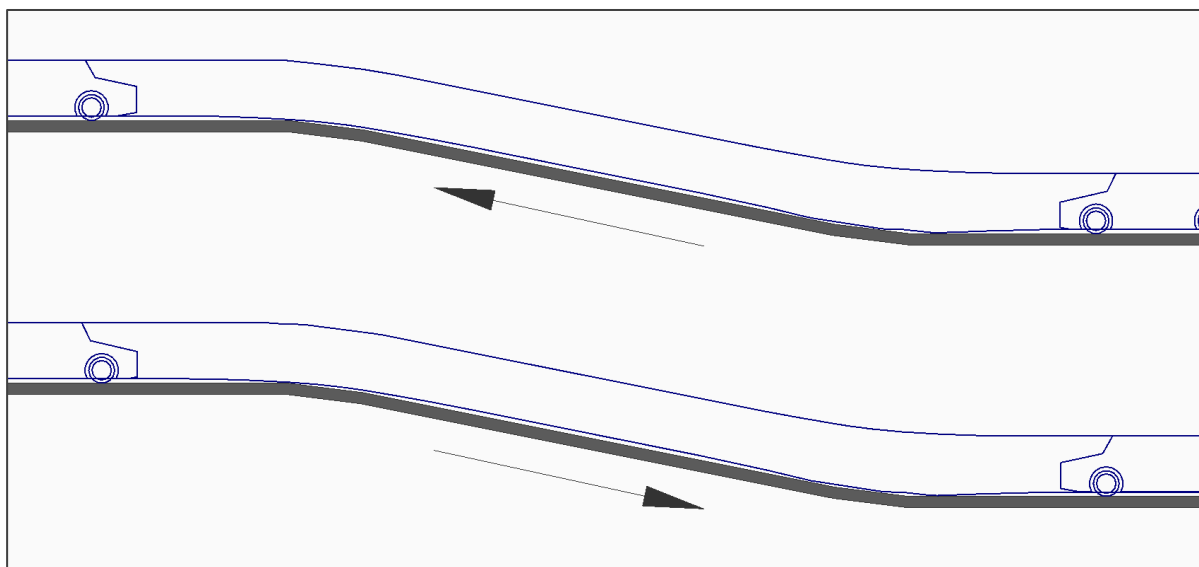
On-Site Car Parking

The proposed space, aisle and accessway dimensions are consistent with Clause 52.06 of the Planning Scheme, and the Australian Standard for Parking Facilities (AS2890.6) for accessible spaces.

Ramps Grades

The proposed ramp between basement and lower ground levels has a main grade of 1 in 5 (20%) with transitions of 1 in 8 (12.5%). Such grades are consistent with maximums required under Clause 52.06 and AS2890.1. A ground clearance template assessment has been undertaken as shown in Figure 7.1 to confirm the appropriate design vehicle does not bottom out.

Figure 7.1 Ground Clearance Template Assessment of Ramp Grades

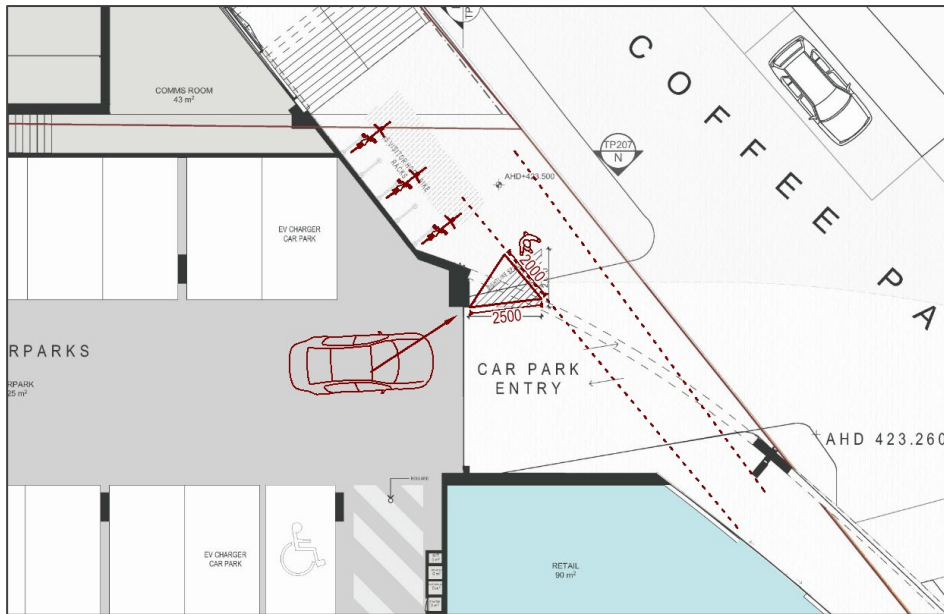


Design Vehicle: B99 passenger vehicle (AS2890.1).

Coffee Palace Lane Access

Clause 52.06-9 defines a splay (2.5m along exit x 2.0m along footpath) for sight lines to pedestrians where an accessway egress intersects with a frontage road footpath. The site layout dictates that this intersection is not perpendicular as is typically the case. Notwithstanding, at the proposed carpark exit to Coffee Palace Lane, the location of nearby bicycle parking rails and alignment of pedestrian desire lines across the access, ensures a sight line splay is achieved as defined in Clause 52.06, refer Figure 7.2.

Figure 7.2 Sight Line Splay at Car Park Exit



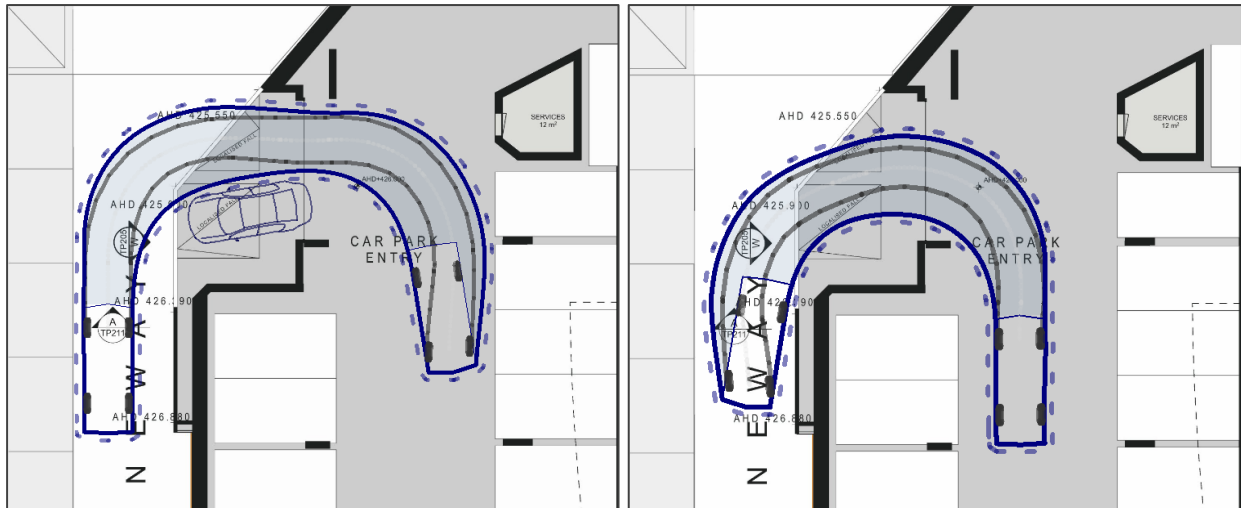
Western Boundary Lane Access

The unnamed laneway along the west side of 8 Mair Street is narrow and does not accommodate simultaneous two-way vehicle movements. The proposed 21 space mezzanine level carpark is to have entry and exit via the laneway, with sight lines between traffic entering from Mair Street and exiting the site not possible. To address potential conflicts, the following measures are recommended:

- This carpark be allocated to office tenants, whose traffic activity is mostly in during the morning, and out during the afternoon, therefore reducing the likelihood of simultaneous two-way movements.
- A warning system (e.g. vehicle detectors and lights) be installed to give motorists exiting the carpark notice of a vehicle within the laneway, and vehicles entering from Mair Street notice of a vehicle exiting the carpark.
- Signage at the carpark exit, advising motorists to give-way to laneway traffic.

Given the narrow width of the laneway, swept path analysis has been undertaken which confirms the appropriate design vehicle can satisfactorily enter and exit the proposed carpark access.

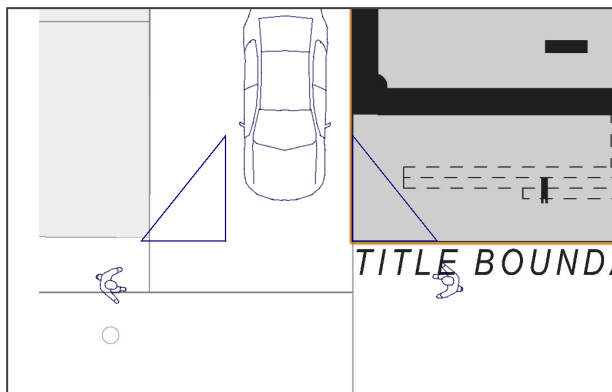
Figure 7.3 Swept Path Analysis, Mezzanine Level Carpark Entry and Exit



Design vehicle: B99 passenger vehicle (AS2890.1).

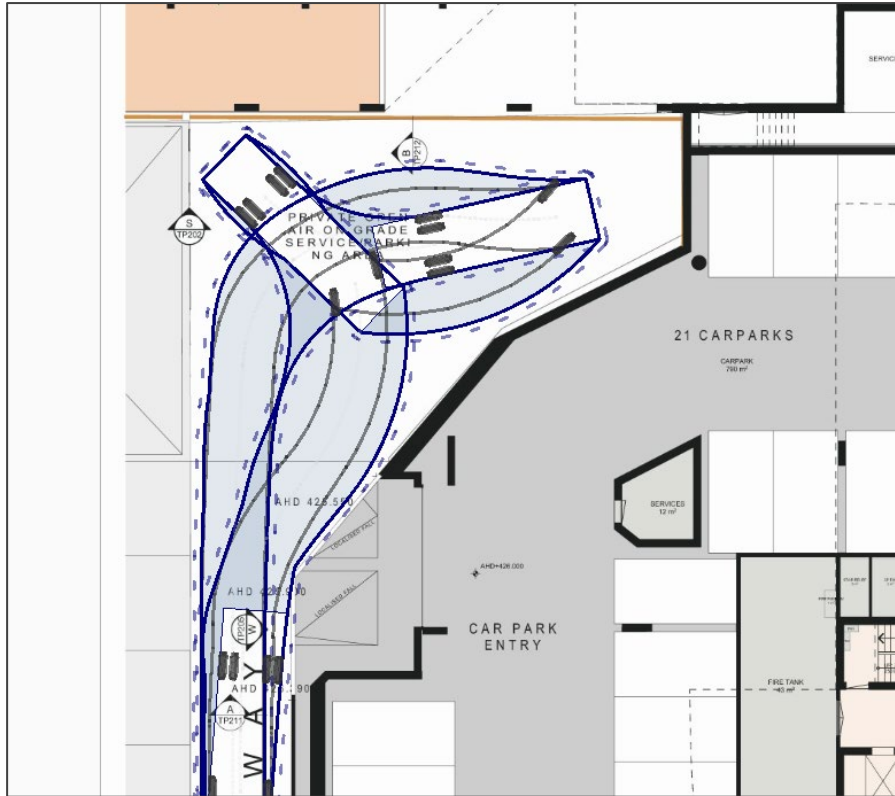
The Clause 52.06-9 sight line splay (2.5m x 2.0m) is achieved from vehicles exiting the leftmost 3m width of the laneway, due to the proposed building offset from Mair Street, and the available width of the laneway. Refer Figure 7.4.

Figure 7.4 Pedestrian Sight Line Splays at Laneway Exit to Mair Street



The proposed development will remove the ability for vehicles to travel along the rear of Lydiard Street properties between Coffee Palace Lane and the unnamed laneway, as they do currently (informally). Swept path analysis has been undertaken to confirm a waste collection vehicle can still service the rear of the property 114 Lydiard Street, with entry and exit in a forwards direction.

Figure 7.5 Swept Path Analysis, Rear of 114 Lydiard Street Waste Collection Vehicle Turn-Around

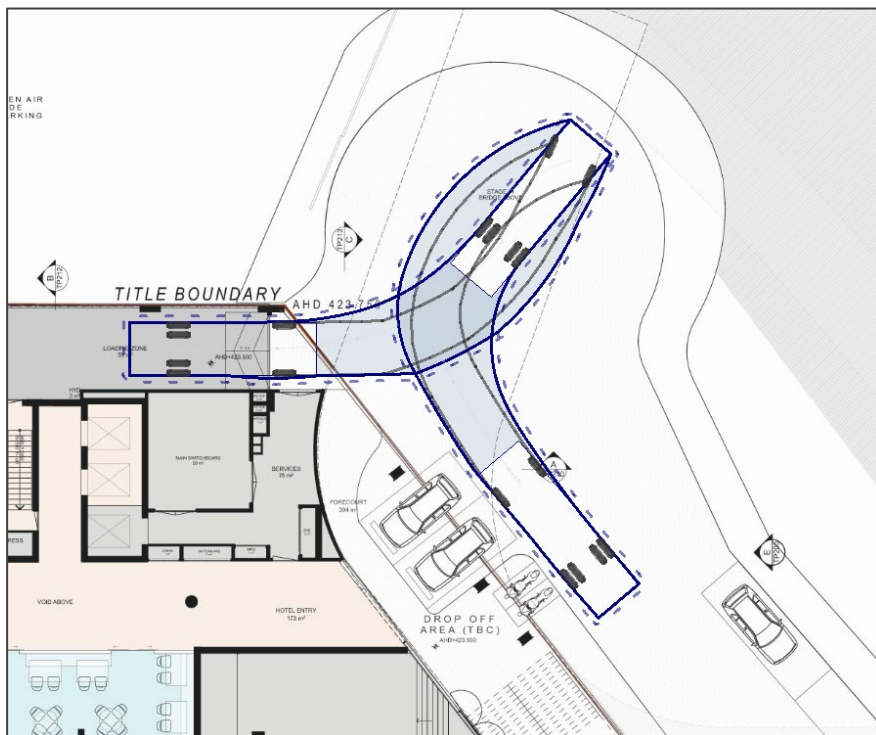


Design vehicle: 8.8m Medium Rigid Vehicle (MRV) (AS2890.2).

Loading Bay

Swept path analysis has been undertaken to confirm a waste collection vehicle (and other similar service trucks) can access the proposed loading bay satisfactorily.

Figure 7.6 Swept Path Analysis, Loading Bay Access



Design vehicle: 8.8m Medium Rigid Vehicle (MRV) (AS2890.2).

Bicycle Parking

Bicycle parking has been designed with space dimensions consistent with Australian Standard (AS2890.3) requirements.

Coffee Palace Lane

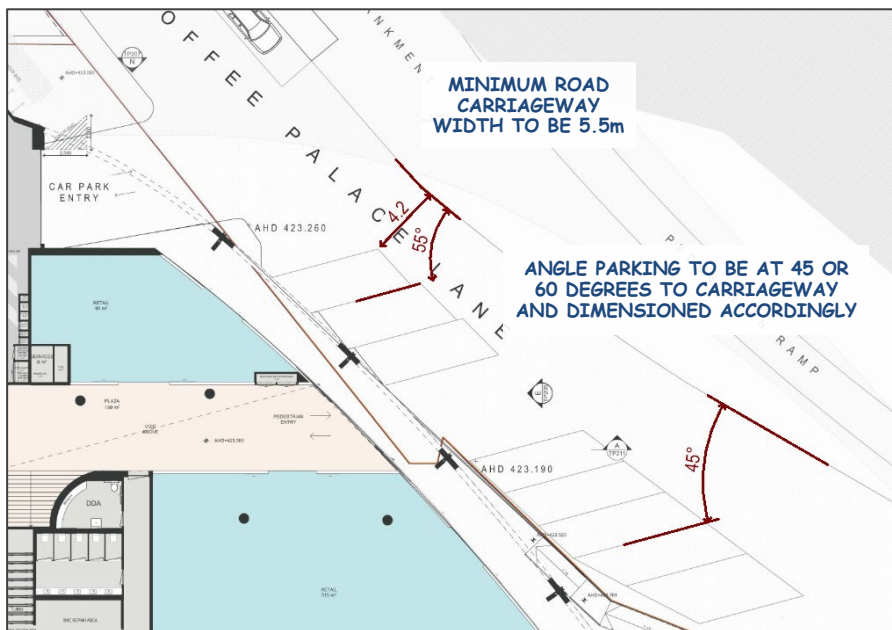
Coffee Palace Lane is expected to maintain relatively low traffic volumes post development, such that its functionality as a minor street or rear lane will remain appropriate.

It is understood that the design intent of the proposed Coffee Palace Lane upgrade, is that the carriageway will function as a shared zone (i.e. low speed (10kph) carriageway accommodating shared movement by vehicles, pedestrians and cyclists). This functionality is supported as a desirable improvement to existing conditions.

It is noted that some of the facilities to the southwest of the carriageway that will likely be perceived as public roadway (e.g. footpath), are within the subject site land. And as per existing conditions, some of the carriageway will be within rail reserve land.

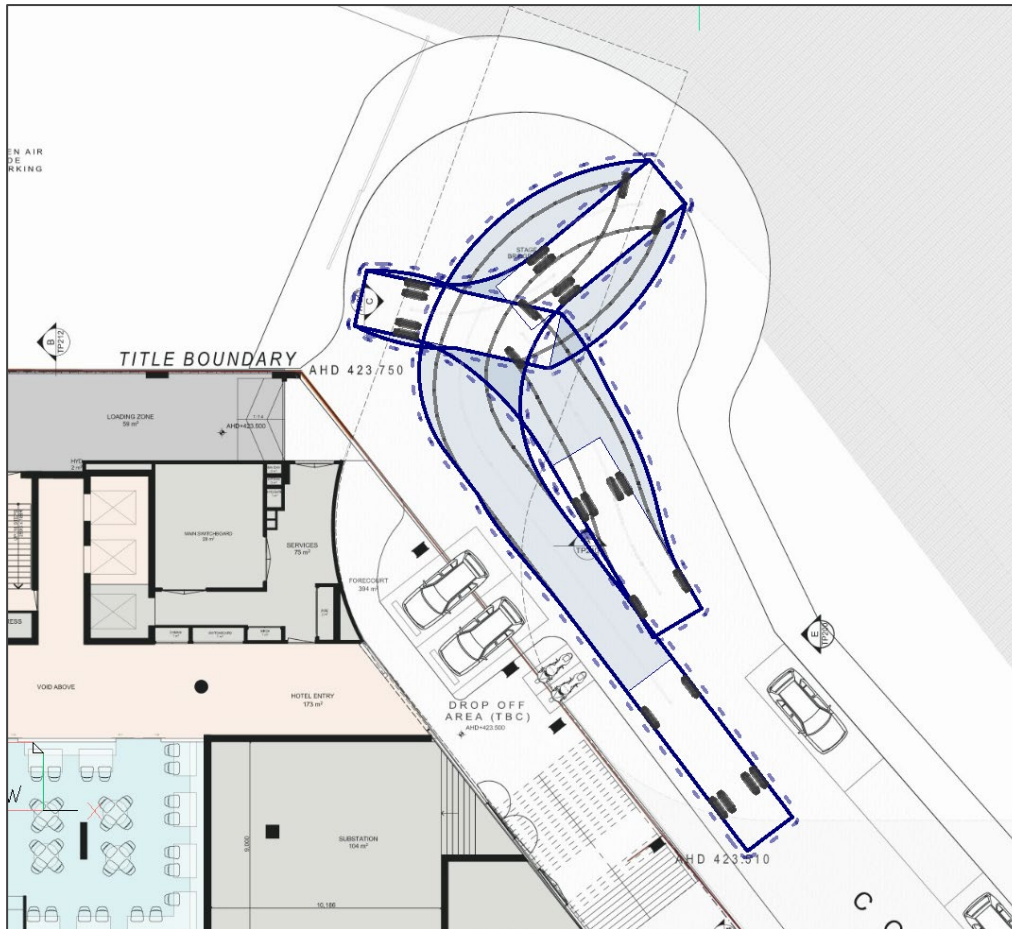
Development drawings currently define a carriageway width and on-street parking layout that in parts does not comply with relevant design guidelines / standards. Although it is anticipated that such details will be subject to latter design development that incorporates liaison with key stakeholders, key recommendations for modification are shown in Figure 7.7.

Figure 7.7 Layout Modifications Recommended for Coffee Palace Lane Layout



Development drawings currently define a court bowl with an radius in excess of 8m, consistent with CFA fire truck access requirements. And swept path analysis confirms a fire truck / waste collection truck can turn-around within the court bowl satisfactorily.

Figure 7.8 Swept Path Analysis, Court Bowl Turn-Around



Design vehicle: 8.8m Medium Rigid Vehicle (MRV) (AS2890.2).

Mair Street Upgrade Project

The proposed development does not modify existing vehicle access arrangements to / from Mair Street in the vicinity, apart from removal of redundant vehicle crossings, to be replaced with kerbside parallel parking. Accordingly, the proposed development is not expected to impede any aspects of the Mair Street Upgrade Project

Drop-off / Pickup

The proposed residential hotel could be expected to generate drop-off / pickup parking needs for taxis (& uber) and coaches.

The proposed 2 parking spaces in 90 degree configuration accessed directly from Coffee Palace Lane will provide short term parking convenient to the residential hotel reception, and could be utilised by passenger vehicles and small vans. There is also 2 taxi bays on Lydiard Street opposite the site.

For coaches, the provision of a bus bay and associated turning area either on-site or within Coffee Palace Lane is unlikely to represent a desirable urban design outcome, and is therefore not recommended. Accordingly, coach drivers are likely to seek on-street parking nearby for drop-off / pickup. There are limited coach parking areas within Ballarat's CBD and often car parking spaces are utilised given the need to park convenient to a destination. At this site, the parallel kerbside parking on Mair Street is likely an attractive option for bus parking. It is recommended that as part of any future detailed design activities associated with the proposed external works,

and associated liaison with road agencies (Council, Department of Transport), parking management measures, or dedicated on-street facilities, to accommodate coach parking nearby be given consideration.

Design Assessment Summary

Set out above are key outcomes of a design assessment, along with key design items that may require review as part of any future design development. These outcomes indicate that the proposed development is generally consistent with relevant design guidelines and could be expected to accommodate safe and efficient operational outcomes.

8 Community Benefits

It is relevant to note that the proposed development has been designed to deliver transport related community benefits that are quite significant as follows:

- The proposed development incorporates new publicly accessible pedestrian connections between Ballarat Station, Mair Street and Lydiard Streets, which will be more convenient in terms of travel distance, as well providing an attractive walking environment.
- The proposed development incorporates a major upgrade to Coffee Palace Lane, greatly enhancing operating conditions for vehicular access, car parking, walking and cycling. As well as providing urban realm improvements.

Appendix A Car Parking Survey Data

Table A1 Car Parking Survey Data

Location	Segment	Side	Restrictions	Supply	Tue	Wed	Wed	Wed	Wed	Wed	Wed	Fri	Fri	Fri	Sat	Sat	Sat
					22/03/22 9:00	2/03/22 11:30	2/03/22 13:00	2/03/22 15:30	2/03/22 17:00	23/03/22 17:00	2/03/22 19:30	4/03/22 11:30	18/03/22 14:30	4/03/22 19:30	19/03/22 11:00	19/03/22 13:30	19/03/22 22:00
Coffee Pal. Ln		SW	2P	10	10	7	7	5	1	4	1	8	4	0	3	4	1
		NW	2P (x2 P)	15	7	2	3	2	2	2	1	9	4	1	0	0	0
Mair St	Armstrong St - Lydiard St	all	Pmeter	29	13	24	20	21	20	13	29	24	24	29	8	27	25
	Lydiard St - Camp St	N	2P	8	8	6	5	7	7	7	8	5	5	8	4	4	6
	Camp St - Grenville St	N	2P	35	22	10	20	15	15	10	13	14	17	19	9	19	13
		S	Pmeter	36	0	6	8	8	9	8	16	9	7	22	10	10	11
	Grenville St - Davies St	N	2P (x3 1P)	15	6	12	8	12	11	8	1	14	13	1	4	8	0
		S	2P	24	7	13	16	12	15	11	0	20	14	0	10	13	0
Lydiard St	Seymour St - Doveton Cr	E	none	18	18	14	13	14	6	9	6	8	13	9	13	16	6
		W	2P	24	6	9	9	9	9	8	4	8	10	9	5	7	8
	Ararat St - Mair St	E	Pmeter (x1 3P dis.)	16	7	3	6	8	9	12	14	9	11	15	3	3	9
		W	Pmeter (x1 2P dis.)	15	6	2	7	4	6	7	13	11	11	15	6	10	10
	Mair St - Sturt St	E	Pmeter (x1 2P dis.)	32	10	19	26	16	12	13	32	26	28	32	20	28	25
		W	Pmeter (x2 4P dis. x2 2P dis.)	40	8	18	33	19	26	33	40	32	33	39	26	38	35
Camp St		E	Pmeter (x2 3P dis.)	29	15	23	16	17	12	11	21	23	18	28	13	12	19
		W	Pmeter	28	7	9	10	7	7	10	18	15	11	28	1	3	8
Field St	Camp St - Grenville St	both	Pmeter	17	2	0	1	3	7	3	0	0	2	12	3	0	3
Doveton Cr	Armstrong St - Lydiard St	N	none (x1 2P dis.)	19	18	16	17	16	7	12	1	17	19	6	19	19	6
		N	3P	9	4	5	2	4	3	2	3	5	5	1	4	5	3
		S	none	31	31	31	31	29	24	27	7	31	31	18	31	31	11
		N	none	19	19	19	18	15	6	12	3	18	19	17	19	19	12
Ararat St	Armstrong St - Lydiard St	N	none	16	6	11	11	8	3	2	6	6	4	14	3	6	6
		S	Pmeter	8	5	2	2	3	1	1	5	0	8	6	2	1	3
Market St	Armstrong St - Lydiard St	both	Pmeter (incl. x4 90deg.)	16	13	9	9	15	4	7	14	11	12	14	2	3	6
Armstrong St	Ararat St - Market St	E	Pmeter (x1 dis.)	12	2	6	4	6	1	5	8	6	4	12	3	3	6
		W	Pmeter (x1 dis.)	16	4	8	7	7	2	2	11	5	6	16	1	1	6
	Market St - Mair St	E	Pmeter (x2 dis.)	19	7	17	12	15	9	10	17	12	17	17	4	18	14
		W	Pmeter (x2 2P dis.) (x2 1/2P)	16	5	14	13	12	5	4	15	5	16	16	5	14	8
Total				572	266	315	334	309	239	253	307	351	366	404	231	322	260
Field Street Carpark			Pmeter	42	38	20	19	15	10	12	1	25	28	0	4	4	0
Eastern Oval Carpark			none	150	10	18	19	13	6	5	1	10	13	0	3	5	0

Notes:

Restrictions typically apply 9am-5:30, Monday to Saturday.

Legend: 0-50% 51-70% 71-85% 86-99% 100%+ occupancy rate