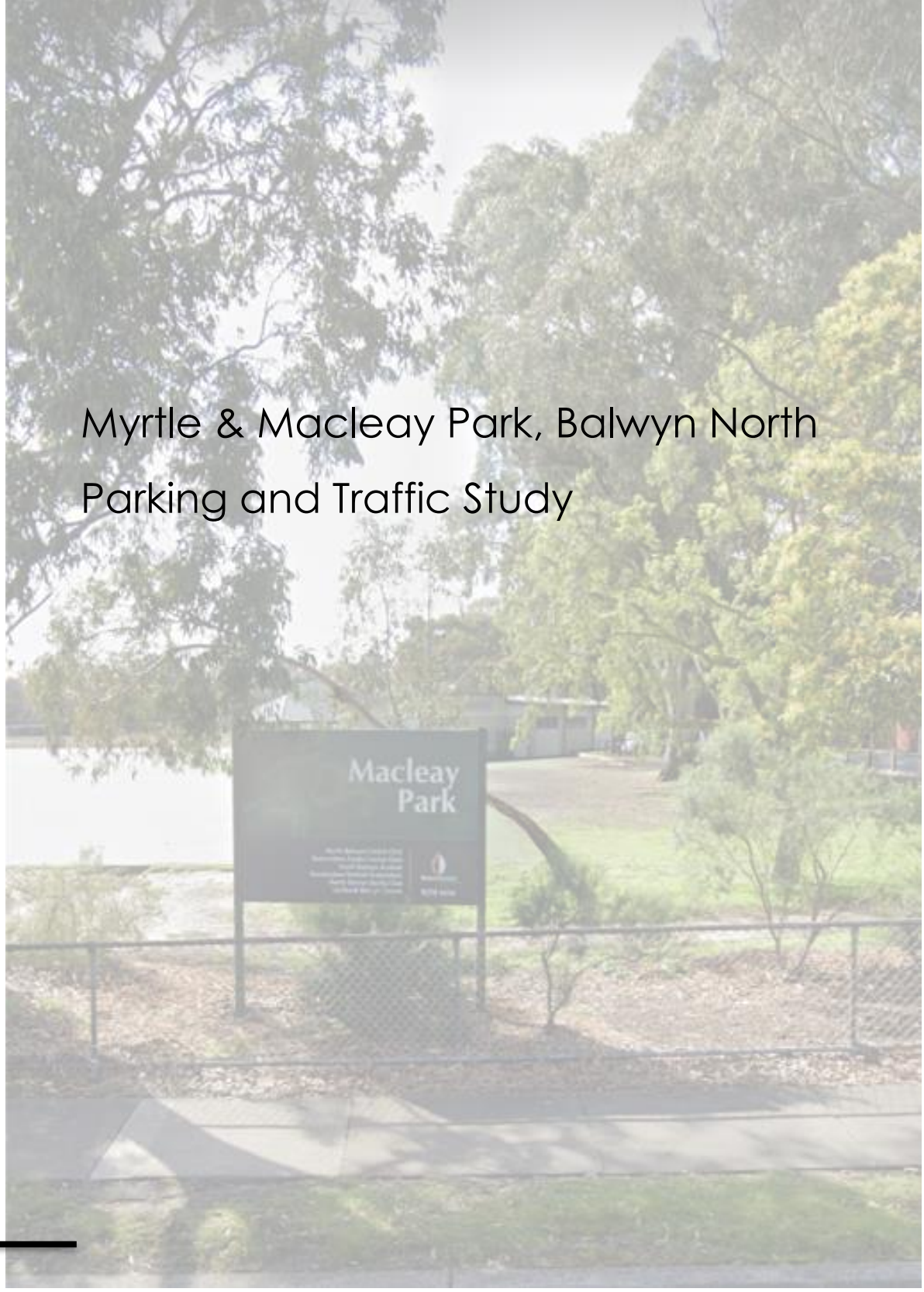



# Myrtle & Macleay Park, Balwyn North
# Parking and Traffic Study

**12/10/2023**

**Ref: 300304067**

**PREPARED FOR:**

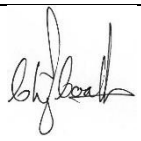
City of Boroondara

**PREPARED BY:**

Stantec Australia Pty Ltd

Stantec

# Quality Record

| Issue | Date | Description | Prepared By | Checked By | Approved By | Signed |
|---|---|---|---|---|---|---|
| A | 08/05/23 | Final | Hans Gao | Chris Coath | Chris Coath |  |
| B | 01/09/2023 | Final, incorporating comments from Council officers | Hans Gao | Chris Coath | Chris Coath |  |
| C | 12/10/2023 | Final, incorporating comments from Council officers | Hans Gao | Chris Coath | Chris Coath |  |

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# Executive Summary

## Background and Context

Myrtle and Macleay Parks form part of the major sporting precinct in Balwyn North and are noted in the Boroondara Open Space Strategy as the most popular parks in Balwyn North and provide structured sporting and unstructured recreation facilities and informal use of the sports grounds.

Boroondara City Council (Council) is currently preparing a precinct Master Plan and has commissioned Stantec to prepare a car parking and traffic analysis of the precinct.

Discussion and analysis relating to the existing operation of the precinct included but were not limited to observations of driver behaviour, congestion, parking patterns, extent of parking, parking non-compliances and pedestrian movement patterns. The recommendations of this report consider observational analysis undertaken by Stantec staff in August 2022, desktop studies and current sportsground allocations and fixtures information relating to the operations of tenant clubs and organisations, and consideration of car parking occupancy and duration of stay counts from June 2021.

Saturday is the day corresponding to both peak external road traffic and precinct activity and is the focus of this study.

## Car Parking Considerations

The precinct currently provides in the order of 199 unrestricted car parking spaces including an informal unsealed overflow area. These car parks are intended for visitors to the precinct, including park users, and are understood to operate at or beyond capacity during busy sporting days (e.g. Saturdays throughout winter).

An existing conditions car parking demand assessment was undertaken, which estimated a peak car parking demand of 535 spaces on Saturdays at 10:00am, indicating that there is an estimated overspill of 336 car parking spaces during the Saturday peak, noting that this assessment does not include car parking demand associated with passive users of the precinct. It is recognised that this overspill is only significant on Saturdays, particularly in the morning between 9:00am-11:00am, and that parking restrictions are in place to manage and balance car parking between precinct users and surrounding residents.

It is also observed that there are limited options within the precinct and its surrounds to increase the supply of car parking without removing public open space or recreational facilities.

It is proposed to install lighting at five existing netball courts to facilitate training and games later into the evening, noting that lighting has already been provided at the other three netball courts. A car parking demand assessment was undertaken, which indicated that lighting installation would not be expected to introduce significant car parking impacts.

## Key Issues & Recommendations

Key issues and recommendations identified by this study are summarised at Table ES.1 below.

**Table ES.1: Key Issues & Recommendations**

| Key Issues | Stantec Recommendations | Refer Further |
|---|---|---|
| **Parking overspill onto nearby residential streets** | • Regularly monitor parking overspill on nearby streets and implement measures to manage overspill parking if necessary.<br>• Undertake additional parking enforcement in areas where illegal or inappropriate car parking regularly occurs, in order to maintain amenity and access for residents.<br>• Implement 'hockey stick' line marking in nearby streets that regularly experience overspill car parking, in order to provide additional guidance for appropriate parking arrangements. | Section 6.1.5 |

| | | |
|---|---|---|
| **Inefficient usage of precinct car parking** | • Formalise the Macleay Park overspill car park.<br>• Investigate the feasibility of introducing dynamic vacancy signage for the precinct's car parking. | Section 6.1.2 and 6.1.4 |
| **Operation of Belmore Road / Site Access intersection** | • Undertake ongoing monitoring to identify if motorists queuing to turn right to exit the precinct are regularly blocking those wanting to turn left during peak periods. If so, investigate a right-turn ban onto Belmore Road during peak periods.<br>• If necessary, install 'Keep Clear' line marking to facilitate movements in and out of the Macleay Park overflow car park. | Section 6.2.1 |
| **Vehicle circulation at end of Macleay Park Internal Road** | • Explore opportunities to improve vehicle circulation at the end of the Macleay Park internal road such that drivers are able to turn around without use of a reverse movement via a three-point turn. | Section 6.2.4 |
| **Improvements to pedestrian access, movement and wayfinding** | • Improve pedestrian access at the Belmore Road / Vehicular Site Access intersection.<br>• Improve pedestrian connectivity within the precinct, particularly in providing an opportunity for pedestrians walking north-south to minimise the need to walk on or cross the Macleay Park internal road.<br>• Provide additional pedestrian wayfinding signage to assist pedestrians in navigating the precinct, particularly at key pedestrian decision points.<br>• Provide additional pedestrian priority across the overflow car park crossover and site access crossover.<br>• Reinforce pedestrian priority along the Macleay Park Internal Road raised platform closest to Belmore Road.<br>• Consider introducing additional traffic calming along the east-west section of the Macleay Park internal road.<br>• Investigate options to limit parking on Elliot Avenue or Monash Avenue by precinct users. | Section 6.3 |

# 1. Introduction

## 1.1 Background

Myrtle and Macleay Parks form part of the major sporting precinct in Balwyn North and are noted in the Boroondara Open Space Strategy as the most popular parks in Balwyn North and provide structured sporting and unstructured recreation facilities and informal use of the sports grounds.

The precinct currently provides in the order of 199 unrestricted car parking spaces including an informal unsealed overflow area. These car parks are intended for visitors to the precinct, including park users, and are understood to operate at or beyond capacity during busy sporting days (e.g. Saturdays throughout winter).

Activity within the precinct typically peaks on weekends during winter, with demands also occurring on weekday evenings associated with sports training activities.

The Myrtle and Macleay Park precinct is shown in Figure 1.1.

**Figure 1.1: Myrtle and Macleay Park, Balwyn North**




Boroondara City Council (Council) is currently preparing a Master Plan for the precinct and has commissioned Stantec to prepare a car parking and traffic analysis of the precinct.

## 1.2 Scope of Report

The purpose and scope of this report is as follows:

- to discuss the existing operations of the precinct, including an assessment of current car parking demand, pedestrian movement, vehicle circulation and congestion during the peak operational periods of the winter sporting season

- to review potential parking and traffic impacts of introducing lighting to five existing netball courts (noting that three netball courts currently have lighting). Lighting will enable a greater number of netball games to be played during the evening and training sessions to occur later into the evening on weeknights.
- Provide input into the movement of vehicles and pedestrians to inform the Master Plan being prepared by Council of the park and to prepare a concept design for the formalisation of the Macleay Park overspill car park.

This report builds on the high-level parking and traffic study previously completed by Stantec (previously GTA Consultants) in June 2021.

## 1.3 References

### 1.3.1 August 2022 Stantec Site Inspections

Discussion and analysis relating to the existing operation of the precinct is primarily based on the site inspections of the precinct undertaken by Stantec staff during the following times:

- Friday 5 August 2022 from 3:30pm to 6:00pm (wet weather)[1]
- Saturday 6 August 2022 from 9:00am to 1:00pm (fine weather)
- Sunday 7 August 2022 from 9:00am to 1:00pm (fine weather)

These site inspections included but were not limited to observations of driver behaviour, congestion, parking patterns, extent of parking, parking non-compliances and pedestrian movement patterns.

These observations have been used to inform opinions on items such as the adequacy of current pedestrian and vehicle movement and the need for an additional site access point. These observations are referenced in the following sections of this report. These observations have not been used to inform our analysis on car parking occupancy.

A summary of the sporting activity and car parking occupancy observed during the site inspections is provided at Appendix B.

### 1.3.2 Other References

In addition to the August 2022 Stantec site inspections, in preparing this report reference has also been made to the following:

- Car parking occupancy and duration of stay counts commissioned by Council undertaken in June 2021 (Thursday 24 June 4pm-8pm, Saturday 19 June 7am-5pm, Sunday 20 June 8:30am-3:30pm).
- Operational information of the sporting ovals for June 2021 provided by Boroondara City Council.
- Operational information of the sporting ovals for the 2022/2023 summer and winter season provided by Boroondara City Council.
- Detailed operational information of the sporting ovals for August 2021 provided by Boroondara City Council.
- Myrtle and Macleay Park Parking and Traffic Study prepared by Stantec (formerly GTA Consultants) dated 30 June 2021 (the previous Stantec study)
- Boroondara Planning Scheme

[1] It is noted that due to wet weather conditions on the Friday, all sporting games after 4:30pm were cancelled.

- Boroondara Parking Management Procedures and Boroondara Parking Management Policy. Both documents adopted by Council on 13 November 2017.
- Other documents as nominated

# 2. Existing Conditions Discussion

## 2.1 Subject Site Sporting Facilities

The subject site is located at 189 Belmore Road, Balwyn North. The site is bound by Belmore Road to the south, Gildan Street and Severn Street to the west and Buchanan Avenue to the east. The existing building and infrastructure are shown in Figure 2.1 and include:

- Four ovals primarily used for soccer in winter and cricket in summer (Macleay Park Ovals 1, 2, 3 and 5). It is noted that Macleay Park Oval 5 is generally used for passive activities.
- Two ovals / pitches primarily used for baseball in winter and cricket in summer (Myrtle East and Myrtle West ovals)
- Eight netball courts
- A playground
- A Scout Hall
- Three sporting pavilions as follows:
    - one pavilion between the Myrtle West Oval and Myrtle East Oval
    - one pavilion between Macleay Park Ovals 1 and 2
    - one pavilion servicing the netball courts.

The site is located within a Public Park and Recreational Zone (PPRZ). The immediate surrounding area includes residential dwellings, Balwyn High School and North Balwyn Bowls Club.

**Figure 2.1: Macleay & Myrtle Park Sporting Facilities**




## 2.2 Existing Precinct Off-Street Car Parking

### 2.2.1 Car Parking Supply and Vehicle Access

The precinct contains a total of approximately 199 car parking spaces (all provided as 90-degree spaces), comprising of the following:

- 116 formal spaces ('Macleay Park Formal Car Parking') and 48 informal spaces ('Macleay Park Overspill Car Park') that are mainly situated on the eastern side of the site. Access to these spaces can be made via the primary vehicular site access off Belmore Road.
- approximately 35 informal spaces ('Myrtle Park Informal Car Parking') provided on the western side of the precinct, adjacent to the Myrtle East Oval. These spaces can be accessed via Gildan Street.

Furthermore, it is noted that the main circulation aisle that runs through the site in an east – west direction is separated via kerbing and bollards and therefore blocks vehicles from entering via Belmore Road and exiting out from Gildan Street, or vice versa.

Additionally, the subject site shares borders with the North Balwyn Bowls Club. It is understood that the Club provides its own separate car parking and access from Buchanan Avenue, and a high-level assessment of the Club's car parking demands are included in this report at Section 4.3. Further consideration of the Bowls Club has therefore not been considered.

**Figure 2.2: Macleay & Myrtle Park Car Parking Supply and Access**




## 2.3 Existing On-Street Car Parking Resources

In addition to the formal and informal off-street car parking available within the precinct, there are a number of unrestricted on-street car parking resources adjacent to the precinct regularly used by its users, including:

- Belmore Road
- Buchanan Avenue
- Severn Street

In addition, during periods of peak activity, precinct users also use the on-street parking resources in other nearby residential streets. Council has attempted to manage the use of these resources by precinct users by means of tailored permit parking restrictions which restrict non-permit parking to one side of the road only on Saturdays between 8:00am and 6:00pm. These streets include the following:

- Elliot Avenue
- Bernborough Avenue
- Monash Avenue

There are other nearby residential streets that do not currently have tailored permit parking restrictions in place, including:

- Tower Road
- Gildan Street
- Kendari Avenue
- Metung Street

- Hilda Street
- Hood Street

## 2.4 Existing Pick-up/Drop-off Areas

It is noted that on-street car parking on the northern side of Belmore Road near the access to the precinct is time restricted on Saturdays as follows:

- 2-minute parking between 8:00am to 5:00pm to the west of the site access
- 5-minute parking between 8:00am and 6:00pm to the east of the site access

The above parking restrictions allow these areas to be used for pick-up and drop-off on Saturdays, when sporting activity at the precinct is at its highest.

## 2.5 Precinct and Surrounding Road Network

### 2.5.1 Preamble

The following provides commentary on the precinct's internal roads and other nearby roads which are typically impacted by the precinct's activity.

### 2.5.2 Macleay Park Internal Road

The Macleay Park internal road network is managed by Council. It is configured with an approximately 5.5m wide trafficable carriageway, allowing two-way flow, with one lane in each direction. The internal road network comprises of several sections of road, as follows:

- **Section 1 – Between Belmore Road and Macleay Park Oval 1:** For this section the road is aligned in a north-south direction. There are three raised platforms along this section which slow vehicle speeds. The raised platform closest to Belmore Road also acts as an informal pedestrian crossing (no zebra markings). The following raised platform acts as a formal pedestrian crossing (zebra markings provided), providing pedestrian connectivity between the netball courts and the playground. Angled (90-degree) car parking spaces are provided along this section, including two accessible spaces for persons with a disability.
- **Section 2 – Between Macleay Park Oval 1 and the Internal Roundabout:** For this section the road is aligned in a generally east-west direction. No traffic calming or pedestrian crossings are provided along this section. Angled (90-degree) car parking spaces are provided along this section. A single-lane roundabout is provided at the western end to allow vehicles to turn around or continue to the third section.
- **Section 3 – Between the Internal Roundabout and the Modal Filter:** This section the road is aligned in a generally east-west direction. Concrete speed bumps are provided at the start and end of this section. Angled (90-degree) car parking spaces are provided along this section.

Figure 2.3 to Figure 2.5 show the three sections of road, with images provided for both directions.

**Figure 2.3: Views of Macleay Park Internal Road Section 1 (Looking North and South)**




Source: Google Street View Imagery, Imagery from July 2021



Source: Google Street View Imagery, Imagery from July 2021

**Figure 2.4: Views of Macleay Park Internal Road Section 2 (Looking East and West)**



Source: Google Street View Imagery, Imagery from July 2021



Source: Google Street View Imagery, Imagery from July 2021

**Figure 2.5: Views of Macleay Park Internal Road Section 3 (Looking East and West)**




Source: Google Street View Imagery, Imagery from October 2014



Source: Google Street View Imagery, Imagery from July 2021



Source: Google Street View Imagery, Imagery from Nov 2009

### 2.5.3 Myrtle Park Internal Road

The Myrtle Park internal road network is managed by Council. It is configured with approximately 5.5m wide trafficable carriageway, allowing two-way flow. The road is aligned in an east-west direction and has a northern frontage to Myrtle East Oval. Traffic calming is provided at the start and end of the road by means of a raised platform and speed bump. An informal angled (90-degree) car parking area is provided along the north side of the road.

Figure 2.6 shows this road looking from east and west.

**Figure 2.6: Views of Myrtle Park Internal Road (Looking East and West)**



Source: Google Street View Imagery, Imagery from June 2019



Source: Google Street View Imagery, Imagery from June 2019

### 2.5.4 Belmore Road

Belmore Road is an arterial road managed by the Department of Transport. It is configured with an approximate 14m wide carriageway, providing two lanes in each direction. The road is aligned in an east-west direction, with a northern frontage to Macleay Park Oval 3, the netball courts, and the overflow car parking area. Footpaths are provided along both sides of the road.

Bus stops (including shelters) servicing the 302 and 304 bus routes are provided approximately 60m east of the Macleay Park vehicular access. Pedestrian operated signals are provided approximately 85m east of the access.

Figure 2.7 shows this road looking east and west at its intersection with the Macleay Park vehicular site access.

**Figure 2.7: Views of Belmore Road (Looking East and West)**



Source: Google Street View Imagery, Imagery from July 2021



Source: Google Street View Imagery, Imagery from July 2021

### 2.5.5 Buchanan Avenue

Buchanan Avenue is a collector road managed by Council. It is configured with an approximate 7m wide carriageway. On-street parking is permitted on both sides of the road, with the eastern side (fronting residential areas) restricted as a permit zone on Saturday. Two-way simultaneous vehicle flow is not possible when cars

are parked on both sides of the road. The road is aligned in a north-south direction, with a western frontage to the Macleay Park playground and Macleay Park Oval 5. Footpaths are provided along both sides of the road.

Figure 2.8 shows this road looking north and south.

**Figure 2.8: Views of Buchanan Avenue (Looking North and South)**



Source: Google Street View Imagery, Imagery from June 2019



Source: Google Street View Imagery, Imagery from June 2019

## 2.5.6 Severn Street

Severn Street is a collector road managed by Council. It is configured with an approximate 7.5m wide carriageway. On-street parking is permitted on both sides of the road, with the eastern side (fronting Myrtle Park) with the exception that parking is restricted as a no stopping zone on Saturday. A short section of this side also includes a no stopping zone restriction between 5pm-7pm Monday to Friday. Two-way simultaneous vehicle flow is not possible when cars are parked on both sides of the road. The road is aligned in a north-south direction, with an eastern frontage to the Myrtle West Oval. Footpaths are provided along both sides of the road.

Figure 2.9 shows this road looking north and south.

**Figure 2.9: Views of Severn Street (Looking North and South)**




Source: Google Street View Imagery, Imagery from July 2021




Source: Google Street View Imagery, Imagery from July 2021

## 2.5.7 Bernborough Avenue, Elliot Avenue and Monash Avenue

Bernborough Avenue, Elliot Avenue and Monash Avenue are local roads managed by Council. They are configured with an approximate 7m wide carriageway. On-street parking is permitted on both sides of the roads, with one of the roads restricted as a permit zone on Saturday. Two-way simultaneous vehicle flow is not possible when cars are parked on both sides of the road. The roads are aligned in a north-south direction, connecting to Belmore Road at the north at unsignalized T-Intersections. Footpaths are provided along both sides of the road.

Park users parking along this street are required to cross Belmore Road to reach the precinct, either uncontrolled or at the pedestrian operated signals to the east.

Figure 2.10, Figure 2.11 and Figure 2.12 show these roads looking north and south.

**Figure 2.10: Views of Bernborough Avenue (Looking North and South)**



Source: Google Street View Imagery, Imagery from November 2018



Source: Google Street View Imagery, Imagery from November 2018

**Figure 2.11: Views of Elliot Avenue (Looking North and South)**



Source: Google Street View Imagery, Imagery from June 2019



Source: Google Street View Imagery, Imagery from June 2019

**Figure 2.12: Views of Monash Avenue (Looking North and South)**



Source: Google Street View Imagery, Imagery from May 2019



Source: Google Street View Imagery, Imagery from May 2019

## 2.6 Belmore Road Traffic Profile Identification

It is beneficial to understand the profile of traffic activity on the nearby external road network to compare the profiles of precinct activity to the external road network traffic activity.

To inform this consideration SCATS traffic volume data (open-source data made available by the Department of Transport for signalised intersections) has been extracted for the Balwyn Road / Belmore Road signalised intersection[2] to the east of Macleay & Myrtle Park for the August 2022 period.

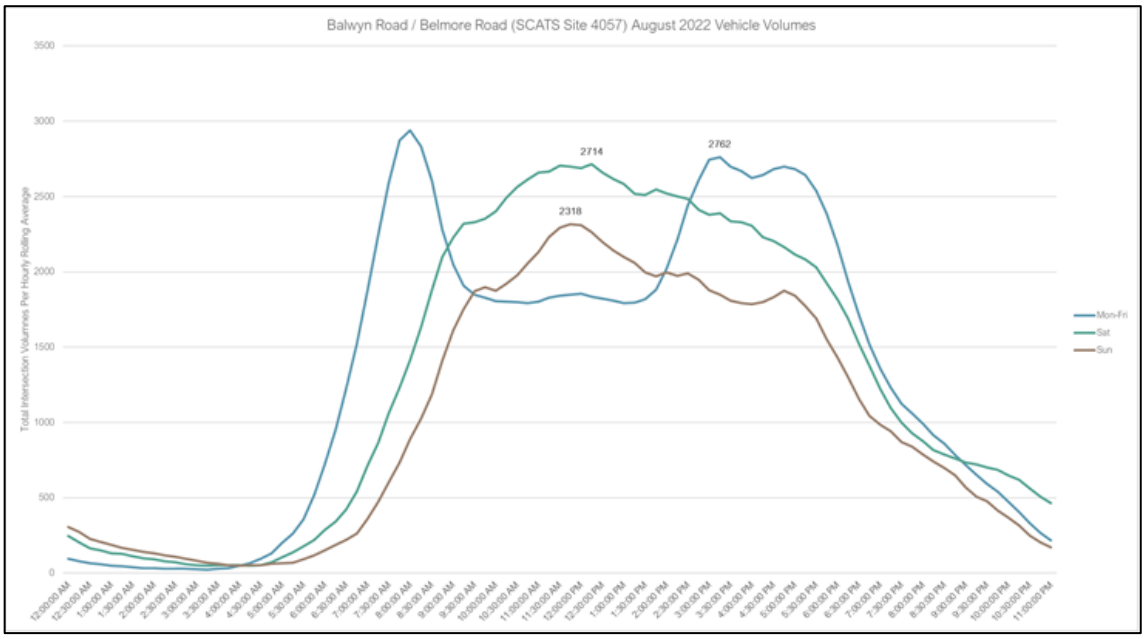
Figure 2.13 shows the average weekday, Saturday and Sunday hourly traffic volumes from August 2022 for the Balwyn Road / Belmore Road intersection (total traffic volume for all approaches).

From this graph the following can be observed:

- Saturday and Sunday traffic volumes both have their peak hours from approx. 12:00pm-1:00pm. This is after the peak period of precinct competition activity, which generally occurs from 9:00am-11:00am.
- The weekday traffic volume peak hour is from 3:15pm-4:15pm, with a sharp drop off in traffic after 5:30pm (approx.).
- The weekday PM peak hour and Saturday peak hours have very similar traffic volumes. The Saturday peak hour has approx. 17% more traffic than Sunday.

In summary, Saturday is the day corresponding to both peak external road traffic and precinct activity and is the focus of this study. While external traffic volumes peak during the weekday AM peak, activity within the parking precinct at this time is negligible.

**Figure 2.13: Balwyn Road / Belmore Road August 2022 Traffic Volumes (Hourly Rolling Average)**




## 2.7 June 2021 Car Parking Surveys

Car parking occupancy and duration of stay counts from June 2021 were provided by Council for the on-site car parking areas as well as the immediate surrounds of the site.

A review of the 2021 public health lockdown dates in Victoria indicated that the surveys were undertaken shortly after Stage 4 restrictions and stay at home orders were lifted on 10 June 2021.

As such, the survey data and fixturing information was not considered to be representative of typical peak conditions and was not used to inform our car parking demand analysis.

2 This intersection is approximately 750m east of the Belmore Road vehicular site access and represents the signalised intersection closest to the precinct.

## 2.8 Public Transport Network

The site is located relatively close to several public transport options via the tram and bus networks within the local area. In particular, there are bus stops on Belmore Road servicing the 302 and 304 bus routes that stop approximately 240m away from the site. The locations of the bus and tram routes are shown in Figure 2.14 and summarised in Table 2.1 below.

**Figure 2.14: Public Transport in the Vicinity of the Site**




**Table 2.1: Public Transport Routes in the Vicinity of the Subject Site**

| Service | Route No | Route Description | Distance to Nearest Stop (m) |
|---|---|---|---|
| Bus | 207 | City – Doncaster SC via Kew Junction | 1,200m |
| | 285 | Doncaster Park and Ride – Camberwell via North Balwyn | 900m |
| | 302 | City – Box Hill Station via Belmore Rd and Eastern Fwy | 240m |
| | 304 | | 240m |
| | 548 | Kew (Cotham Road) – La Trobe University Bundoora | 1,200m |
| Tram | 48 | North Balwyn – Victoria Harbor, Docklands | 1,000 |

## 2.9 Active Travel Network

### 2.9.1 Pedestrian Infrastructure and Access

The site is surrounded by formal pedestrian paths on both sides of the neighbouring roads and streets.

There are also various pedestrian paths running through the park, connecting areas of the site to an outer path which generally follows the site perimeter, and which connects to the wider pedestrian network. Figure 2.15 shows a map of pedestrian paths available within the precinct as well as key pedestrian access points.

**Figure 2.15: Pedestrian Paths Within Park Precinct**



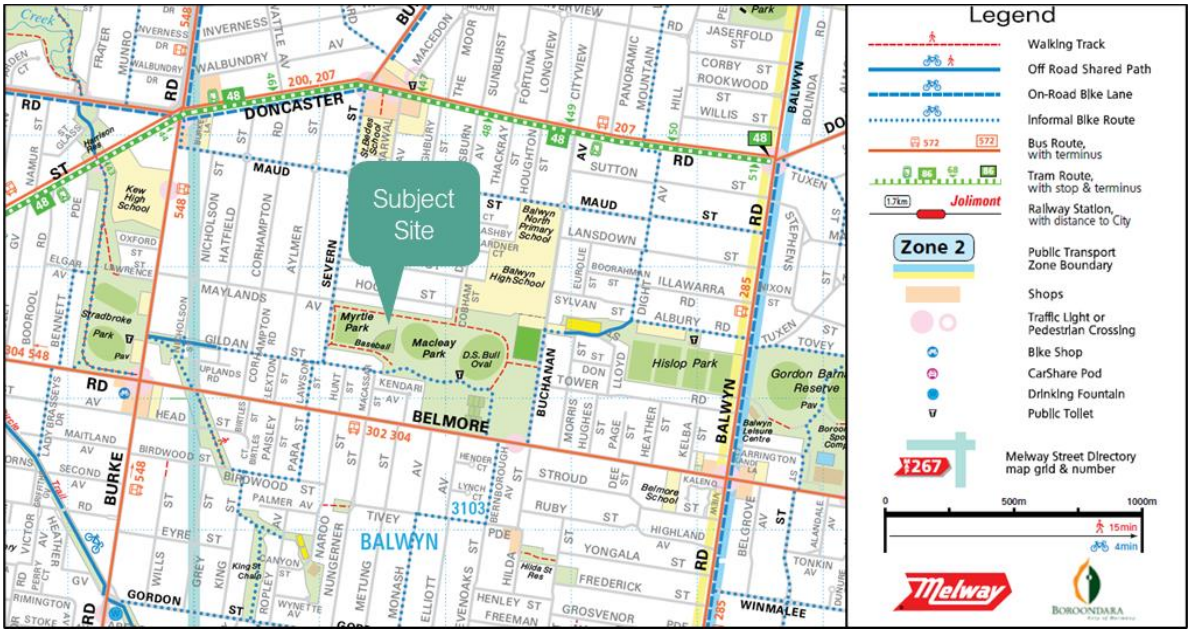

Commentary on pedestrian movement within the precinct and the adequacy of the existing pedestrian paths and access points is provided in Section 3.

### 2.9.2 Bicycle Infrastructure

The site is surrounded by various cycling facilities within the local area. The immediate facilities in the vicinity of the site are located as follows with the wider cycle network shown in Figure 2.16 below.

- Gildan Street, Severn Street, Maud Street and Buchanan Avenue – informal on-road routes
- Balwyn Road and Doncaster Road – formal on-road bike routes

**Figure 2.16: Boroondara Travel Smart Map**




## 2.10 Vehicle Safety Assessment

A report of the crash history involving vehicles for the frontage roads of Belmore Road and Buchanan Avenue has been sourced from the VicRoads CrashStats database.

This database records all vehicular crashes causing injury that have occurred in Victoria since 1987 (as recorded by Victorian Police) and categorises these crashes as follows:

- Fatal injury: at least one person was killed in the crash or died within 30 days as a result of the crash.
- Serious injury: at least one person was sent to hospital as a result of the crash.
- Other injury: at least one person required medical treatment as a result of the crash.

A summary of the crashes in the vicinity of the site for the last available five-year period (January 2016 to December 2020) is presented in Table 2.2.

**Table 2.2: Crash History Review Jan 2016 – Dec 2020**

| Location | DCA Code | DCA Description | Condition | Date | Time | Severity |
|---|---|---|---|---|---|---|
| Belmore Rd and Bernborough Ave | 121 | Right turn and opposing through movement | Dry | 6/08/2016 | 11:50:00 AM | Other |
| Belmore Rd and Buchanan Ave | 148 | Vehicle manoeuvring | Dry | 14/03/2018 | 7:15:00 PM | Serious |
| | 113 | Vehicle from adjacent direction – Right near | Dry | 23/05/2018 | 8:00:00 AM | Other |
| | 171 | Vehicle left off carriageway into object / parked car | Wet | 1/09/2018 | 1:45:00 PM | Other |
| | 110 | Vehicle from adjacent direction – Cross traffic | Dry | 25/08/2018 | 3:50:00 PM | Other |

| | | | | | | |
|---|---|---|---|---|---|---|
| | 121 | Vehicles from opposing directions – Right Through | Dry | 7/01/2019 | 8:40:00 AM | Other |

Table 2.2 shows that a total of 6 crashes occurred in the study area. Of the 6 incidents that have occurred, most of them (5) occurred at the Belmore Road and Buchanan Avenue intersection which is expected given it carries most of the traffic and its functions as an arterial road.

Furthermore, it is noted that only 1 out of all the crashes identified were of a serious nature. There does not appear to be any observed patterns of crashes in this area.

It is noted that the above assessment considers recorded vehicular crashes only. Assessments of pedestrian safety at the Belmore Road / Site Access intersection and within the precinct's internal roads are provided at Section 3.3.2 and Section 3.4.3, respectively.

# 3. Existing Conditions Precinct Access and Movement Assessment

## 3.1 Preamble

This section provides commentary on how people access and move through the precinct based on the 2022 August Stantec site inspections. Consideration is given to the movement of vehicles, pedestrians and cyclists. Recommendations on opportunities to improve existing conditions are provided where relevant.

## 3.2 Mode of Arrival/Departure to/from the Precinct

The Stantec site observations in 2022 indicated that the vast majority of children would be driven to the precinct by their parents. It was observed that for weekend competition games, most of these parents would park their cars and then stay until the end of their child's games, while for weekday training, most parents would drop off their children for training via car and return after training has concluded. A small proportion of parents would drop off their children and pick them up after their sporting games had concluded.

It was observed that not many children arrived at the site via bicycle, bus or walking.

Seniors attending training or playing sporting games were observed to mostly arrive to the precinct via private car.

Specific observations for passive users of the site (e.g. local residents walking for recreation and people visiting the playground) were not undertaken. Notwithstanding, it is expected that a higher proportion of these users would arrival to the precinct via walking than those visiting the precinct for sports training or competition.

## 3.3 Belmore Road / Vehicular Site Access Intersection

### 3.3.1 Configuration

The primarily vehicular access into the precinct is from Belmore Road. This intersection is priority controlled and operates as follows:

- Full turning movements into and out of the precinct are permitted.
- One entry lane and two exit lanes are provided, providing an approximately 12m wide (measured at the footpath) crossover. The two exit lanes consist of the following:
    - One full length right turn lane
    - One short left turn lane with approximately 25m of storage capacity
- The intersection northern leg (i.e. the Macleay Park internal road) provides vehicular entry into the Macleay Park overflow car park.
- A footpath runs along Belmore Road. There is no formal pedestrian or cyclist connection to the Macleay Park internal road.

An aerial image of the subject intersection is provided in Figure 3.1, while a street view image is provided in Figure 3.2.

**Figure 3.1: Belmore Road / Vehicular Site Access Intersection (Nearmap imagery from 28 June 2022)**




**Figure 3.2: Belmore Road / Vehicular Site Access Intersection (Street View imagery from April 2022)**



### 3.3.2 Existing Intersection Operation Observations

Observations from the August 2022 Stantec site inspections indicate the following:

- Belmore Road operated adequately over the three days, with queuing of vehicles turning right into the site not exceeding 3 cars.
- The majority of drivers turned left to exit onto Belmore Road. Significant delays were not observed with this movement, even during the Saturday peak hour.
- Informal conversations with park users during the 2022 August site inspections indicated that there were a meaningful proportion of drivers who have destinations more easily accessed by turning right onto Belmore Road who choose to turn left instead due to delays and safety concerns associated with turning right.

- Due to the smaller proportion of vehicles turning right out, the right turn exit lane was not observed to be used to its full capacity. As such, vehicles turning right out did not block vehicles that needed to move to the left turn exit lane.
- During the Saturday peak hour queues were observed to extend to the end of the north-south section of the Macleay Park internal road (approximately 150m). Notwithstanding, the queues were relatively fast moving with minimal delays to drivers exiting left onto Belmore Road.
- Vehicles queuing on the Macleay Park internal road would generally leave some space to allow motorists to turn in or out of the Macleay Park overflow car park. Notwithstanding, if on-site conditions change such that this is not the case, the installation of 'Keep Clear' line marking to provide formal guidance on the desired arrangement could be considered.
- In summary, there are minimal delays (even during the Saturday peak) associated with vehicle entry/exit movements to/from the Macleay Park internal road, including movements associated with the overflow car park.
- Regular conflicts were observed between pedestrians and vehicles at the precinct intersection at Belmore Road. These conflicts were particularly unsafe for pedestrians walking across the wide site access crossover using the Belmore Road footpath. These conflicts were especially concerning during peak hours when cars were quickly turning in and out.
- As there are no pedestrian paths at this intersection, pedestrians walking along the Macleay Park internal road needed to walk on the roadway or right next to the fence to avoid cars.

### 3.3.3 Adequacy of Existing Intersection Operation

Based on site observations, assessment of the existing intersection operation could be described as follows:

- The existing intersection operation for vehicle movement is adequate.
- There are issues for pedestrians relating to the existing intersection operation, including:
    - A great proportion of pedestrians in the area are children, who are considerably more vulnerable than adults. Small children are particularly hard to see for drivers in vehicles
    - Pedestrians are required to walk across a wide 12m crossover. This is especially concerning during peak hours when cars generally quickly turn in and out. It is noted that pedestrians arriving from the east heading to the west (e.g. the netball courts) are required to walk across this crossover. Nonetheless, a gate providing access to the netball courts is available for pedestrians arriving from the west.
    - There are no pedestrian paths running along the Macleay Park internal road. Pedestrians walking along the internal road are required to walk along the roadway or right next to the fence to avoid cars.

### 3.3.4 Recommendations Changes to Intersection Operation

Based on our site inspection observations, it is recommended that improvements to pedestrian connectivity and safety are provided, as follows:

- Provide a footpath along the eastern edge of the internal road that connects pedestrians from the Belmore Road footpath (east approach) to the internal pedestrian path network.
- Provide additional pedestrian priority across the overflow car park crossover by means of (for example) a pavement treatment different to the road surface.
- Consider providing additional priority across the site access crossover by means of (for example) a pavement treatment different to the road surface.

Separate to the above, it is noted that of the two exit lanes, the right turn lane is the full length lane. As such, when there is significant demand for right turn movements onto Belmore Road, it is possible that motorists queuing to turn right out of the site could block those looking to turn left. It is recommended that ongoing monitoring be undertaken to identify if this is regularly occurring during peak periods. If so, investigation of a right-turn ban onto Belmore Road during peak hours (e.g. on Saturdays between 9am-11am) could be considered.

It is also noted that the observations detailed in Section 3.3.2 were based on our site inspections in August 2022. It is acknowledged that conditions within the precinct may have changed since this time.

## 3.4 Movement Within Park Precinct

### 3.4.1 Preamble

The following sub sections discuss the movement of pedestrians, vehicles and cyclists within the precinct and their adequacy.

These discussions are primarily based on the Stantec site inspections conducted in August 2022.

### 3.4.2 Vehicle Circulation Within Macleay Park

Vehicle circulation within Macleay Park was observed to typically occur as follows:

1. Vehicles enter Macleay Park via Belmore Road.
2. Drive through the Macleay Park internal road and park at a space suitably close to their destination sporting field. It is noted that during peak periods of park activity (i.e. Saturday, some vehicles would use nearby on-street parking resources or the overflow car park instead of circulating within the Macleay Park internal road).
3. If it was not possible to locate a space, parents would drop off their children and then turn around either at the end of the road (i.e. at the modal filter) or at the internal roundabout and then drive back and exit the park. Parents would then park at a nearby street or come back later to pick up their children.

It was difficult for drivers to determine the level of Macleay Park car parking occupancy from outside of the precinct. As such, drivers were regularly circulating within the frontage parking area, not being able to find a space and then using the internal roundabout to turn around and park at the overflow parking area or a nearby street.

It was also observed that drivers that travelled to the end of the Macleay Park internal road (refer Figure 3.3) would need to undertake a three-point turn to turn around, limiting the efficiency of vehicle circulation in this area.

**Figure 3.3: End of Macleay Park Internal Road (Source: Google Maps Street View Imagery, 2009)**



Instances of inappropriate / illegal parking were also observed at locations within the precinct, including over kerbs, garden beds or grassed areas. An example of this is provided at Figure 3.4 below.

**Figure 3.4: Inappropriate Parking Within Precinct (Source: Stantec Site Inspection 7 August 2022)**



### 3.4.3 Pedestrian Movement

**Precinct Internal Movement**

Pedestrian activity was observed within the precinct during the three site inspection days, in particular of people jogging and people walking their dogs. As shown in Section 2.9.1, there are a variety of pedestrian paths around the sporting fields within the precinct.

Notwithstanding the above, no footpaths or other pedestrian facilities were provided through the precinct parking areas. As such, pedestrians needed to walk on the road and mix with vehicle traffic. Traffic calming in the form of speed humps and raised sections have been provided to slow vehicle speeds.

Pedestrian movement within the precinct is considered to be adequate, noting the earlier recommendation for pedestrian improvements at the Belmore Road / Site Access intersection.

**Crossing Belmore Road**

Precinct users who park at the local streets to the south of Belmore Road (i.e. Monash Avenue, Elliot Avenue or Bernborough Avenue) are required to cross Belmore Road to reach the precinct, either uncontrolled or at the Belmore Road pedestrian operated signals.

These signals are located approximately 55m east of Bernborough Avenue, 180m east of Elliot Avenue and 270m east of Monash Avenue. Although it is expected that most people who park at Bernborough Avenue would walk to the signals to cross Belmore Road, it is expected that the vast majority of people who park at Elliot Avenue or Monash Avenue would cross Belmore Road uncontrolled.

### 3.4.4 Cyclist Access and Movement

A negligible number of cyclists were observed to be using the precinct as a cycling through route over the three survey days.

During the site inspection on Sunday 7 August 2022, some parents were observed cycling to the precinct with their children and riding around on the netball courts, which were not in use for netball on this day.

# 4. Existing Conditions Car Parking Demand Assessment

## 4.1 Background

A car parking demand assessment of the precinct's existing operation on a typical Thursday afternoon, Saturday and Sunday was previously undertaken in the Stantec 2021 study. This study developed a car parking demand estimation based on first principles assumptions. These assumptions are considered *'fit for purpose'* and have also been used for this assessment.

## 4.2 Peak Car Parking Demands

A theoretical assessment of existing car parking demands during a typical Thursday, Saturday and Sunday during the winter season has been prepared based on:

- Typical recreational / sport operating assumptions
- Fixturing information provided by Council for a typical Thursday afternoon, Saturday and Sunday
- Temporal arrival and departure activity profile assumptions for attendees.

These elements are described in the following sections. It is noted that our car parking demand assessment was based on the winter sporting season, as winter car parking demands are understood to be greater than summer demands and represents peak sporting car parking demand for the precinct.

It is also noted that our assessment does not include passive users of the precinct, such as people using the playground or walking recreationally. As such, the car parking demand that is estimated is likely a slight underrepresentation of actual demand. Notwithstanding, car parking demands associated with passive users of the park are expected to be minor in comparison to the demand associated with sporting activity, especially during the Saturday peak.

### 4.2.1 Operational Assumptions

Table 4.1 summarises activity specific operational assumptions broken down for each separate sport played within the precinct, based on current sportsground allocations and fixtures information relating to the operations of tenant clubs and organisations.

**Table 4.1: Summary of Previous Stantec Study Assumptions**

| Sport | Function | Car Parking Demand |
|---|---|---|
| Netball | Weekday training | 6 parked cars per team |
| | Weekend competition | 18 parked cars per game |
| Soccer | Weekday junior training | 5 parked cars per team |
| | Weekday senior training | 12 parked cars per team |
| | Weekend typical junior competition | 21 parked cars per game |
| | Weekend junior 'Miniroos' competition | 44 parked cars per game |
| | Weekend seniors competition | 26 parked cars per game |

| | | |
|---|---|---|
| Baseball (juniors) | Weekday training | 12 parked cars per pitch |
| | Weekend competition | 18 parked cars per game |
| Baseball (seniors) | Weekday training | 42 parked cars per pitch |
| | Weekend competition | 23 parked cars per game |
| Group Fitness | Weekday session | 8 parked cars per session |

### 4.2.2 Typical Usage Fixturing Information

Council previously provided fixturing information for August 2021, which was used to inform the previous Stantec study. Council has subsequently also provided information for the 2023 winter sporting season.

A review of the 2023 information indicated that it had a similar fixturing intensity (and therefore similar car parking demand) compared to the 2021 information. In particular, all eight courts for the Saturday Netball competition (the sporting use that generates the highest level of car parking demand) were in use for the entire day in both the 2021 and 2023 schedules.

Based on the above, the August 2021 information was the primary source used in preparing the *'typical'* fixturing schedules, with the 2023 information reviewed to confirm that there had been no material changes in fixturing between 2021 and 2023.

Noting the above commentary, fixturing information for a typical Thursday, Saturday and Sunday is provided below.

**Netball**

Thursday

Based on information provided, it is understood that all eight courts are utilised for training on a typical Thursday afternoon between 3:30pm to 5:00pm. This training session involves two teams on each court, for a total of 16 teams across the eight courts.

Saturday

It is assumed that all eight courts are used between 8:00am and 4:40pm, with each game running for 40 minutes.

Table 4.2 outlines the schedule of netball games for a typical Saturday.

**Table 4.2: Typical Saturday Netball Games Schedule**

| Game Start Time | Court 1 | Court 2 | Court 3 | Court 4 | Court 5 | Court 6 | Court 7 | Court 8 |
|---|---|---|---|---|---|---|---|---|
| 8:00 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 8:40 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 9:20 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 10:00 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 10:40 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 11:20 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 12:00 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 12:40 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 1:20 PM | In use | In use | In use | In use | In use | In use | In use | In use |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2:00 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 2:40 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 3:20 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 4:00 PM | In use | In use | In use | In use | In use | In use | In use | In use |

Sunday

Information provided by Council indicates that typically no Netball activity occurs on Sundays. It is understood that usage may occur at times, but that Sundays are not utilised for competition purposes.

### Soccer

Thursday

Table 4.3 outlines the schedule of soccer training for a typical Thursday.

**Table 4.3: Typical Thursday Soccer Training Schedule**

| Teams | Number of Teams | Training Times |
|---|---|---|
| **Juniors** | 11 | 5:45pm-7:00pm |
| **Juniors** | 3 | 7:00pm-8:30pm |
| **Seniors** | 4 | 7:00pm-8:30pm |

Saturday

Table 4.4 outlines the schedule of soccer games for a typical Saturday. It is noted that the number of home and away soccer games varies week to week, with the below table showing home games fixturing understood to be typical.

**Table 4.4: Typical Saturday Soccer Games Schedule**

| Match Start Time | Macleay Park 1 North | Macleay Park 3 East | Macleay Park 1 South | Macleay Park 3 West | Macleay 2 |
|---|---|---|---|---|---|
| 9.00am | | | Under 12's | | Miniroos girls U5-9 |
| 9.00am | Under 10's | | Under 12's | | Miniroos boys U5-9 |
| 10.00am | Under 10's | | Under 10's | | |
| 11.00am | Under 11's | | Under 11's | | |
| 12.00pm | | | Under 12's | | |
| 1.00pm | | | Under 12's | | |

Sunday

Table 4.5 outlines the schedule of soccer games for a typical Sunday.

**Table 4.5: Typical Sunday Soccer Games Schedule**

| Match Start Time | Macleay Park 1 North | Macleay Park 3 East | Macleay Park 1 South | Macleay Park 3 West | Macleay 2 |
|---|---|---|---|---|---|
| 9.00am | Juniors | Juniors | Juniors | Juniors | Juniors |
| 9.00am | | | | Juniors | |

| | | | | | |
|---|---|---|---|---|---|
| 10:00am | | Juniors | Juniors | | |
| 10:10am | | | | Juniors | |
| 10:10am | | | | Juniors | |
| 10:30am | Juniors | | | | Juniors |
| 11:40am | | Juniors | | | |
| 12:30pm | Juniors | | | | |
| 1:45pm | | | | | Juniors |
| 3:00pm | | | | | Seniors |

### Baseball

Thursday

Table 4.6 outlines the schedule of baseball games for a typical Thursday.

**Table 4.6: Typical Thursday Baseball Training Schedule**

| Teams | Number of participants | Training Times |
|---|---|---|
| **Juniors** | 40 | 4:00pm-6:00pm |
| **Seniors** | 50 | 6:00pm to 9:00pm |

Saturday

Table 4.7 outlines the schedule of baseball games for a typical Saturday.

**Table 4.7: Typical Saturday Baseball Games Schedule**

| Level | North Balwyn Diamond 1 | North Balwyn Diamond 2 | North Balwyn Diamond 3 |
|---|---|---|---|
| Juniors | 8:45am | 8:45am | 9:00am |
| Seniors | 12:15pm | 12:15pm | |
| Seniors | 2:40pm | 2:40pm | |

Sunday

On a typical Sunday there is one senior's baseball game that begins at 12:30pm.

Temporal Car Parking Profiles

Temporal car parking profiles have been prepared based on the above assumptions assessment, outlining the expected demands for car parking that are associated with the existing sporting events.

The results for Thursday are provided at Figure 4.1, the results for Saturday are outlined from Figure 4.2 to Figure 4.5, and the results for Sunday are provided at Figure 4.6.

**Figure 4.1: Myrtle and Macleay Park Temporal Car Parking Profile (Thursday)**

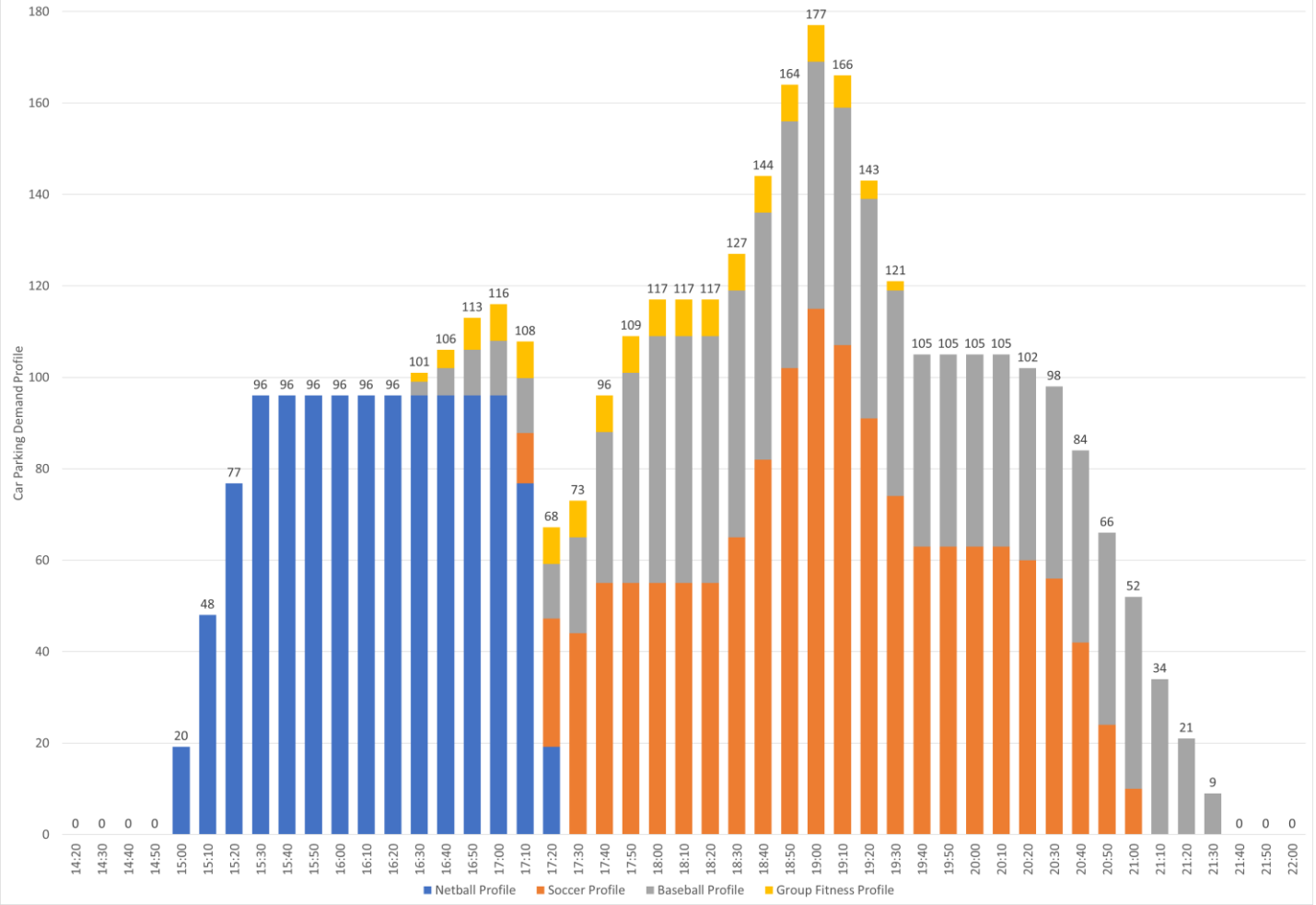


**Figure 4.2: Myrtle and Macleay Park Temporal Car Parking Profile (Saturday)**

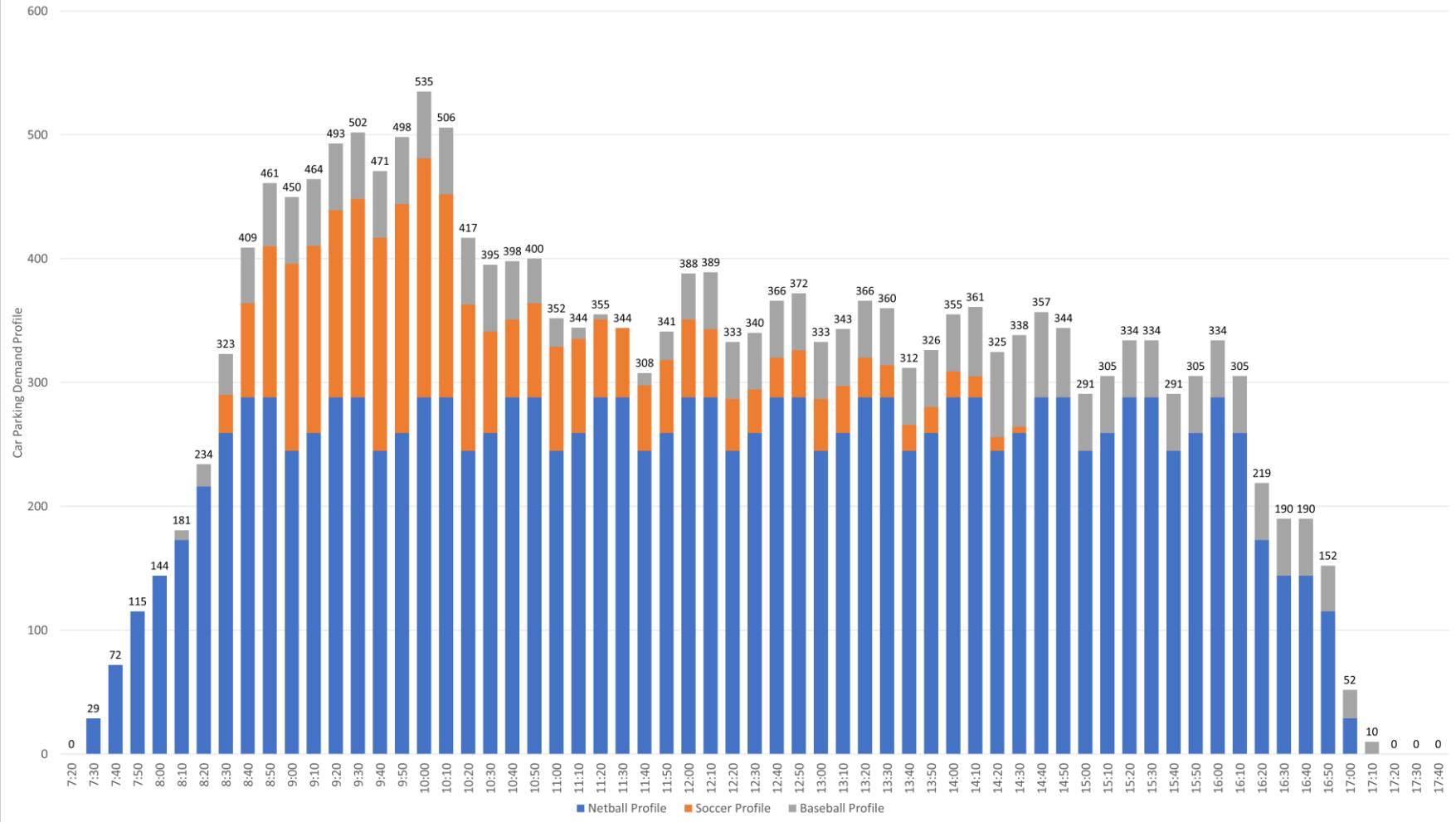


**Figure 4.3: Myrtle and Macleay Park Temporal Car Parking Profile By Sport (Saturday – Netball)**

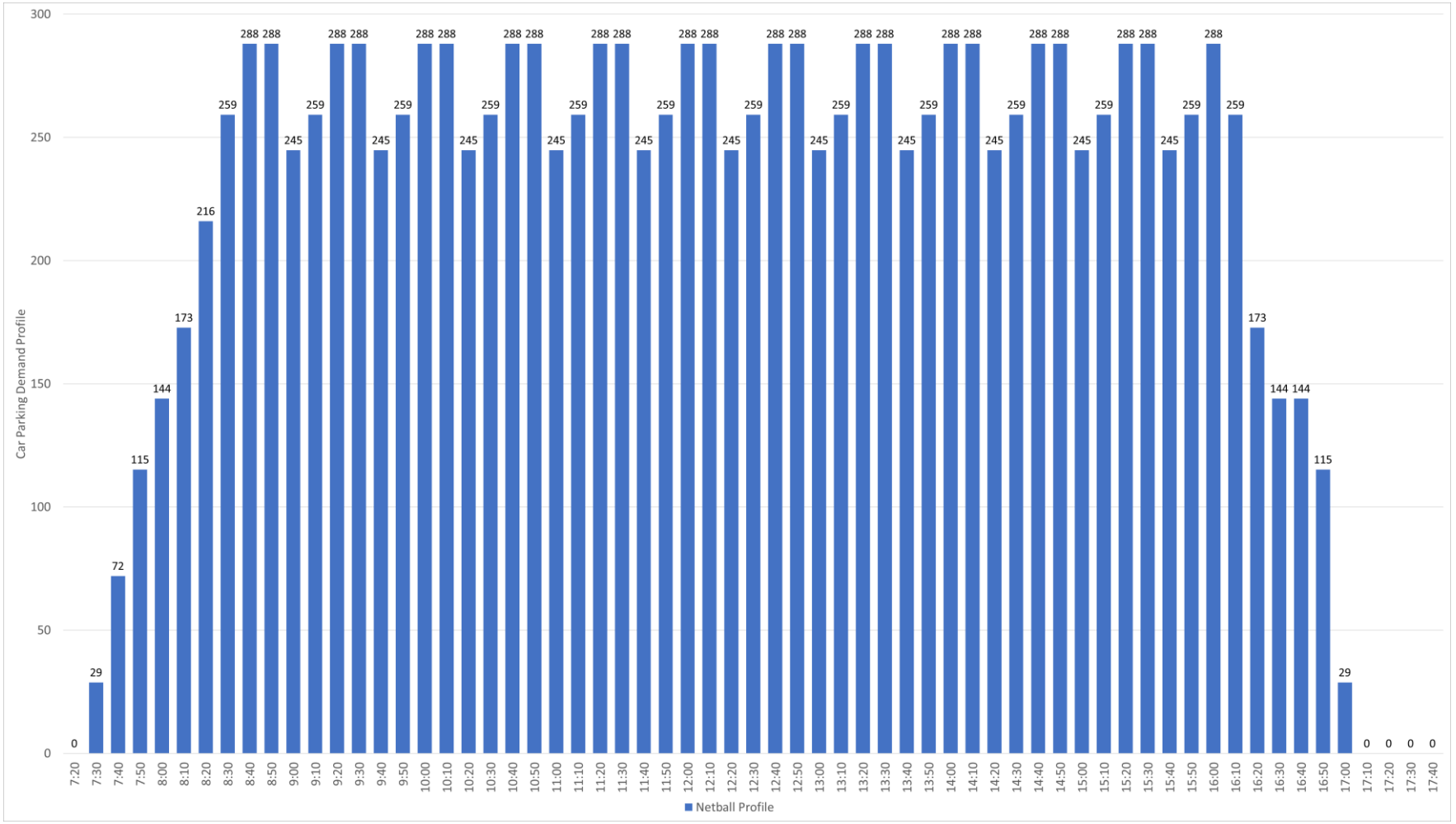


**Figure 4.4: Myrtle and Macleay Park Temporal Car Parking Profile By Sport (Saturday – Baseball)**

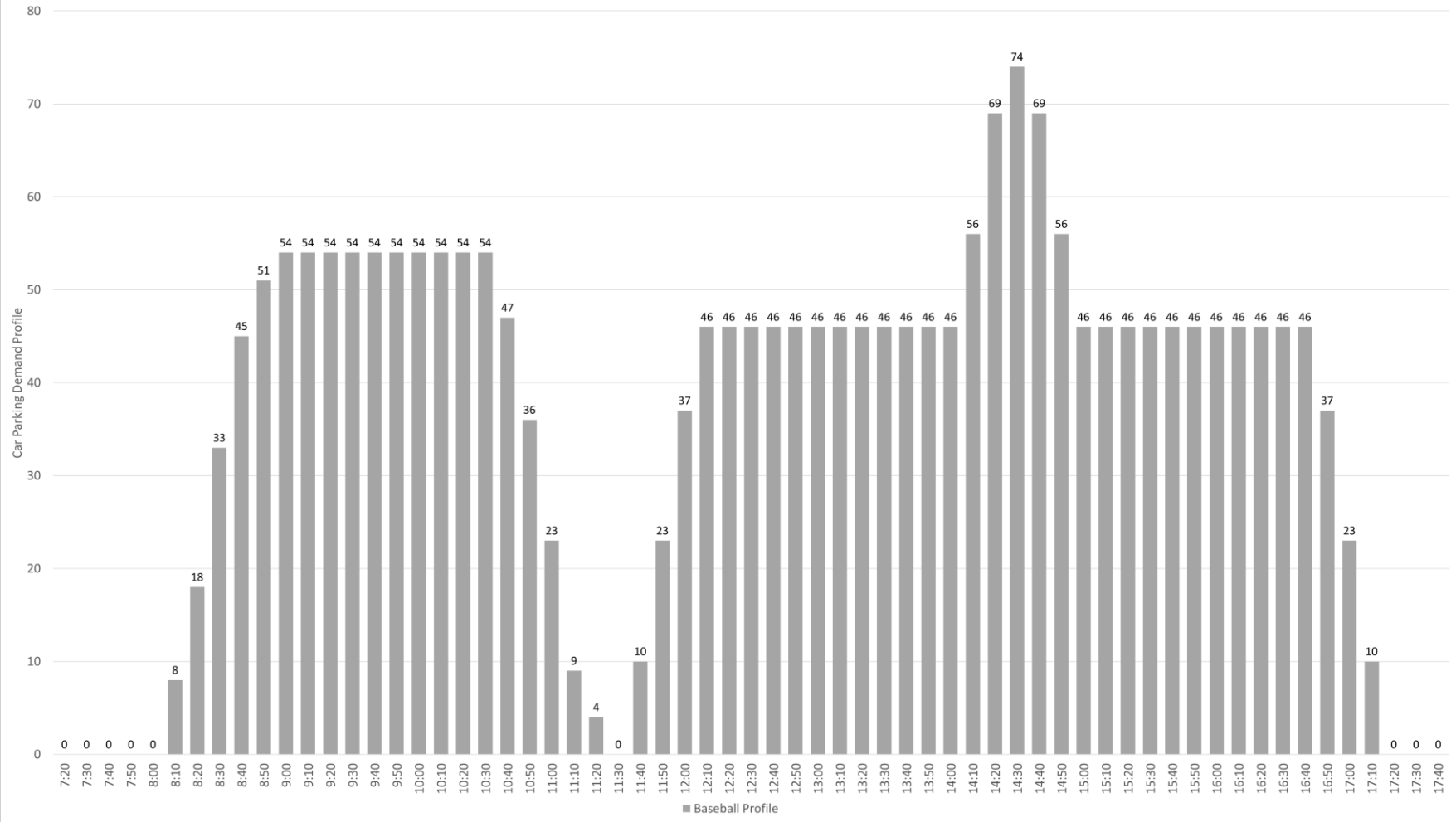


**Figure 4.5: Myrtle and Macleay Park Temporal Car Parking Profile By Sport (Saturday – Soccer)**

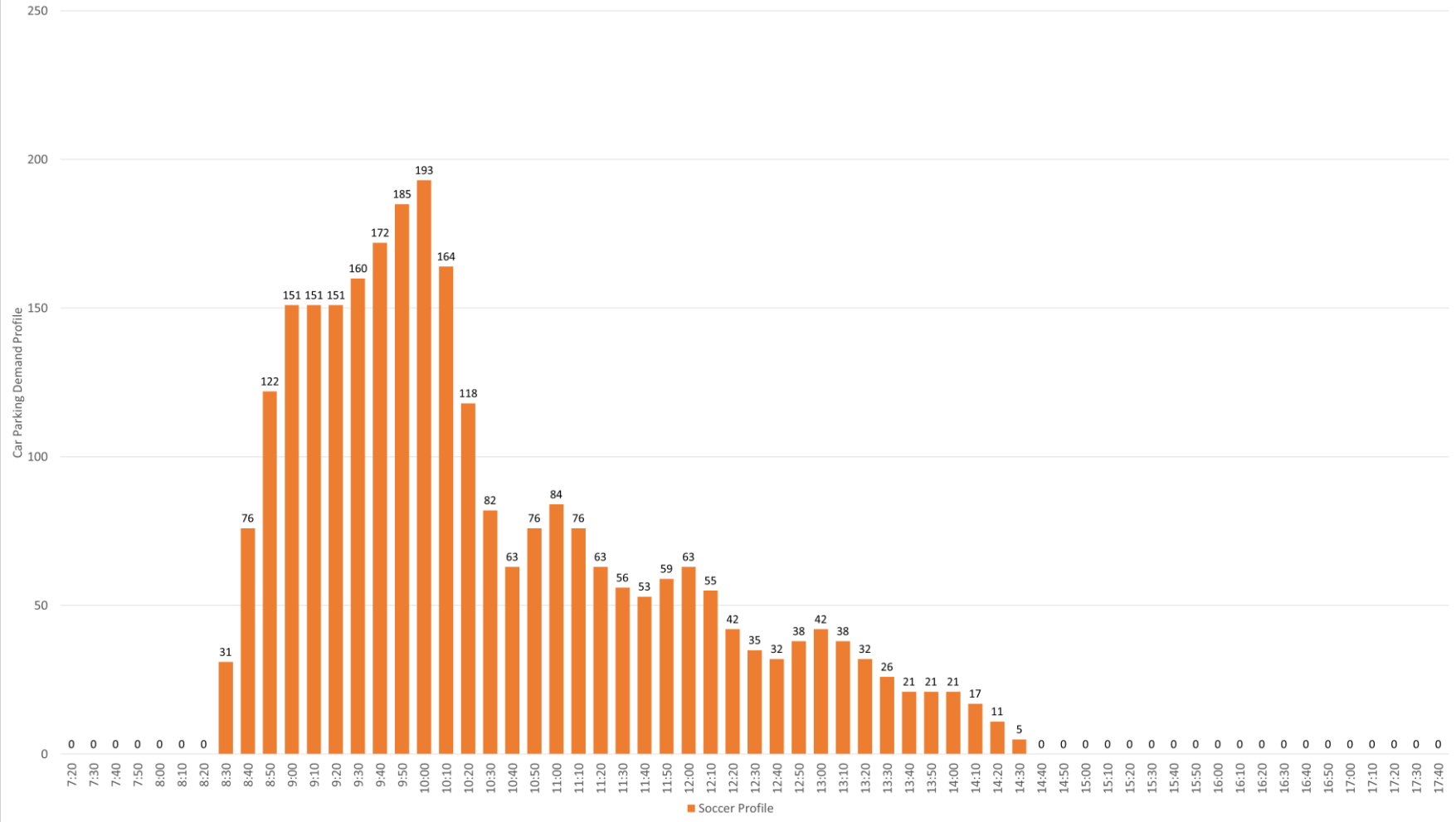
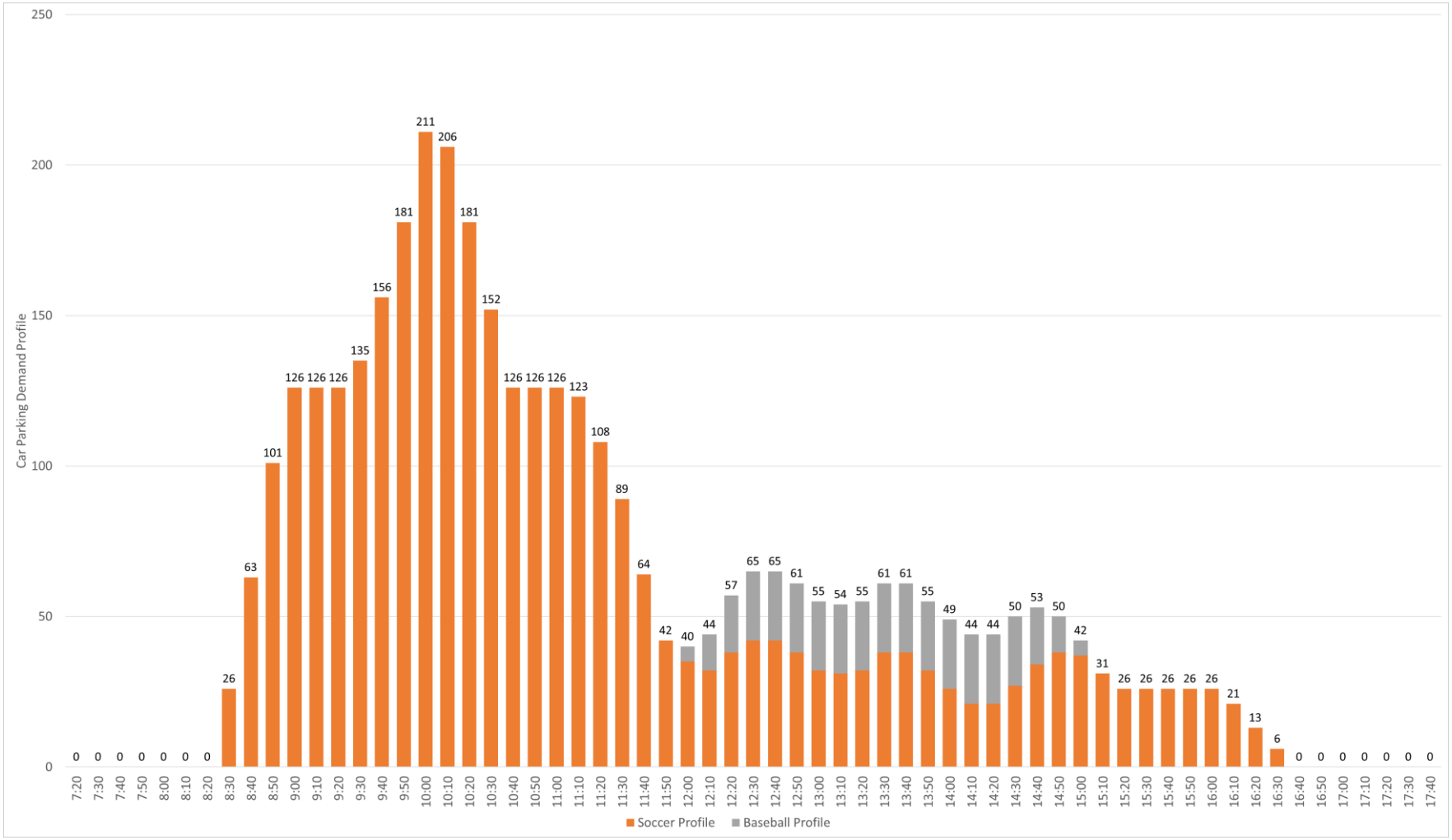


**Figure 4.6: Myrtle and Macleay Park Temporal Car Parking Profile (Sunday)**



### Existing Peak Car Parking Demand Findings

Based on the results of the above analysis, the following observations are made:

- Saturday was by far the busiest period for car parking demand, with a peak demand of 535 spaces generated at 10:00am.
- The car parking demands generated by the netball courts are relatively consistent across the day, with changeovers of netball games occurring every 40 minutes.
- The peak in operation on the Saturday is primarily due to the changeover of soccer and netball games, when the largest number of soccer pitches and netball courts are in use.
- There are 199 car parking spaces provided in the on-site car parking supply. This indicates that there is an estimated overspill of 336 car parking spaces during the Saturday peak.
- Across the peak operational time period (8:50am to 10:10am), the car parking demand fluctuates between an average of 450-500 car parking spaces.
- The peak car parking demand experienced on Thursday was 177 spaces at 7:00pm. This can be contained within the precinct's off-street car parking.
- The peak car parking demand experienced on Sunday was 211 spaces. The vast majority of this demand can be contained within the precinct's off-street car parking, with a minor overspill onto the surrounding streets.

It is noted that the above assessment does not include car parking associated with passive users of the site. As such, the actual car parking demand is expected to be slightly higher than estimated above. Notwithstanding, car parking demands generated by passive users of the precinct are expected to be minor compared to demand generated by sporting activity, especially on Saturday when sporting activity is at its highest.

## 4.3 Other Considerations – North Balwyn Bowls Club

The North Balwyn Bowls Club sits outside of the precinct and provides its own car parking, accessed via Buchanan Avenue.

A high-level desktop review of the Club using high quality aerial photography was undertaken to consider the typical car parking demand of the Club. This review indicated that the Club contains space for approximately 100 cars to be accommodated on-site, noting that no formal line-marking is provided.

A review of the available aerial photography snapshots between 2019 and 2023 (a total of 24 snapshots) shows that these snapshots have not captured any instances of the on-site car parking being full. Based on this high-level review, it is expected that car parking demands generated by the Club would typically be contained within its own off-street car park. For reference, the peak usage identified (snapshot dated Sunday 7 April 2019) is reproduced at Figure 4.7.

Indeed, even if overspill occurred, it is expected that this overspill would be limited to Buchanan Avenue in the vicinity of the club, and not impact areas such as Belmore Road or the residential streets to the south of Belmore Road. Based on this, it is considered that the North Balwyn Bowls Club would not significantly contribute to off-site parking impacts in the area.

**Figure 4.7: Peak Usage of North Balwyn Bowls Club Car Park**



(Source: Nearmap Imagery dated Sunday 7 April 2019)

# 5. Future Car Parking Demand Assessment

## 5.1 Preamble

This section assesses the anticipated car parking demand resulting from the proposed introduction of lighting at five existing netball courts (noting that lighting has already been provided at the three northern netball courts) and the associated changes to sporting fixture timetables. It is understood that the introduction of lighting at the netball courts will facilitate evening netball activity.

Although not currently being considered, it is noted that additional lighting to other sports ovals would also facilitate evening sporting activity on those ovals. As such, additional lighting to other sports ovals (if proposed) would need to be considered in relation to its impacts to car parking and vehicle movement.

## 5.2 Assumptions

### 5.2.1 Thursday

It is understood that the proposed lighting installation is not expected to change any sports fixturing timetables for Thursday.

### 5.2.2 Saturday

The proposed lighting installation is expected to result in games occurring further into the evening on Saturday. The final Saturday netball games currently occur at 4:00pm. With the installation of lighting it is understood that the final games will occur at 5:20pm.

The revised netball games schedule for Saturday is outlined in Table 5.1.

**Table 5.1: Revised Saturday Netball Games Schedule**

| Game Start Time | Court 1 | Court 2 | Court 3 | Court 4 | Court 5 | Court 6 | Court 7 | Court 8 |
|---|---|---|---|---|---|---|---|---|
| 8:00 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 8:40 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 9:20 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 10:00 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 10:40 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 11:20 AM | In use | In use | In use | In use | In use | In use | In use | In use |
| 12:00 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 12:40 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 1:20 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 2:00 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 2:40 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 3:20 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 4:00 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 4:40 PM | In use | In use | In use | In use | In use | In use | In use | In use |
| 5:20 PM | In use | In use | In use | In use | In use | In use | In use | In use |

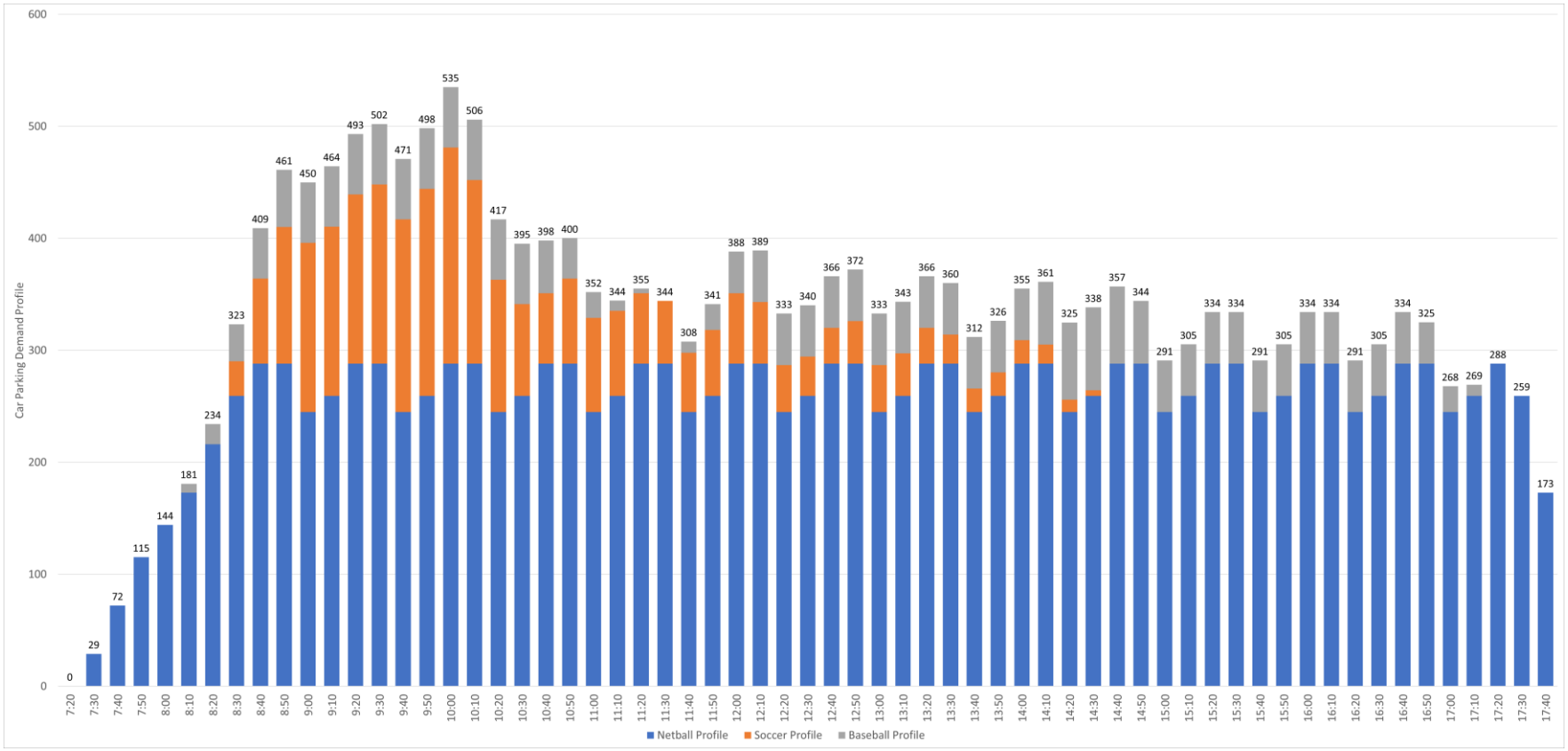
### 5.2.3 Sunday

The proposed lighting installation is not expected to change any sports fixturing timetables for Sunday, noting that no netball activity currently occurs on this day.

## 5.3 Future Car Parking Demands

Based on the assumptions outlined in the previous sub-section, a post-lighting installation temporal car parking profile for Saturday has been developed, shown in Figure 5.1.

**Figure 5.1: Myrtle and Macleay Park Temporal Car Parking Profile With Lighting Installation (Saturday)**



### 5.3.1 Future Car Parking Demand Findings

Based on the above assessment, it is observed that there are no anticipated changes on Saturday morning (the peak day and period for precinct activity) between the existing car parking demand and the car parking demand post-lighting installation. As such, it is considered that the installation of lighting would not introduce significant car parking impacts.

It is noted that the above assessment does not include car parking associated with passive users of the site. As such, the actual car parking demand is expected to be slightly higher than estimated above. Notwithstanding, car parking demands generated by passive users of the precinct are expected to be minor compared to demand generated by sporting activity, especially on Saturday when sporting activity is at its highest.

# 6. Precinct Opportunities

## 6.1 Car Parking Supply and Management

### 6.1.1 Preamble

The June 2021 car parking surveys and 2022 August site observations clearly identifies that the existing car parking demand overspills to outside the off-street car parking supply provided within the precinct.

Further to the above, the existing conditions car parking demand assessment provided at Section 4 indicated a peak car parking demand of 535 spaces on Saturdays at 10:00am. As there are currently 199 spaces available within the precinct, this assessment indicates that there is an estimated overspill of 336 car parking spaces during the Saturday peak, noting that this assessment does not include car parking demand associated with passive users of the precinct.

It is however recognised that this overspill is only significant on Saturdays, particularly in the morning between 9:00am-11:00am, and that parking restrictions are in place to manage and balance car parking between precinct users and surrounding residents.

Further to the above, it is observed that there are limited options within the precinct and its surrounds to increase the supply of car parking without removing public open space or recreational facilities.

It is noted that the proposed installation of lights is not expected to result in additional demand for car parking during peak sporting use (i.e. Saturday morning).

Notwithstanding the above, Stantec have identified a number of opportunities for transport modifications which could be further explored by Council. These opportunities are provided in the following sub-sections.

### 6.1.2 Macleay Park Overflow Car Park Formalisation

**Overview**

It is considered that a key opportunity exists to improve the vehicle and pedestrian environment by formalising the Macleay Park overflow car park. Currently, no line marking is provided and the area is not paved, (shown in Figure 6.1. Based on August 2022 site observations, the car park was typically used by means of 90-degree parking along the northern and southern boundaries of the car park, as shown in Figure 6.2.

**Figure 6.1: Macleay Park Overflow Car Park (Nearmap imagery from 28 June 2022)**



**Figure 6.2: Typical Overflow Car Park Usage (Source: Stantec Site Inspection 6 August 2022)**



### Formalisation Rationale

The car park formalisation rationale is based on the following factors:

- As the car park currently does not include line marking that formalises each car parking space, vehicles generally use more space than necessary. Additionally, vehicles are more likely to park in such a way that impacts efficient vehicle circulation. For example, when the car park is fully occupied and no space to turn around is provided at the end of the car park, vehicles may need to make many corrective movements or reverse the length of the car park to exit
- As the car park is not paved, it is unclear the boundaries of the car park, the quality of the road material deteriorates much more quickly, and the car park becomes muddy during wet weather. In addition, there is an increased likelihood for damage to the trees within the car park due to no clear delineation.
- The amenity of pedestrian movements within the car park is reduced, particularly during winter months

Based on the above factors, it is considered beneficial to design and formalise the car park by means of line marking and paving.

### Site constraints

It is noted that site constraints such as landscaping, draining and open space requirements could constrain aspects for the car park design. In particular, there are trees that are located within or in close proximity to the car park.

Stantec have requested site constraint information from Council, in particular a map of Tree Protection Zones (TPZ) in close proximity to the overflow car park. Council has indicated that although TPZs exist, there is currently no map identifying these TPZs.

Noting the above, Stantec has designed the formalisation of car park without definite knowledge of the TPZs (although with consideration for avoiding trees as much as possible).

### Overflow Car Park Formalisation Design

A car park concept design has been prepared for the overflow car park based on high-quality aerial photography, shown in Figure 6.3. A full A3 copy of the design is available in Appendix B. For this design, the following is noted:

- This design has been prepared similar to the current typical usage of the car park, with 90-degree spaces along the northern and southern boundaries of the site.
- The car parking spaces have been designed as 4.9m in length, 2.6m wide accessed by a 6.4m central aisle. These dimensions are compliant with the Boroondara Planning Scheme.
- As the central car park aisle is a blind aisle, a turn-around bay with dimensions of 4.9m in length and 2.6m wide has been provided at the end of the car park to allow vehicles to be able to turn around and drive out of the car park in a forward direction.
- The Stantec design provides a total of 57 car parking spaces.
- Although not explicitly a part of the car park, a pedestrian footpath connecting the Belmore Road (east approach) footpath to the Macleay Park internal road and across the crossover to the overflow car park is shown. It is recommended that this footpath be installed as part of the car park formalisation. Two options for this footpath have been shown, as follows:
    - Option 1: A direct connection that requires the removal of some vegetation and a large tree
    - Option 2: A less direct connection that requires the removal of some vegetation only.

It is considered that the car park formalisation would provide significant benefits to the vehicle and pedestrian environment. As such, it is recommended that it be progressed through further design stages and be implemented as part of the precinct Masterplan. It is noted that it is possible to reduce the extents of the car park to the east if necessary, which would reduce the yield of car parking spaces but reduce the car park's impact on the precinct's open space.

**Figure 6.3: Stantec Overflow Car Park Concept Design**



### 6.1.3 Changes to Parking Arrangements on Buchanan Avenue

**Indented Parallel Parking**

It is considered that an opportunity could exist to explore the provision of indented parallel parking on the western side of Buchanan Avenue. It is expected that this would involve the removal of the verge (approximately 2m in width) between the footpath and the road carriageway, such that the kerbside parking would be directly adjacent to the existing footpath. This change would reduce amenity for users of this footpath.

It is noted that this change would not increase the supply of car parking as kerbside parking on the western side of the street is permitted under the existing conditions. As such, it is not considered beneficial from a car parking supply perspective. Notwithstanding, this change would facilitate continuous two-way traffic flow along Buchanan Avenue, which is currently not possible when cars are parked on both sides of the road.

In summary, this change could be considered if providing two-way flow along Buchanan Avenue becomes essential.

**Indented Angled or 90-degree Parking**

Further to the above, it is also possible to explore the feasibility of instead providing angled or 90-degree parking on the western side of Buchanan Avenue. This change would modestly increase the car parking supply surrounding the precinct. However, due to the additional spatial requirements (compared to parallel parking) of providing angled or 90-degree parking, it is considered that this change would likely have significant impacts to the footpath, fencing and (potentially) trees along the west of Buchanan Avenue.

In summary, this change could be considered if increasing the supply of parking for precinct users becomes essential, noting the potentially significant impacts expected to be generated by this change.

### 6.1.4 Dynamic Car Parking Vacancy Signage

It is noted that it is difficult for motorists to assess the occupancy level of the precinct's car parking without entering the precinct via Belmore Road and circulating within the car park. This was observed to lead to unnecessary circulation within the precinct's internal road network when no car parking was available.

Noting the above, it is considered beneficial to introduce dynamic signage at the Belmore Road access point which shows real-time car parking vacancy within the precinct. This would assist motorists to make informed decisions about entering the precinct. It is possible for the dynamic signage to only be active during busy periods such as on Saturdays.

This dynamic signage would also improve the usage efficiency of the precinct's car parking during peak periods and subsequently reduce the extent of overspill parking. Currently during peak periods, visitors to the precinct may choose to park on-street instead of entering the precinct as they perceive there to be no car parking available. In reality (and as observed during the site inspections) there may be car parking spaces available within the precinct that could be utilised due to people leaving after their children's sporting fixtures are over.

In summary, it is recommended that the feasibility of introducing dynamic vacancy signage for the precinct's car parking be investigated.

### 6.1.5 Management of Overspill Car Parking onto Residential Streets

It is recognised that there is currently a significant amount of car parking overspill from the precinct onto the surrounding residential streets, especially on Saturdays.

Tailored permit parking restrictions are currently in place on some of the nearby residential streets to restrict parking overspill, including Elliot Avenue, Bernborough Avenue and Monash Avenue.

However, there are other nearby residential streets that do not currently have permit parking restrictions in place, including Tower Road, Gildan Street, Kendari Avenue, Metung Street, Hilda Street and Hood Street. It is acknowledged that these streets could also be subject to regular overspill car parking. It is recommended that parking overspill on nearby streets (including but not limited to those identified above) be regularly monitored and that measures to manage overspill parking be implemented if necessary. The process for introducing measures to manage overspill car parking should be consistent with Council's Parking Management Policy and Procedures.

In addition, in areas where illegal or inappropriate car parking regularly occurs, it is recommended that additional parking enforcement is undertaken, in order to maintain amenity and access for residents. For example, it is understood that visitors to the precinct regularly park illegally on Gildan Street, blocking driveways.

It is also recommended that 'hockey stick' line marking be implemented in nearby streets that regularly experience overspill car parking, in order to provide additional guidance for appropriate parking arrangements.

## 6.2 Vehicle Access and Circulation

### 6.2.1 Operation of Belmore Road / Site Access Intersection

It is observed that congestion within the precinct and at the Belmore Road / Site Access intersection does exist but that it is limited to short periods after matches, in particular during peak sporting activity on Saturday morning. This is considered to be acceptable.

Notwithstanding, it is understood that during periods of peak external road traffic, there are constraints in turning right out of the precinct onto Belmore Road. Conversations with precinct users during site inspections indicated that there are a meaningful proportion of drivers who chose to turn left and then reroute due to delays and safety concerns associated with turning right.

Further to the above, is noted that of the two exit lanes, the right turn lane is the full length lane. As such, when there is significant demand for right turn movements onto Belmore Road, it is possible that motorists queuing to turn right out of the site block those looking to turn left. It is recommended that ongoing monitoring be undertaken to identify if this is regularly occurring during peak periods. If so, it is recommended that a right-turn ban onto Belmore Road during peak periods (e.g. on Saturdays between 9am-11am) be investigated.

Separately, vehicles queuing on the Macleay Park internal road would generally leave some space to allow motorists to turn in or out of the Macleay Park overflow car park. If on-site conditions change such that this is not the case, the installation of 'Keep Clear' line marking to provide formal guidance on the desired arrangement could be considered.

### 6.2.2 Potential for Additional Access Point from Belmore Road

It is considered that there is the potential to provide an additional car park access/egress onto Belmore Road from within the overflow car park (refer to Figure 6.4 for additional access location). This would improve circulation within the car park and ease traffic demand on the existing Belmore Road / Vehicular Site Access intersection. Notwithstanding, it is considered that this additional access is not warranted, based on the following:

- The implementation of this access would likely require significant infrastructure works, including the following:
    - The relocation of the bus stop on Belmore Road (eastbound)
    - The relocation of the pedestrian operated signals on Belmore Road
- An additional crossover would reduce pedestrian amenity in the area
- Car parking demands associated with the sporting fixtures can generally be adequately contained within the park's off-street car parking, with the exception of Saturday mornings
- There is manageable delay at the existing Belmore Road / Macleay Park Vehicle Access intersection, with queues moving quickly even during the Saturday morning peak period.

**Figure 6.4: Location of Additional Access onto Belmore Road**




### 6.2.3 Existing Model Filter Discussion

Consideration could be given to the removal of the model filter currently blocking vehicular circulation between Macleay Park and Myrtle Park. This removal would reduce congestion within the precinct by providing vehicles with an additional access and improve vehicle circulation by making it possible to not have to turn around to exit the precinct.

Notwithstanding, these vehicle access and circulation benefits must be weighed against the disbenefits that removing the modal filter would likely cause. In particular, the reduction in amenity for surrounding residents due to the likely significantly increased traffic using the local street network to access the site. In addition, this change would be directly in opposition to the strategic decisions previously made to limit circulation through the precinct.

It is not recommended for this change to be included in the Council Masterplan, unless detailed analysis and community consultation can demonstrate support for this change.

### 6.2.4 Vehicle Circulation at end of Macleay Park Internal Road

It is recommended to explore opportunities to improve vehicle circulation at the end of the Macleay Park internal road (refer Section 3.4.2) such that drivers are able to turn around without use of a reverse movement via a three-point turn. It is expected that this investigation would include consideration for a typical passenger vehicle's swept path and to provide a 'court bowl' arrangement.

## 6.3 Pedestrian Access, Movement and Wayfinding

It is observed that there are opportunities to improve pedestrian access, movement and wayfinding within and to/from the precinct, including:

- Improved pedestrian access at the Belmore Road / Vehicular Site Access intersection. It is also considered that this would significantly improve pedestrian safety at this access point, as pedestrians heading into the precinct arriving from the west would not need to walk across the Belmore Road crossover.
- Improve pedestrian connectivity within the precinct, particularly in providing an opportunity for pedestrians walking north-south to minimise the need to walk on or cross the Macleay Park internal road. It is also considered that the connection shown running east-west along the southern boundary of Macleay Park Oval 1 would likely reduce inappropriate parking occurring in this area.
- Providing additional pedestrian wayfinding signage to assist pedestrians in navigating the precinct, particularly at key pedestrian decision points such as at the primary access on Belmore Road.

It is recommended that these opportunities be considered as part of the Masterplan. These opportunities are shown in Figure 6.5. This figure also shows, as in inset, an example of additional wayfinding that could be considered in the vicinity of the primary access.

**Figure 6.5: Opportunities for Additional Pedestrian Access, Connectivity and Wayfinding**




In addition to the opportunities for additional connections and access, it is considered that there are also opportunities to strengthen pedestrian priority at key conflict points within the precinct, including:

- Provide additional pedestrian priority across the overflow car park crossover and site access crossover by means of (for example) a pavement treatment different to the road surface
- Reinforce pedestrian priority along the Macleay Park Internal Road raised platform closest to Belmore Road by first rebuilding it to be flat top and then install zebra markings and associated signage

It is recommended that these opportunities to strengthen pedestrian priority be considered as part of the Masterplan. These opportunities are shown in Figure 6.6. In addition to these, it is also considered beneficial to introduce additional traffic calming along the east-west section of the Macleay Park internal road to further encourage motorists to drive slowly and cautiously within the internal road network.

**Figure 6.6: Opportunities to Strengthen Pedestrian Priority**




Finally, it is observed that there are precinct users who park at the local roads to the south of Belmore Road during peak sporting activity (i.e. Monash Avenue, Elliot Avenue or Bernborough Avenue). Although the pedestrian operated signals located on Belmore Road are relatively close to Bernborough Avenue, these signals are a significant distance from Elliot Avenue or Monash Avenue. As such, it is expected the vast majority of people who park at Elliot Avenue or Monash Avenue would cross Belmore Road uncontrolled.

Noting the above, it is recommended that options to limit parking on Elliot Avenue or Monash Avenue by precinct users be considered.

# 7. Key Findings and Recommendations

Based on the analysis and discussions presented within this study, the following key findings and recommendations are provided:

- The precinct currently contains a total of approximately 199 car parking spaces (all provided as 90-degree spaces), comprising of the following:
    - approximately 116 formal spaces ('Macleay Park Formal Car Parking') and 48 informal spaces ('Macleay Park Overspill Car Park') that are mainly situated on the eastern side of the site. Access to these spaces can be made via the primary vehicular site access off Belmore Road.
    - approximately 35 informal spaces ('Myrtle Park Informal Car Parking') provided on the western side of the site, adjacent to the Myrtle East Oval. These spaces can be accessed via Gildan Street.
- In addition to the off-street car parking available within the precinct, there are a number of unrestricted on-street car parking resources regularly used by precinct users including Belmore Road, Buchanan Avenue and Severn Street. In addition, during periods of peak activity, visitors to the precinct also use the on-street parking resources in other nearby residential streets. Council manages the use of these resources by precinct users by means of tailored permit parking restrictions which restrict non-permit parking to one side of the road only on Saturdays between 8:00am and 6:00pm. These streets include Elliot Avenue, Bernborough Avenue and Monash Avenue.
- Saturday is the day corresponding to both peak external road traffic and precinct activity and is the focus of this study.
- The vast majority of children would be driven to the park by their parents. It was observed that for weekend competition games, most of these parents would park their cars and then stay until the end of their child's games, while for weekday training, most parents would drop off their children for training via car and return after training has concluded.
- Seniors attending training or playing sporting games were observed to mostly arrive to the precinct via private car.
- At the Belmore Road / Vehicular Site Access intersection:
    - minimal delays to exit the precinct were observed, with most vehicles turning left out of the site onto Belmore Road.
    - regular conflicts between pedestrians and vehicles at this intersection were observed. These conflicts were particularly unsafe for pedestrians walking across the wide site access crossover using the Belmore Road footpath. These conflicts were especially concerning during peak hours when cars were quickly turning in and out.
    - Of the two exit lanes, the right turn lane is the full length lane. As such, when there is significant demand for right turn movements onto Belmore Road, it is possible for motorists queuing to turn right out of the site blocking those looking to turn left. It is recommended that ongoing monitoring be undertaken to identify if this is regularly occurring during peak periods. If so, a right-turn ban onto Belmore Road during peak periods (e.g. on Saturdays between 9am-11am) could be investigated.
    - vehicles queuing on the Macleay Park internal road would generally leave some space to allow motorists to turn in or out of the Macleay Park overflow car park. Notwithstanding, if on-site conditions change such that this is not the case, the installation of 'Keep Clear' line marking to provide formal guidance on the desired arrangement could be considered.
- Informal non-sporting activities were observed typically occurring on the sporting fields when they are not in use, including dog training classes, fitness classes, and parents with their children for bicycle / scooter rides.
- An existing conditions car parking demand assessment indicated a peak car parking demand of 535 spaces on Saturdays at 10:00am. As there are currently 199 spaces available within the precinct, this assessment indicates

that there is an estimated overspill of 336 car parking spaces during the Saturday peak, noting that this assessment does not include car parking demand associated with passive users of the precinct. It is recognized that the duration of this overspill is limited (in particular, the overspill is significant only on Saturday mornings between 9:00am-11:00am) and that parking restrictions are in place to manage and balance car parking between precinct users and surrounding residents.

- The introduction of lighting at five existing netball courts (noting that lighting has already been provided at three netball courts) will facilitate evening netball activity.
- The installation of lighting would not be expected to introduce significant car parking impacts, especially considering that there is no anticipated change to fixturing activity on Saturday mornings, which is the peak day and period for precinct activity.
- A concept design has been prepared for the formalisation of the existing Macleay Park overflow car park. It is considered that the car park formalisation would provide significant benefits to the vehicle and pedestrian environment. As such, it is recommended that it be progressed through further design stages and be implemented as part of the precinct Masterplan.
- The opportunity to provide indented parallel or angled parking along the western side of Buchanan Avenue has been reviewed. These changes could be considered if providing two-way flow along Buchanan Avenue becomes essential or if increasing the supply of parking for precinct users becomes essential, noting the potentially significant impacts expected to be generated by these changes.
- It is currently difficult for motorists to assess the occupancy level of the precinct's car parking without entering the precinct via Belmore Road and circulating within the car park. This was observed to lead to unnecessary circulation within the precinct's internal road network when no car parking was available. As such, it is recommended that the feasibility of introducing dynamic occupancy signage for the precinct's car parking be investigated.
- There are nearby residential streets that do not currently have permit parking restrictions in place, including Tower Road, Gildan Street, Kendari Avenue, Metung Street, Hilda Street and Hood Street. It is acknowledged that these streets could also be subject to regular overspill car parking. It is recommended that parking overspill on nearby streets (including but not limited to those identified above) be regularly monitored and that measures to manage overspill parking be implemented if necessary. The process for introducing measures to manage overspill car parking should be consistent with Council's Parking Management Policy and Procedures.
- In areas where illegal or inappropriate car parking regularly occurs, it is recommended that additional parking enforcement is undertaken, in order to maintain amenity and access for residents. For example, it is understood that visitors to the precinct regularly park illegally on Gildan Street, blocking driveways.
- It is recommended that 'hockey stick' line marking be implemented in nearby streets that regularly experience overspill car parking, in order to provide additional guidance for appropriate parking arrangements.
- The potential to provide an additional car park access/egress onto Belmore Road from within the overflow car park has been reviewed. This would improve circulation within the car park and ease traffic demand on the existing Belmore Road / Vehicular Site Access intersection. Notwithstanding, it is considered that this additional access is not warranted as the existing access operates adequately and significant capital works would be required.
- The potential to remove the model filter currently blocking vehicular circulation between Macleay Park and Myrtle Park has been reviewed. It is not recommended for this change to be included in the Council Masterplan, unless detailed analysis and community consultation can demonstrate support for this change.
- It is recommended to explore opportunities to improve vehicle circulation at the end of the Macleay Park internal road such that drivers are able to turn around without use of a reverse movement via a three-point turn. It is expected that this investigation would include consideration for a typical passenger vehicle's swept path and to provide a 'court bowl' arrangement.
- The potential to provide improvements to pedestrian access, movement and wayfinding within and to/from the precinct has been reviewed. It is recommended that these connections be considered as part of the Masterplan.

- The potential to strengthen pedestrian priority at key conflict points within the precinct has been reviewed. It is recommended that these opportunities to strengthen pedestrian priority be considered as part of the Masterplan. It is also considered beneficial to introduce additional traffic calming along the east-west section of the Macleay Park internal road to further encourage motorists to drive slowly and cautiously within the internal road network.
- It was observed that there are precinct users who park at Elliot Avenue or Monash Avenue. As it is expected the vast majority of people who park at these streets would cross Belmore Road uncontrolled, it is recommended that options to limit parking on these streets by precinct users be considered.




# A

**Appendix A Stantec August 2022 Site Inspections**

# Appendix A Stantec August 2022 Site Inspections

## A.1 Use of Park Fields & Facilities

Table A.1.1 shows the occupancy of the park's sporting fields during the three site inspection days with the following further observations provided:

**Netball Courts**

- The netball courts were in use for the full site inspection duration on the Saturday and between 3:30pm-4:30pm on the Friday.
- Although they were not formally in use on the Sunday, the following informal uses of the netball courts were observed:
    - 9am-10am: Used for a dog training class (approx. 10 people)
    - 10am-11am: Used for a fitness class (approx. 15 people)
    - 12pm-1pm: Used by parents with their children for bicycle / scooter rides (approx. 35 people)

**Baseball Pitches**

- The baseball pitches were both in use for the full site inspection duration on the Saturday. One pitch was used between 11am-1pm on the Sunday.

**Soccer Ovals**

- The only time when all three soccer fields were in use was between 10am-11am on the Sunday. One field was used on the Saturday. No fields were used on the Friday.

**Other Uses**

- The Macleay Park playground was regularly used by families over the site inspection days.
- The Macleay Park Oval 5 was used informally by families for recreational activities such as cricket.

Peak usage for netball and baseball was on the Saturday, while peak usage for soccer was on the Sunday.

Overall, there was not any time during the three site inspection days when the fields for all three sports were fully used, likely due to some sporting fixturing activity occurring as *'away'* games. Notwithstanding, of the three days, the Saturday represented the peak usage of the Myrtle & Macleay Park facilities and associated car parking.

**Table A.1.1: Use of Sporting Facilities**

| | Netball Courts | Macleay Park Oval 1 (Soccer) | Macleay Park Oval 2 (Soccer) | Macleay Park Oval 3 (Soccer) | Front Baseball Pitch | Back Baseball Pitch |
|---|---|---|---|---|---|---|
| **Friday 3:30pm-6:00pm** | | | | | | |
| 3:30pm-4:30pm | In Use | Not in use | Not in use | Not in use | Not in use | Not in use |
| 4:30pm-6:00pm (note all activity cancelled) | Not In use | Not In use | Not In use | Not In use | Not In use | Not In use |
| **Saturday 9:00am-1:00pm** | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 9:00am-10:00am | In Use | In Use | Not In use | Not In use | In Use | In Use |
| 10:00am-11:00am | In Use | In Use | Not In use | Not In use | In Use | In Use |
| 11:00am-12:00pm | In Use | In Use | Not In use | Not In use | In Use | In Use |
| 12:00pm-1:00pm | In Use | Not In use | Not In use | Not In use | In Use | In Use |
| **Sunday 9:00am-1:00pm** | | | | | | |
| 9:00am-10:00am | Not In use | In Use | Not In use | In Use | Not In use | Not In use |
| 10:00am-11:00am | Not In use | In Use | In Use | In Use | Not In use | Not In use |
| 11:00am-12:00pm | Not In use | In Use | In Use | Not In use | In Use | Not In use |
| 12:00pm-1:00pm | Not In use | In Use | In Use | Not In use | In Use | Not In use |

## A.2 Car Parking Occupancy

Table A.2.1 shows the approximate car parking occupancy rates by users of Myrtle & Macleay Park over the three Stantec site inspection days. It is noted that this table represents indicative occupancy only as no formal counts were undertaken.

**Table A.2.1: Car Parking Occupancy**

| | Frontage Parking | Overspill Parking | Myrtle Park Parking | Belmore Road Parking | Buchanan Avenue[3] | Severn Street[2] | Bernborough Avenue, Elliott Avenue, Monash Avenue[2] |
|---|---|---|---|---|---|---|---|
| **Friday 3:30pm-6:00pm** | | | | | | | |
| 3:30pm-4:30pm | 80% | 30% | 0% | 50% | 0% | 0% | 0% |
| 4:30pm-6:00pm (note all games cancelled) | 5% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Saturday 9:00pm-1:00pm** | | | | | | | |
| 9:00am-10:00am | 100% | 100% | 90% | 100% | 70% | 100% | 0% |
| 10:00am-11:00am | 100% | 100% | 60% | 100% | 70% | 100% | 50% |

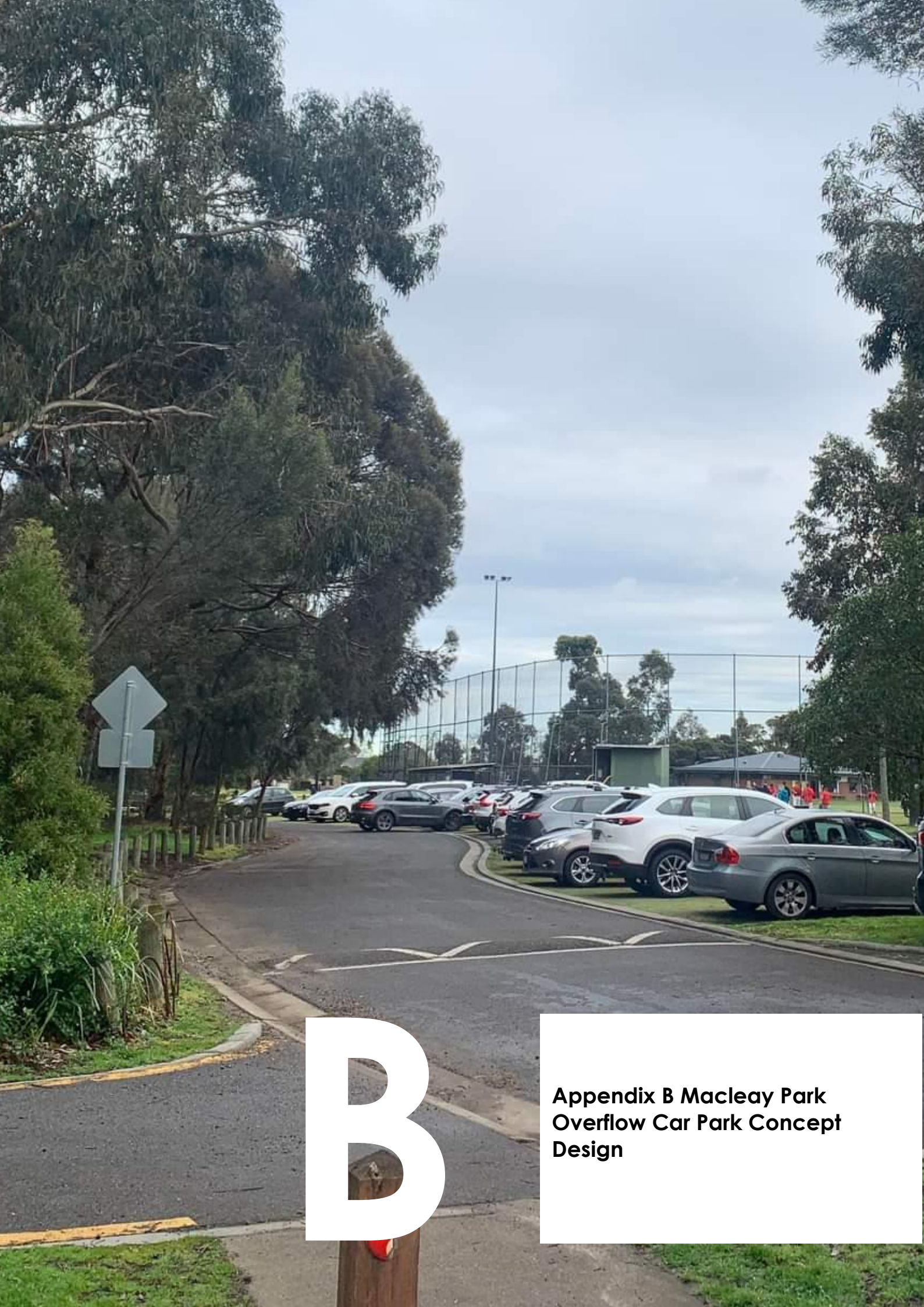
3 Permit parking restrictions are in place during Saturday between 8am and 6pm along one side of these roads. As such, on Saturday the occupancy refers to the one available parking side only, while referring to both sides on the Friday and Sunday.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 11:00am-12:00pm | 80% | 65% | 50% | 60% | 70% | 40% | 60% |
| 12:00pm-1:00pm | 80% | 60% | 40% | 70% | 70% | 40% | 50% |
| **Sunday 9:00pm-1:00pm** | | | | | | | |
| 9:00am-10:00am | 95% | 50% | 0% | 20% | 0% | 0% | 0% |
| 10:00am-11:00am | 90% | 50% | 0% | 20% | 0% | 0% | 0% |
| 11:00am-12:00pm | 95% | 45% | 50% | 10% | 10% | 0% | 0% |
| 12:00pm-1:00pm | 90% | 35% | 50% | 0% | 10% | 0% | 0% |

Table A.2.1 indicates:

- Parking within the precinct consistently had high rates of occupancy on Saturday and Sunday. When the frontage parking was full drivers were observed to regularly illegally parking on the grassed area fronting Macleay Park Oval 1.
- The overspill parking was used by sporting facility users when the formal internal parking areas were full. Families using the playground would also regularly use this parking area.
- Buchanan Street was being materially used by sporting facility users only when both the internal formal and overspill parking was full.
- Belmore Road on-street parking was primarily associated with the netball use and Macleay Park Oval 3 (soccer field).
- Myrtle Park parking was primarily associated with the baseball use.
- Severn Street was primarily associated with the Myrtle West Oval use.
- Parking within the residential streets to the south of Belmore Road (i.e. Bernborough Avenue, Elliott Avenue and Monash Avenue) was primarily associated with the netball use. It was observed that these spaces were only used when no closer parking space could be used, likely due to the need to cross Belmore Road.
- Overall, parking overspill into residential streets was negligible on the Friday and Sunday. However, there was significant overspill on the Saturday, with peak demand between 9am and 11am.

Based on the above, the current operation of car parking activity within the precinct could be considered to be reasonable, as significant parking overspill only occurs for short period on a single day of the week.



# B

## Appendix B Macleay Park Overflow Car Park Concept Design




PLOTTED BY : dhuynh ON 21/11/2022 AT 4:32:16 PM

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**PRELIMINARY PLAN**
FOR DISCUSSION PURPOSES ONLY SUBJECT TO CHANGE WITHOUT NOTIFICATION

**WARNING**
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

| | |
|---|---|
| DESIGNED D. HUYNH | DESIGN CHECK C. COATH |
| APPROVED BY C. COATH | DATE ISSUED 21 NOVEMBER 2022 |

SCALE A3 — 0 2.5 5 — 1:250

CAD FILE NO. 300304047-01-P2.dgn

# PROPOSED OVERFLOW CAR PARK MACLEAY PARK, BALYWN NORTH

## CONCEPT LAYOUT

DRAWING NO. 300304047-01-01 ISSUE P2

w

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