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Port Philip City Council

Date
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Planning

Transport

Urban Design

Waste Management

Car Parking Study

Elwood Foreshore

ratio:

ratio.com.au

Project
Elwood Foreshore

Prepared for
Port Philip City Council

Our reference
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1. Introduction

Ratio consultants have been engaged by the City of Port Phillip to assess the parking and transport implications of the proposed redevelopment of the Elwood foreshore precinct located at 1 Elwood Foreshore Road & 135a Ormond Esplanade in Elwood.

The development considers the relocation and redevelopment of facilities located on the site with the following aims:

- Increase pedestrian and bicycle access to the site;
- Safe movement of diverse users through the site; and
- Minimise impact of car access and car parking.

This report has been prepared to address the parking and traffic matters of the proposal and is based on surveys in the vicinity of the site and of previous studies of similar developments.

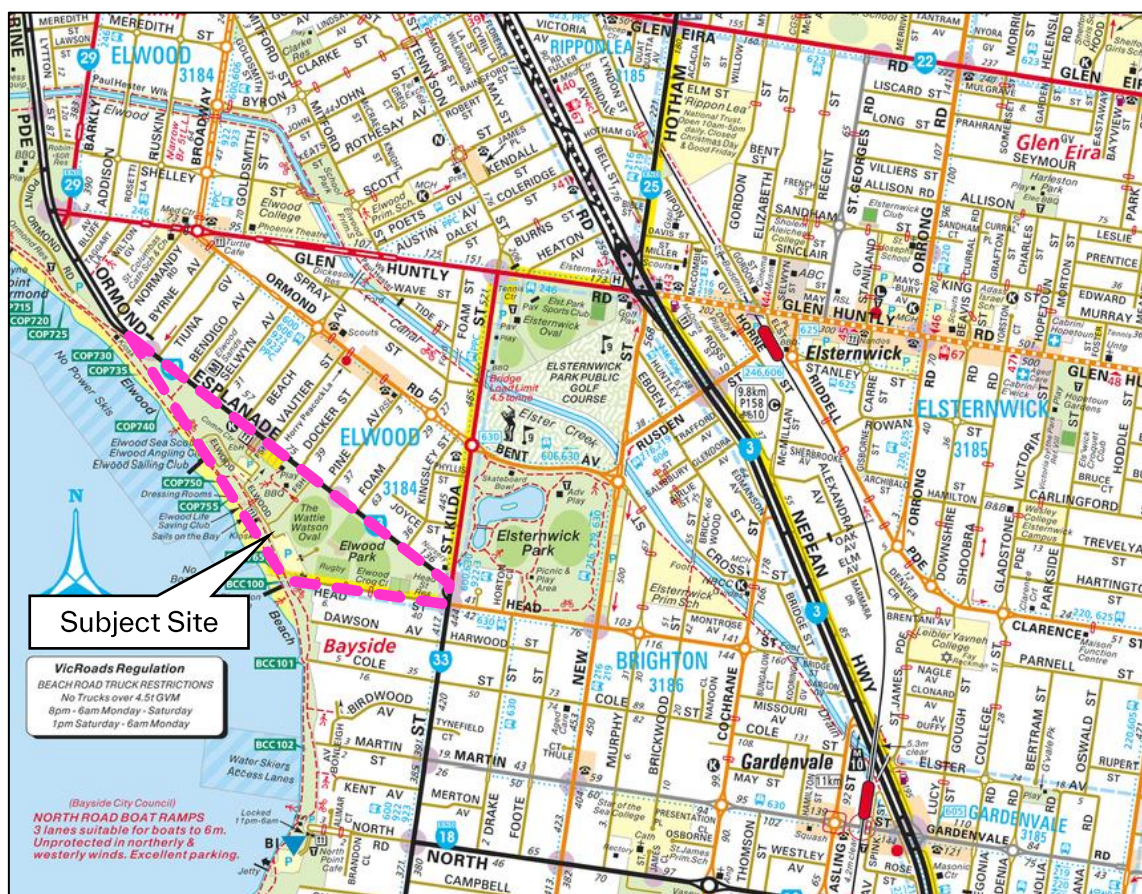
2. Existing Conditions

2.1. Location and Environment

The subject site is at the foreshore of Elwood Beach. The site is generally bound by Ormond Esplanade to the north, Head Street to the south and Elwood Beach to the west.

Figure 2-1 shows the location of the site with respect to its surroundings.

Figure 2-1 Site Location



The subject site is within a Public Park and Recreation Zone (PPRZ). Land use surrounding the site is generally residential in nature. Some notable non-residential land uses in the vicinity of the site include:

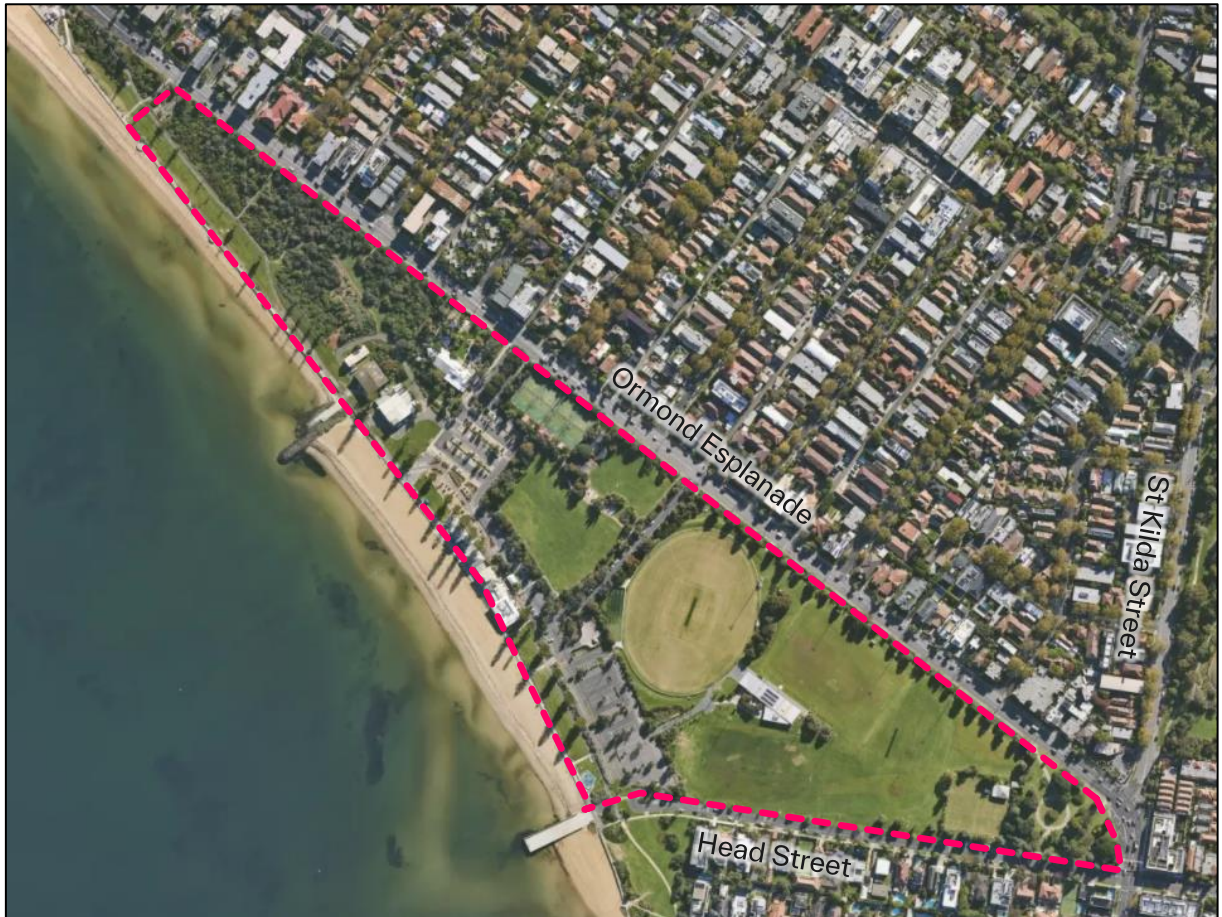
- Ormond Road activity Centre located approximately 300 metres to the north,
- Elsternwick Park located to the immediate east of the site,
- Glen Huntly Road Activity Center located approximately 1.5km to the northeast.

2.2. Subject Site and Existing Uses

The site is generally bound by Ormond Esplanade to the north, St Kilda Street to the east, Head Street to the south and Elwood Beach to the west. The overall site comprises an area of approximately 17.3 Ha.

An aerial view of the subject site and road frontages is displayed in Figure 2-2.

Figure 2-2: Aerial View of Subject Site



Source: landchecker.com.au (image captured 11/05/2023)

The site is currently occupied by the Elwood Foreshore precinct which includes 391 on-site car parking spaces servicing the following uses:

- Tennis club incorporating 4 courts,
- Cricket / Football oval,
- Croquet Club,
- Soccer oval,
- Elwood Sailing Club,
- Elwood Anglers Club,
- Elwood Life Saving Club,
- A restaurant tenancy.

The 391 car parking spaces on-site service both the above sporting and recreational uses, as well as casual visitor car parking to Elwood Beach. Activity and car parking demand is anticipated to be generated throughout the year by sporting codes throughout cooler months, and by beach activities during warmer months.

Existing Site Access

Vehicular access to the subject site is provided via the two two-way access points to the Ormond Esplanade frontage. Primary access is provided via a signalised intersection accommodating fully directional movements, located towards the west of the site. A third vehicular access point is provided via the southern end of Head Street, however this is typically observed to be gated closed.

Pedestrian access to the site is provided via four signalised pedestrian crossings on Ormond Esplanade, and pedestrian crossings through the double signalised intersection of St Kilda Road and Head Street.

On-site car parking areas are predominantly located close to the shore. Car parking conditions are discussed further in Section 2.4.

Existing vehicular and pedestrian site access points are displayed in Figure 2-2.

Figure 2-3: Aerial View of Subject Site



Source: landchecker.com.au (image captured 11/05/2023)

2.3. Road Network

Ormond Esplanade is a declared arterial road managed by the Department of Transport and Planning in a northwest-southeast alignment in the vicinity of the site. Ormond Esplanade continues to the south as St Kilda Street, and to the north splits into Marine Parade and Barkley Street.

Ormond Esplanade is provided with a road reserve of 20.0 metres width in the vicinity of the site, within which a 15.0m undivided carriageway accommodates two through lanes in each direction, an unsealed pedestrian path is provided to the southern side of the road and a constructed pedestrian path provided to the northern side of the road. Clearway restrictions are in place on both sides of the road during peak times which are discussed in further detail in Section 2.4. When a vehicle is parked kerbside on Ormond Esplanade, that direction of travel is locally reduced from two lanes of travel to one traffic lane.

The following car parking restrictions are in place on both sides of on Ormond Esplanade in the vicinity of the site:

- Clearway 7am-9am and 4:30pm-6:30pm Mon-Fri,
- Clearway 6am-10am Sat-Sun.

A posted speed limit of 60km/h applies along the frontage of the subject site.

Views of Ormond Esplanade facing east and west are displayed in Figure 2-4 and Figure 2-5, respectively.

Figure 2-4: View of Ormond Esplanade Facing East



Figure 2-5: View of Ormond Esplanade Facing West



St Kilda Street is a declared arterial road managed by the Department of Transport and Planning in a north-south alignment in the vicinity of the site. St Kilda Street continues as Tennyson Street in the north and continues south as Esplanade following the coastline to the south.

St Kilda Street is provided with a road reserve of 20.0 metres width in the vicinity of the site, within which a 13.5m pavement accommodates one clear through lane of traffic in each direction plus bicycle lanes on both sides of the road and indented parking on both sides of the road, a constructed pedestrian path is provided to the western side of the road.

A posted speed limit of 50km/h applies to St Kilda Street in the vicinity of the site.

Views of St Kilda Street facing north and south are displayed in Figure 2-6 and Figure 2-7, respectively.

Figure 2-6: View of St Kilda Street Facing North



Figure 2-7: View of St Kilda Street Facing South



Head Street is a local access road managed by the City of Port Phillip in an east-west alignment. Head Street continues approximately 980 metres east of the site and terminates at Elster Creek. Head Street forms the southern boundary of the site and provides a roundabout-like loop at its western terminus at the southwest corner of the site.

Head Street is provided with a road reserve of 19.4 metres width in the vicinity of the site, within which a 8.7m wide pavement accommodates one clear through lane of traffic in each direction plus indented parking on the southern side of the road, a constructed pedestrian path is provided to the southern side of the road.

Speed humps are spaced approximately every 80 metres on Head Street.

The default speed limit of 50km/h applies to Head Street in the vicinity of the site.

Views of Head Street facing west and east are displayed in Figure 2-8 and Figure 2-9, respectively.

Figure 2-8: View of Head Street Facing West



Figure 2-9: View of Head Street Facing East



2.4. Parking Conditions

On-site car park

The onsite car park accommodates a total of 391 car parking spaces which caters for a variety of uses on site. A variety of parking restrictions are in place throughout the parking areas on site as discussed below.

A total of 16 spaces are subject to permit restrictions, loading zone, or only accommodate for specific approved vehicles.

The remaining 375 visitor parking areas on site are subject to the following restrictions:

- Ticketed parking from 8am to 11pm,
- No Stopping restrictions are in place from 1am to 5am to deter all-night parking in primary public parking areas,
- 9 spaces within the on-site car park are subject to 10min or 5min parking restrictions during weekday periods, located adjacent uses to accommodate short term parking and drop-off. During weekends the 9 spaces are available for ticketed public parking.

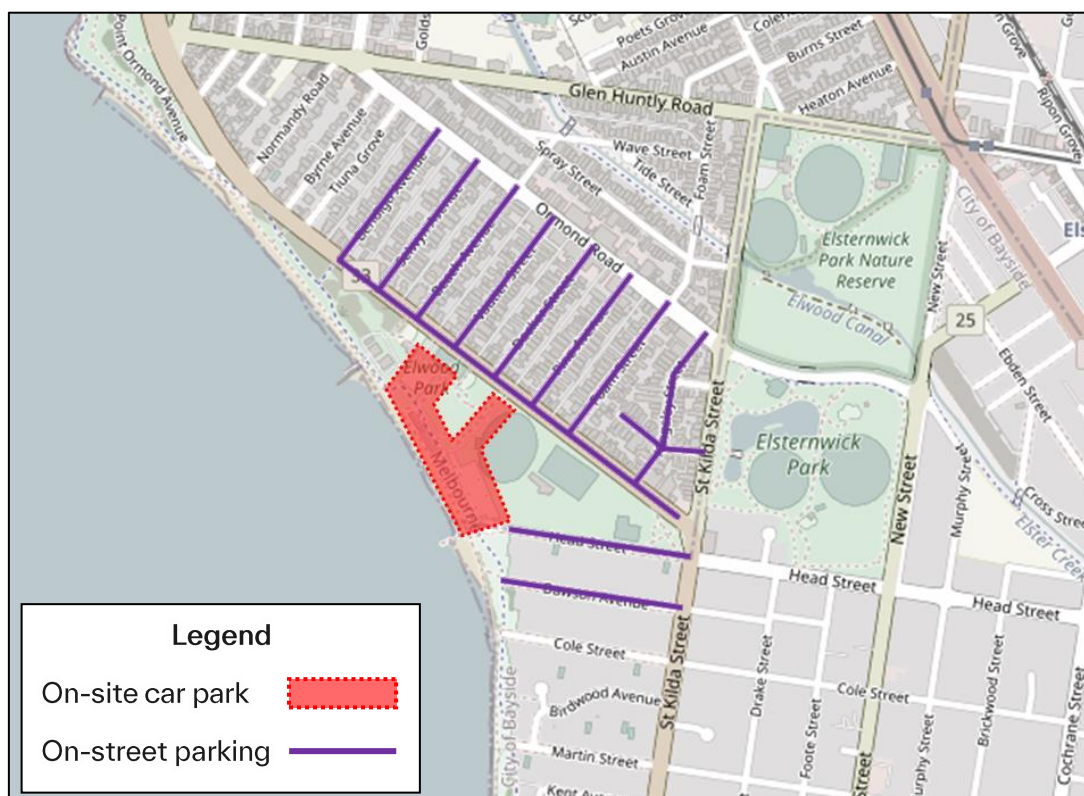
Car Parking Occupancy Results

Parking occupancy surveys were commissioned by Ratio Consultants for publicly available parking on-site and on the surrounding road network on Saturday 2 April 2022 and Sunday 3 April 2022. Detailed results of the surveys are included within Appendix A.

The survey area includes roads with parking permitted in the vicinity of the site from Kingsley Street to Selwyn Avenue is shown in Figure 2-10 and results of the survey are summarised below.

The following results consider car parking spaces available for public use and exclude spaces subject to parking restrictions such as permit, staff, loading, official vehicles or similar. Accessible parking spaces are available to the public and are included within the following analysis.

Figure 2-10: Car Parking Survey Area



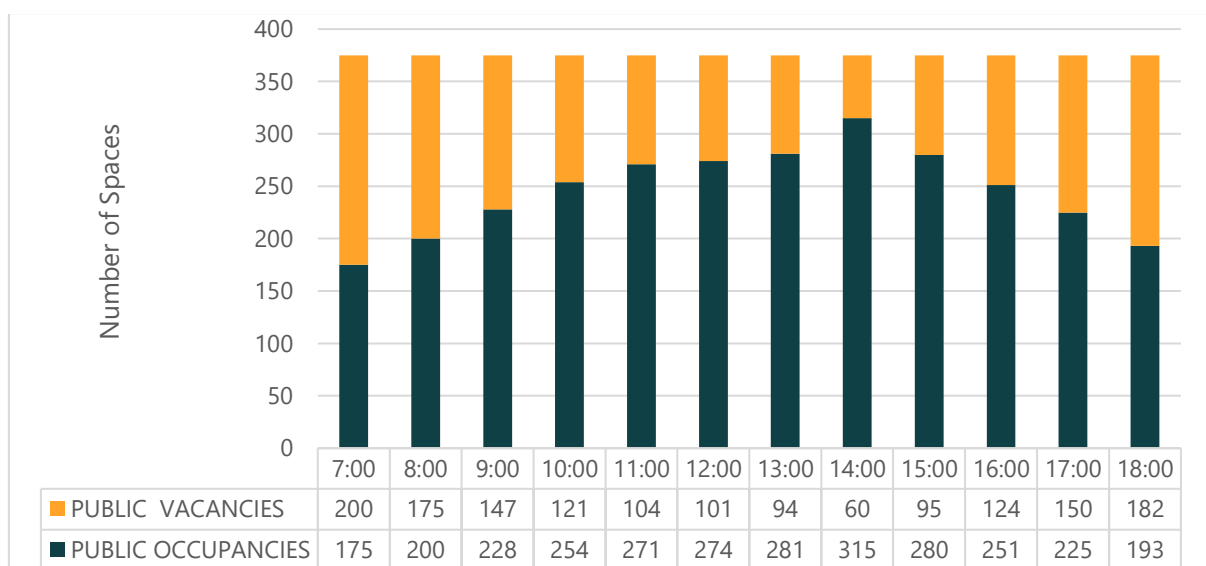
Saturday Survey

Car parking demand in the on-site car park during the Saturday survey was observed as follows:

- Car parking demand was observed to be approximately 47% of on-site spaces occupied when the survey commenced at 7am, which steadily built through the day until the early afternoon.
- Peak car parking demand on-site occurred at 2pm at which time a total of 315 out of 375 publicly available spaces were occupied.
- Following the peak at 2pm, on-site parking demand gradually decreased through the afternoon.

The number of publicly available car parking spaces occupied throughout the Saturday in the on-site car park is displayed in Figure 2-11.

Figure 2-11: Saturday On-Site Occupancy Survey Results of Publicly Available Spaces

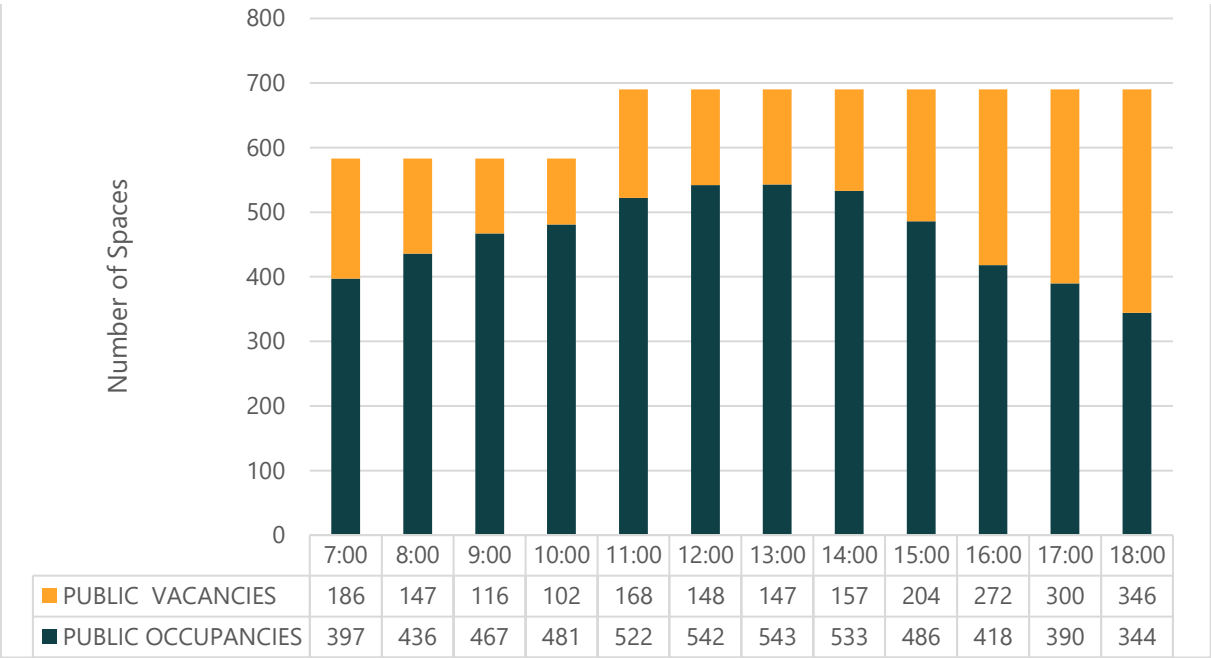


Car parking demand for on-street car parking during the Saturday survey was observed as follows:

- Due to Clearway restrictions being in place during the morning period on Ormond Esplanade, the overall car parking supply of publicly available spaces within the survey area was 583 spaces before 10am, and 690 spaces after 10am.
- Although Clearway restrictions lifted after 10am, a peak of only 11 vehicles parked on Ormond Esplanade was observed at 5pm out of a possible 107 car parking spaces which could be occupied. This would appear to indicate that drivers feel less comfortable in parking on Ormond Esplanade which is considered to be attributed to the relatively high traffic volumes typically experienced on Ormond Esplanade and its relatively narrow road reserve for a secondary arterial.
- Peak car parking demand for on-street parking was observed at 1pm, at which time 543 spaces of a total 690 supply were occupied leaving a total of 147 spaces available. If the spaces on Ormond Esplanade were to be excluded from the available occupancy on the basis of people largely not feeling comfortable in utilizing these spaces, would leave only 40 publicly available spaces on-street at 1pm in the study area.
- There was generally observed to be high car parking demand from 9am to 3pm on the Saturday survey.

The number of publicly available on-street car parking spaces occupied throughout the Saturday is displayed in Figure 2-12.

Figure 2-12: Saturday On-Street Occupancy Survey Results of Publicly Available Spaces



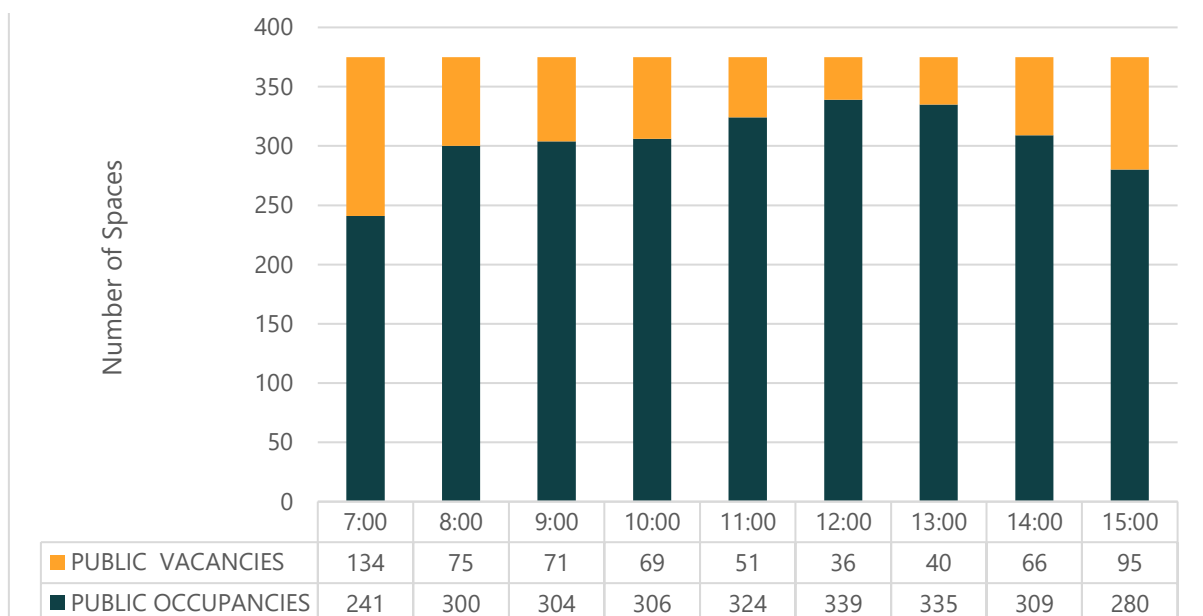
Sunday Survey

Car parking demand in the on-site car park during the Sunday survey was observed as follows:

- Car parking demand was observed to be approximately 64% of on-site spaces occupied when the survey commenced at 7am, which increased for much of the day.
- Peak car parking demand on-site occurred at 12noon at which time a total of 339 out of 375 publicly available spaces were occupied, leaving 36 available spaces.
- Between 8am and 2pm, car parking demands for on-site spaces remained above 80%.

The number of publicly available car parking spaces occupied throughout the Sunday in the on-site car park is displayed in Figure 2-13.

Figure 2-13: Sunday On-Site Occupancy Survey Results of Publicly Available Spaces

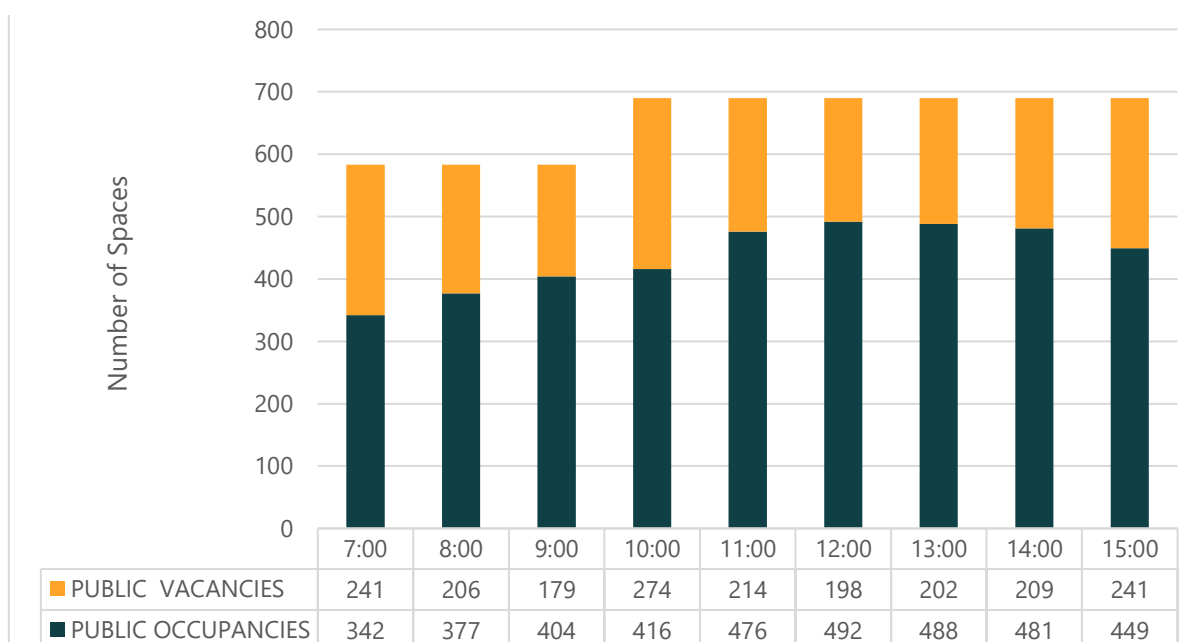


Car parking demand for on-street car parking during the Sunday survey was observed as follows:

- As per the Saturday survey, Clearway restrictions on Ormond Esplanade during the morning period resulted in 583 publicly available spaces before 10am, and 690 spaces after 10am.
- From 11am, between 22 and 25 vehicles parked on Ormond Esplanade, which has a supply of 107 spaces.
- Peak car parking demand for on-street parking was observed at 12noon, at which time 492 spaces of a total 690 supply were occupied leaving a total of 198 spaces available.

The number of publicly available on-street car parking spaces occupied throughout the Sunday is displayed in Figure 2-14.

Figure 2-14: Sunday On-Street Occupancy Survey Results of Publicly Available Spaces



2.5. Head Street Daily Traffic Volumes

Ratio Consultants commissioned a continuous seven-day automatic tube count survey adjacent 38 Head Street from Sunday 3 April 2022 to Saturday 9 April 2022. Results of the survey are summarised in Table 2-1.

An 85th percentile speed of 36 km/h was recorded throughout the survey period, less than the posted speed of 50km/h.

Detailed survey results are provided in Appendix B.

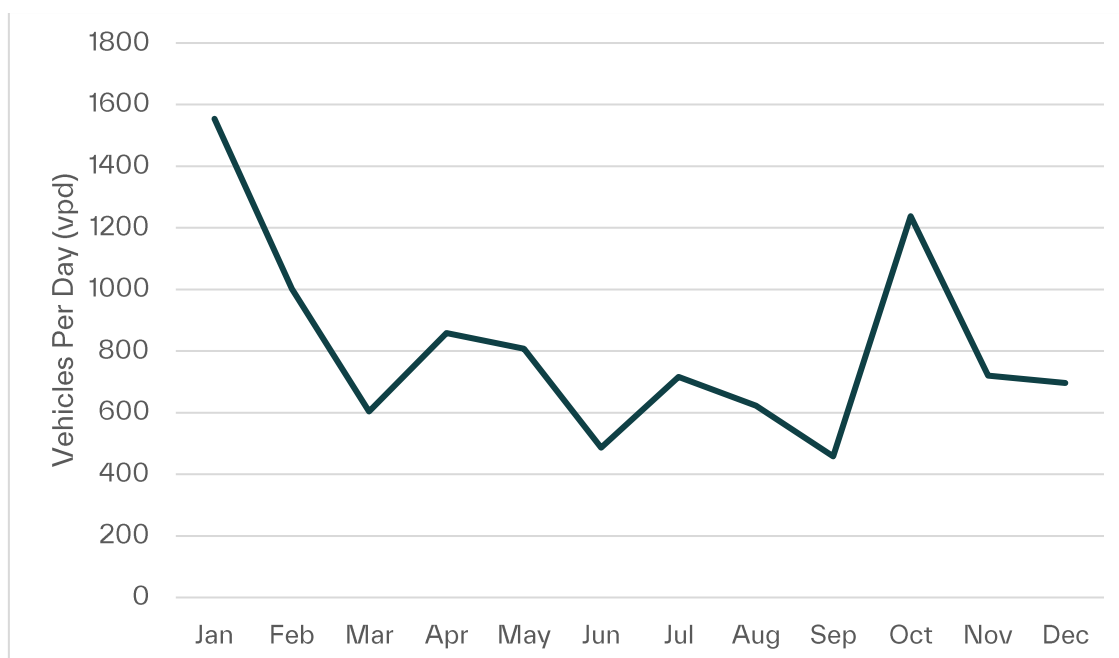
Table 2-1: Head Street Daily Vehicle Volumes, 3rd April to 9th April 2022

	Eastbound	Westbound	Two-way
Average Weekday Daily	335 vpd	321 vpd	656 vpd
Saturday Daily	374 vpd	368 vpd	742 vpd
Sunday Daily	305 vpd	300 vpd	605 vpd

To provide an understanding of the variations in traffic volumes throughout the year experienced on Head Street, SCATS data sourced from VicRoads has been reviewed for the intersection of Head Street and St Kilda Street. A graphical summary is displayed in Figure 2-15.

Review of the data shows that peak traffic volumes are experienced through January and February during the summer months and school holidays. April represents the approximate average daily traffic volume across the year.

Figure 2-15: Head Street Daily Volumes, Sundays



2.6. Sustainable Transport

Path Networks

The subject site is surrounded by a walkable residential catchment to the north and south of the site and surrounds. Pedestrian paths are provided to one or both sides of roads in the vicinity of the site, providing convenient connectivity for pedestrians. Three signalised pedestrian crossing locations on Ormond Esplanade provide safe crossing opportunities.

An off-road shared path is aligned parallel to the Elwood Beach shoreline and continues towards the north and south of the subject site. On-road bicycle lanes are provided on each road frontage of Elsternwick Park and an off-road shared path is provided parallel to Elster Creek.

The map of bicycle paths in the vicinity of the site is displayed in Figure 2-16.

Figure 2-16: Bicycle and Path Network



Source: portphillip.vic.gov.au

Public Transport

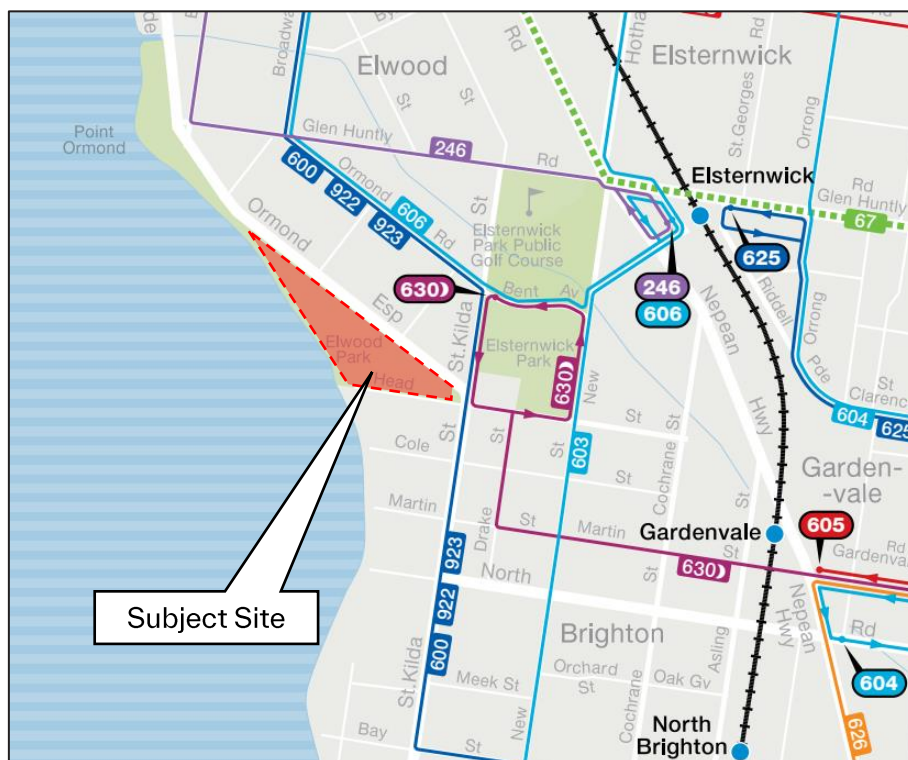
The site has access to the public transport network with numerous bus services operating within convenient walking distance of the site, connecting the site with locations such as Southland Shopping Centre, Elsternwick Railway Station, Fishermans Bend and Monash University.

The services operating within the vicinity of the site are summarised in Table 2-2 and displayed in Figure 2-17.

Table 2-2: Public Transport Services

Service	Route Number	Route Description	Nearest Stop	Walking Distance (Approx.)
Bus	923	Southland SC – St Kilda Station	St Kilda Road	100m
	606	Elsternwick Station – Fishermans Bend	Ormond Road	300m
	246	Elsterwick – Clifton Hill via St Kilda	Glen Huntly Road	650m
	630	Elwood – Monash University via Gardenvale and Ormond Tram	Bent Avenue	350m

Figure 2-17 Public Transport in the vicinity of the site



Source: www.ptv.vic.gov.au

3. Proposal

3.1. Overview

The development proposal for the Elwood Foreshore proposes to improve facilities for existing uses on site, including:

- 90 existing car parking spaces near the tennis courts,
- Existing car parking along the coastal edge removed to improve pedestrian and cycling connectivity between sporting uses and beach (-258 spaces from existing),
- 212 new car parking provided around existing tennis courts,
- 70 new car parking spaces provided to the northern side of Head Street,
- Improved pedestrian and cycling connectivity through the site,
- Other site improvements such as increased change room facilities and amenities.

The proposed development seeks to provide a total of 372 car parking spaces on site, inclusive of new spaces on the northern side of Head Street.

The function of existing uses such as sports, Elwood Bathers, the life saving club, restaurant, café etc. are anticipated to remain as per existing conditions. Therefore, the proposed redevelopment of the subject site is considered to provide increased pedestrian connectivity, improved safety in providing separation between vehicle activity and key pedestrian areas, and improving existing facilities to support the existing uses on site.

The concept plan of the redeveloped precinct is displayed in Figure 3-1.

Figure 3-1 Proposed Elwood Precinct (dated 6/07/2023)



Source: Port Phillip City Council

3.2. Access & Car Parking

The existing access points, as discussed in Section 2.2, are proposed to be retained. Primary vehicle access is to remain via the signalised intersection on Ormond Esplanade towards the western end of the site and a secondary unsignalised access point to Ormond Esplanade is to connect to the same car parking area.

The arrangement of car parking within the site is proposed to be modified to provide a greater concentration of car parking towards the northern frontage of the site in vicinity of the Ormond Esplanade access points. This car parking area is to comprise approximately 302 spaces comprising 90 existing and approximately 212 new spaces.

Additional car parking is to be provided in 90 degree arrangement on the northern side of Head Street, which is currently not provided with parking on its northern side.

Approximately 25 spaces are provided within the site accessed via connection to Head Street.

The proposed car parking locations and their access points are displayed in Figure 3-2.

The site plan illustrates two main building zones, A and B, highlighted in orange. Zone A is located along the northern boundary near Dockery St and Pine Ave, featuring a lady foster kindergarten, cafe, and shared pedestrian path. Zone B is situated further south, adjacent to Ormond Esplanade and Head St, and includes a half court (e.g., basketball), additional public change rooms & toilets, a sports pavilion, and 2.5 croquet courts. The plan also shows various streets such as Joyce St, Kangley St, and Head St. Key features include increased pedestrian amenity, a nature play area / playground, fitness station, sports lighting, and ongoing collaborations for drainage and development. A legend indicates that orange arrows represent Vehicle Access Points and solid orange areas represent On-site Car Parking.

- Vehicle Access Point**
- On-site Car Parking**

building zone A

building zone B
note: location is indicative - there is possibility to project the building volume towards the water

lady foster kindergarten
cafe
shared pedestrian path
public change rooms + toilets
half court e.g. basketball
additional public change rooms & toilets
sports pavilion
2.5 croquet courts
nature play area / playground
fitness station
sports lighting
ongoing collaboration required with Melbourne Water for drainage through the site
note: location of trees & planting subject to detailed design & location of drain

Dockery St
Pine Ave
Ormond Esplanade
Joyce St
Kangley St
Head St
St Kilda St

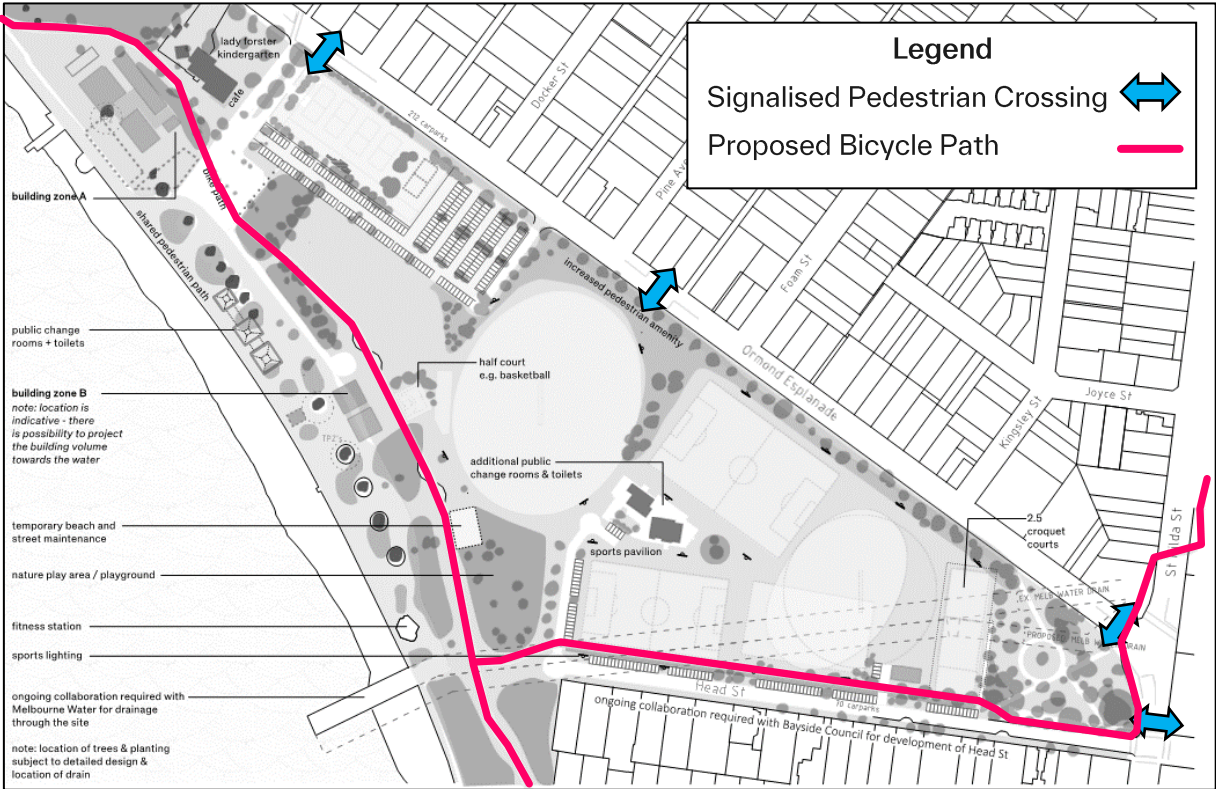
increased pedestrian amenity
EX FILL WATER DRAIN
PROP'D CROQUET COURTS
PROPOSED PLAY AREA

ongoing collaboration required with Bayside Council for development of Head St

Pedestrian connectivity to the subject site is to be facilitated via the existing signalised pedestrian crossings on Ormond Esplanade and the St Kilda Street/Head Street double intersection.

The proposed bicycle paths and existing signalised pedestrian crossings are displayed in Figure 3-3.

Figure 3-3 Proposed Elwood Precinct Bicycle and Pedestrian Access



4. Car Parking Assessment

4.1. Clause 52.06 Statutory Requirement

Parking requirements for new developments are set out under Clause 52.06 of the Port Phillip Planning Scheme. The purpose of Clause 52.06, amongst other things, is:

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

Pertinent to Clause 52.06, the clause applies to:

- a new use; or
- an increase in the floor area or site area of an existing use; or
- an increase to an existing use by the measure specified in Column C of Table 1 in Clause 52.06-5 for that use.

The proposed development contemplates site improvements such as improved change rooms and amenities, relocation of car parking areas and improved bicycle and pedestrian connectivity within the site.

The proposal is understood to improve facilities for existing uses on site, and is not proposed to increase the number of sports fields or floor areas of non-ancillary uses on site. As such, the Clause 52.06 car parking requirements for new uses do not apply to the proposal.

4.2. Proposed Changes to Car Parking Provision

Although the proposal does not include additional sporting uses or increased floor areas of non-ancillary uses on-site, the proposed changes in car parking arrangement results in a net loss of car parking on site.

The existing car parking areas on site were found to accommodate a total of 391 car parking spaces and the proposal seeks to provide a total of 372 car parking spaces on site, inclusive of new 90-degree spaces on the northern side of Head Street. The proposal therefore results in a net loss of car parking of 19 spaces, representing under 5% of existing on-site car parking.

The proposal therefore effectively seeks a reduction of 19 spaces against current conditions.

4.3. Car Parking Demand Assessment

Existing Demand

As discussed in Section 2.4 car parking demand observed on site surveys was a peak of 315 occupied spaces out of 375 space public supply (60 spaces available) on the Saturday, and a peak of 339 occupied spaces out of 375 space public supply (36 spaces available) on the Sunday. As such, on the basis of the surveyed weekend, a reduction of 19 spaces could be accommodated on site.

It is noted that car parking surveys were undertaken in April, and that higher car parking demands may be experienced by the precinct during warmer months such as January and February.

Changes in Demand

As the uses provided on site are not anticipated to change, car parking demand generated by uses is thereby not anticipated to change. Other factors which may influence car parking demand are:

- Availability of car parking,
- Cost of car parking,
- Availability of alternate transport options.

Induced demand is the concept that an increased supply will lead to an increased demand. Meaning that if more car parking is provided, the demand for car parking will in turn increase. A reduction in car parking will help to encourage visitors to travel to the site via sustainable transport modes.

As discussed in Section 2.6, the subject site is supported by a local walking catchment of residential dwellings and pedestrian paths, allowing residents to walk to and from site.

The proposal seeks to provide improved cycling infrastructure to encourage cyclists to travel to and through the subject site. As discussed in Section 5, it is recommended that additional bicycle parking spaces are provided on site to facilitate more visitors and staff to cycle to site.

The subject site is also accessible via multiple bus routes, connecting the site with locations such as Southland Shopping Centre, Elsternwick Railway Station, Fishermans Bend and Monash University.

It is recommended that new car parking areas are ticketed as per existing on-site provision in order to discourage private vehicle use for those who are able to travel to the site via other modes.

5. Bicycle Parking

5.1. Clause 52.34 Bicycle Parking Assessment

Clause 52.34 for Bicycle Parking does not apply to an existing approved use if the floor area or use is not increasing. Therefore, the proposed development does not have a statutory requirement to provide additional bicycle parking.

It is, however, recommended that additional bicycle parking is provided to the subject site to encourage and facilitate patrons and staff to cycle to site, utilizing the improved bicycle infrastructure on site.

It is recommended that visitor bicycle parking spaces are provided in easily identifiable locations in horizontal arrangement for ease of access, such as 'Arc De Triomphe' style standard hoops. Bicycle hoops should be provided at 1.0m centres and allow 1.8m long bicycles to park within each space, accessed via an aisle of 1.5m minimum width.

Staff bicycle parking should be provided within a lockable compound so that staff can securely park their bicycles for the length of their shift. Staff spaces may be provided in horizontal or vertical arrangement. Vertical bicycle parking spaces should be spaced 500mm apart and allow 1.2m depth for bicycle parking, accessed via a 1.5m wide aisle.

The provision of additional bicycle parking together with improved path networks through the site is considered to encourage patrons to cycle to the subject site especially in warmer months, at which time the precinct is observed to experience peak activity.

6. Traffic Assessment

6.1. Traffic Impacts

As the proposal seeks to utilise existing access points to Ormond Esplanade and provides a slightly reduced number of car parking spaces on site, traffic impacts to this road frontage are anticipated to be consistent with or less than existing conditions.

As the proposal seeks to increase car parking supply on Head Street, increased traffic volumes could be anticipated on this road frontage. Existing tube count surveys discussed in Section 2.5 showed that Head Street is currently carrying up to approximately 650 vpd on a weekday, 750 vpd on a Saturday, and 600 vpd on a Sunday.

Pertinent to Clause 56.06 of the Planning Scheme, Head Street is considered to be an Access Street Level 2 which has an environmental capacity of 2000vpd to 3000vpd.

As discussed in Section 3.1, 70 new car parking spaces are proposed to be provided to Head Street. Assuming that patrons typically remain on site for an average of 2 hours, and that each space on average turns over three times throughout a weekend, could generate a total of 420 vph. Therefore, Head Street could be estimated to carry up to 1,200 vpd on a Saturday. This quantum of traffic is within the environmental capacity of an Access Street Level 2.

Head Street could be anticipated to carry higher traffic volumes during summer months, as per existing conditions. It is recommended that the existing roundabout on the western end of Head Street is maintained in order to allow for U-turn manoeuvres by drivers who do not find a car parking spaces on Head Street, or have otherwise taken an incorrect turn.

7. Summary

The Elwood Foreshore precinct, comprising addresses 1 Elwood Foreshore Road & 135a Ormond Esplanade in Elwood, is proposed for redevelopment to increase pedestrian and bicycle access to the site, enable safe movement of diverse users through the site, and minimise impact of car access and car parking.

The proposed development seeks to provide:

- A total of 372 car parking spaces on site, inclusive of new spaces on the northern side of Head Street and retention of some existing car parking. It is proposed to remove much of the existing car parking on site which is located in close proximity to the shoreline in order to provide improved pedestrian and bicycle connectivity through the site and limit interaction between vulnerable users and vehicles.
- Improved pedestrian and cycling connectivity through the site,
- Other site improvements such as increased change room facilities and amenities.

The following is summarised from the preceding assessment:

- The proposal does not seek to increase to non-ancillary floor areas of existing uses on site or increase the number of sports uses. Therefore, the Clause 52.06 requirements for new or increased uses do not apply to the proposal.
- The proposal seeks to reduce the number of car parking spaces on site from 391 spaces to 372 spaces (-19 spaces). Existing car parking surveys undertaken of the on-site supply indicate that this reduction can be accommodated based on surveyed availability of car parking. It is noted that car parking surveys were undertaken in April, and that higher car parking demands may be experienced by the precinct during warmer months such as January and February.
- As the uses provided on site are not anticipated to change, car parking demand generated by uses is thereby not anticipated to change. Other factors which may influence car parking demand are; availability of car parking, cost of car parking, and availability of alternate transport options. The provision of 372 spaces is considered satisfactory on the basis of the following:
 - Induced demand is the concept that an increased supply will lead to an increased demand. Meaning that if more car parking is provided, the demand for car parking will in turn increase. A reduction in car parking will help to encourage visitors to travel to the site via sustainable transport modes.
 - The subject site is supported by a local walking catchment of residential dwellings and pedestrian paths, allowing residents to walk to and from site. Multiple signalised pedestrian crossings provide safe crossing opportunities for pedestrians.
 - The proposal seeks to provide improved cycling infrastructure to encourage cyclists to travel to and through the subject site. It is recommended that additional bicycle parking spaces are provided on site to facilitate more visitors and staff to cycle to site.
 - It is recommended that new car parking areas are ticketed as per existing on-site provision in order to discourage private vehicle use for those who are able to travel to the site via other modes.

- The subject site is accessible via multiple bus routes, connecting the site with locations such as Southland Shopping Centre, Elsternwick Railway Station, Fishermans Bend and Monash University.
- The development proposal does not have a statutory requirement to provide additional bicycle parking on the basis of floor areas and sporting uses not being increased, however it is recommended that additional spaces are provided to encourage visitor and staff to cycle to site and utilise the improved bicycle infrastructure provided.
- As the proposal seeks to utilise existing access points to Ormond Esplanade and provides a slightly reduced number of car parking spaces on site, traffic impacts to the Ormond Esplanade frontage are anticipated to be consistent with or less than existing conditions.
- As the proposal seeks to increase the car parking supply on Head Street, increased traffic volumes could be anticipated on this road frontage. On the basis of tube count data collected and 70 car parking spaces proposed to Head Street, Head Street is estimated to carry up to a total of 1,200 vpd, which is within the environmental capacity of the road of 2000vpd to 3000vpd.
- Head Street could be anticipated to carry higher traffic volumes during summer months, as per existing conditions. It is recommended that the existing roundabout on the western end of Head Street is maintained in order to allow for U-turn manoeuvres by drivers who do not find a car parking spaces on Head Street, or have otherwise taken an incorrect turn.

Appendix A Car Parking Occupancy Survey Results

Parking Elwood.xlsx



Parking Occupancy Survey

Date:	Saturday, 2 April 2022
Location:	Elwood
<i>GPS:</i>	-37.888309, 144.983946
<i>Weather:</i>	Fine
<i>Customer:</i>	Ratio

Public Parking (1/0)	Map Ref	Street	Section (GPS/Street Address if Off-Street Car Park)	Side	Restriction	Clear Way	Capacity	Parking Occupancy											
								7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
1		Bendigo Ave	From Ormond Esplanade To Ormond Rd	W	2P 10am-8pm Sat-Sun & Public Holiday 1st Nov - 31st March		36	27	30	31	31	34	36	36	36	33	30	26	21
1				E	2P 10am-8pm Sat-Sun & Public Holiday 1st nov - 31st march		34	19	22	25	27	31	34	34	34	29	24	23	22
1		Ormond Esplanade	From Bendigo Ave To Selwyn Ave	N	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	8	0	0	0	0	1	1	2	3	3	2	1	0
1				S	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	12	0	0	0	0	0	0	1	1	1	0	1	1
1		Selwyn Ave	From Ormond Esplanade To Ormond Rd	W	2P 10am-8pm Sat-Sun Nov -March		34	26	31	33	34	34	34	34	34	31	28	25	22
1				E	2P 10am-8pm Sat-Sun Nov -March		32	26	26	29	31	32	32	32	32	30	27	25	22
1		Ormond Esplanade	From Selwyn Ave To Beach Ave	N	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	10	0	0	0	0	0	0	0	0	1	1	2	2
1				S		Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	12	0	0	0	0	1	1	1	0	0	0	2	3
1		Beach Ave	From Ormond Esplanade To Ormond Rd	W	2P 10am-8pm Sat-Sun Nov -March		32	29	31	32	32	32	32	32	32	27	22	19	16
1					2P 8am - 6pm		3	3	3	3	3	3	3	3	3	3	3	3	3
1				E	Permit Zone		39	31	31	33	34	37	39	39	39	37	34	29	24
1					2P 8am - 6pm		3	3	3	3	3	3	3	3	3	3	3	3	3
1					2P 8am - 6pm, Permit Zone All Other Times		2	1	0	1	2	1	0	1	2	1	0	1	2
0		Ormond Esplanade	From Beach Ave To Vautier St	N	No Stopping	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	0	0	0	0	0	0	0	0	0	0	0	0	0
1				S	Unrestricted	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	6	0	0	0	0	1	1	1	0	0	0	0	0
1		Vautier St	From Ormond Esplanade To Ormond Rd	W	Permit Zone		34	21	26	26	26	29	32	32	32	28	23	21	18
1					Works Zone 7am-5pm Mon-Fri 9am-3pm Sat, Permit Zone All Other Times		2	1	1	2	2	2	2	1	0	0	0	1	2
1				E	2P 10am-8pm Sat-Sun Nov -March		28	24	24	25	25	27	28	27	26	23	19	18	16
1					Works Zone 7am-5pm Mon-Fri 9am-3pm Sat, 2P 3pm-8pm Sat 10am-8pm Sun		3	2	0	1	2	1	0	0	0	0	0	1	2
1					2P 8am - 6pm		10	6	7	8	8	9	10	10	10	9	8	7	6
1		Ormond Esplanade	From Vautier St To Docker St	N	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	6	0	0	0	0	1	2	2	2	2	1	1	0
1				S	Unrestricted	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	10	0	0	0	0	1	1	1	1	2	2	1	0
1		Docker St	From Ormond Esplanade To Ormond Rd	W	Permit Zone		31	24	25	27	28	30	31	31	30	28	26	22	18
1					Works Zone 7am-5pm Mon-Fri 9am-3pm Sat, Permit Zone All Other Times		1	0	1	1	0	1	1	1	1	1	0	0	0
1					2P 8am - 6pm		6	3	4	4	4	5	5	5	5	5	4	4	3
1					2P 8am - 6pm, Permit Zone All Other Times		2	0	0	1	2	2	2	2	1	1	0	0	0
1				E	2P 10am-8pm Sat-Sun Nov -March		37	30	30	31	32	34	36	37	37	32	27	25	22
1					Works Zone 7am-5pm Mon-Fri 9am-3pm Sat		2	1	2	2	1	1	0	1	2	1	0	0	0
1					2P 8am - 6pm		8	5	5	6	6	7	7	7	6	6	5	5	4
1		Ormond Esplanade	From Docker St To Pine Ave	N	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	8	0	0	0	0	0	0	0	0	0	0	0	0
1				S	Unrestricted	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	8	0	0	0	0	0	0	0	0	1	1	1	0
1		Pine Ave	From Ormond Esplanade To Ormond Rd	W	2P 8am - 8pm		43	24	29	30	31	36	40	39	38	33	27	25	22
1				E	Permit Zone		37	25	25	27	29	33	36	36	36	32	28	24	20
1					2P 8am - 6pm, Permit Zone All Other Times		2	0	0	1	1	1	0	0	0	0	0	0	0
1		Ormond Esplanade	From Pine Ave To Foam St	N	Unrestricted	Clearway 7am-9am, 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	4	0	0	0	0	0	0	0	0	0	0	1	2
0				S	No Stopping	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	0	0	0	0	0	0	0	0	0	0	0	0	0

Parking Elwood.xlsx

1		Foam St	From Ormond Esplanade To Ormond Rd	W	2P 10am-8pm Sat-Sun Nov -March		40	31	32	35	37	39	40	39	38	34	30	27	23
1				E	Permit Zone		33	24	29	30	31	32	33	33	33	30	26	24	21
1		Ormond Esplanade	From Foam St To Kingsley St	N	Unrestricted	Clearway 7am-9am, 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	15	0	0	0	0	0	0	2	3	3	2	1	0
0				S	No Stopping	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	0	0	0	0	0	0	0	0	0	0	0	0	0
1		Kingsley St	From Ormond Esplanade To Ormond Rd	W	Unrestricted		31	21	26	27	27	29	31	30	29	28	26	24	22
1					Disabled		1	0	0	0	0	0	0	0	0	0	0	0	0
1				E	Unrestricted		30	25	26	26	26	28	30	30	30	27	23	22	20
1		Joyce St	From Kingsley St To End	N	Unrestricted		11	8	9	10	11	11	11	11	11	10	9	8	6
1				S	Unrestricted		12	10	10	11	11	12	12	12	11	10	9	8	7
1			From Kingsley St To St Kilda St	N	Unrestricted		8	6	7	7	7	8	8	8	8	8	7	7	6
1				S	Unrestricted		8	6	7	7	7	8	8	8	8	8	7	7	6
1		Ormond Esplanade	From Kingsley St To St Kilda St	N	Unrestricted	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	8	0	0	0	0	0	0	0	0	0	0	0	0
0				S	No Stopping	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	0	0	0	0	0	0	0	0	0	0	0	0	0
1		Head St	From St Kilda St To End	N	Unrestricted		18	10	11	12	13	15	16	16	15	14	13	11	9
1					Disabled		3	0	0	1	1	1	0	0	0	0	0	1	1
1				S	Unrestricted		25	14	15	15	15	17	18	19	19	17	14	13	12
1		Dawson Ave	From St Kilda St To End	N	Unrestricted		36	21	26	28	29	31	33	32	30	28	25	24	23
1				S	Unrestricted		40	15	18	19	20	22	24	23	22	21	19	16	13
1		Car Park 1			P 5mins 7:30am-10am, 3pm-6pm Mon-Fri, 1P All Other Times	No Stopping 1am-5am	2	2	2	2	1	1	0	0	0	0	0	0	0
1					P Ticket 8am-11pm	No Stopping 1am-5am	341	157	178	208	237	251	254	260	294	258	232	208	179
1					P10mins 7:30am-6pm Mon-Fri, P Ticket 6pm-11pm Mon-Fri, 8am-11pm Sat-Sun & Public Holiday	No Stopping 1am-5am	7	4	4	4	4	4	4	4	4	4	3	3	3
1					Disabled	No Stopping 1am-5am	4	2	2	1	0	2	3	3	3	3	2	1	0
1					No Stopping All Other Times Approved Councils Vendors Excepted	No Stopping 11pm-5am	2	0	0	1	1	1	0	0	0	1	2	2	2
1					Permit zone 8am-11pm Sat-Sun Public Holidays 1 Nov-30 Apr, Elwood Life Saving Vehicles Only, P Ticket 8am-11pm All Other Times	No Stopping 11pm-5am	5	0	2	2	2	1	0	0	0	1	1	1	0
1					Loading Zone		1	1	0	0	0	0	0	1	1	1	0	0	0
1					Disabled		3	0	2	1	0	0	0	0	0	2	3	3	2
1					No Stopping Elwood Bathers Official Vehicles Excepted		8	3	4	5	5	6	6	6	6	5	4	4	3
1					Unrestricted		18	10	12	12	12	13	13	14	14	13	11	10	9
		PUBLIC CAPACITY						1255	1255	1255	1255	1255	1255	1255	1255	1255	1255	1255	1255
		PUBLIC OCCUPANCIES						701	778	846	891	962	993	1002	1025	929	813	742	643
		PUBLIC VACANCIES						554	477	409	364	293	262	253	230	326	442	513	612
		PUBLIC % OCCUPANCIES						56%	62%	67%	71%	77%	79%	80%	82%	74%	65%	59%	51%

not available for public parking

Parking Elwood.xlsx

TRANS TRAFFIC SURVEY

trafficsurvey.com.au

QUALITY SYSTEM CERTIFICATION

DNV-GL

ISO 9001

SAFETY SYSTEM CERTIFICATION

DNV-GL

AS/NZS 4801

ENVIRONMENTAL SYSTEM CERTIFICATION

DNV-GL

ISO 14001

Parking Occupancy Survey

Date:	Sunday, 3 April 2022
Location:	Elwood
GPS:	-37.888309, 144.983946
Weather:	Fine
Customer:	Ratio

Public Parking (1/0)	Map Ref	Street	Section (GPS/Street Address if Off-Street Car Park)	Side	Restriction	Clear Way	Capacity	Parking Occupancy								
								7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00
1		Bendigo Ave	From Ormond Esplanade To Ormond Rd	W	2P 10am-8pm Sat-Sun & Public Holiday 1st Nov - 31st March		36	22	22	24	25	28	30	29	27	24
1				E	2P 10am-8pm Sat-Sun & Public Holiday 1st nov - 31st march		34	21	24	25	25	26	26	26	25	23
1		Ormond Esplanade	From Bendigo Ave To Selwyn Ave	N	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	8	0	0	0	0	0	0	0	1	2
1				S	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	12	0	0	0	0	2	2	2	3	3
1		Selwyn Ave	From Ormond Esplanade To Ormond Rd	W	2P 10am-8pm Sat-Sun Nov -March		34	24	28	29	30	32	34	33	33	33
1				E	2P 10am-8pm Sat-Sun Nov -March		32	20	20	23	25	28	30	28	27	25
1		Ormond Esplanade	From Selwyn Ave To Beach Ave	N	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	10	0	0	0	0	0	0	0	0	0
1				S		Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	12	0	0	0	0	4	4	4	4	4
1		Beach Ave	From Ormond Esplanade To Ormond Rd	W	2P 10am-8pm Sat-Sun Nov -March		32	24	26	28	30	32	32	32	31	29
1					2P 8am - 6pm		3	3	3	3	3	3	3	3	3	3
1				E	Permit Zone		39	17	19	20	21	24	26	26	24	21
1					2P 8am - 6pm		3	2	0	0	0	1	2	2	3	3
1					2P 8am - 6pm, Permit Zone All Other Times		2	0	1	1	0	1	1	1	1	0
0		Ormond Esplanade	From Beach Ave To Vautier St	N	No Stopping	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	0	0	0	0	0	0	0	0	0	0
1				S	Unrestricted	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	6	0	0	0	0	4	4	3	3	3
1		Vautier St	From Ormond Esplanade To Ormond Rd	W	Permit Zone		34	22	24	25	25	27	29	29	26	23
1					Works Zone 7am-5pm Mon-Fri 9am-3pm Sat, Permit Zone All Other Times		2	2	1	1	1	2	2	2	1	0
1				E	2P 10am-8pm Sat-Sun Nov -March		28	16	17	17	17	19	20	19	19	18
1					Works Zone 7am-5pm Mon-Fri 9am-3pm Sat, 2P 3pm-8pm Sat 10am-8pm Sun		3	0	0	0	0	1	1	1	1	1
1					2P 8am - 6pm		10	3	4	5	5	6	6	6	6	5
1		Ormond Esplanade	From Vautier St To Docker St	N	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	6	0	0	0	0	4	4	4	4	3
1				S	Unrestricted	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	10	0	0	0	0	1	1	1	1	0
1		Docker St	From Ormond Esplanade To Ormond Rd	W	Permit Zone		31	19	19	20	20	22	24	24	24	23

Parking Elwood.xlsx

1					Works Zone 7am-5pm Mon-Fri 9am-3pm Sat, Permit Zone All Other Times		1	1	0	0	0	0	0	0	0	0	0
1					2P 8am - 6pm		6	3	3	3	3	3	3	3	3	3	3
1					2P 8am - 6pm, Permit Zone All Other Times		2	0	2	1	0	1	1	1	2	2	
1				E	2P 10am-8pm Sat-Sun Nov -March		37	21	23	25	26	28	29	29	29	28	
1					Works Zone 7am-5pm Mon-Fri 9am-3pm Sat		2	2	0	1	2	2	1	1	2	2	
1					2P 8am - 6pm		8	4	4	4	4	5	5	5	5	5	
1		Ormond Esplanade	From Docker St To Pine Ave	N	Unrestricted	Clearway 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	8	0	0	0	0	0	0	0	0	0	0
1				S	Unrestricted	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	8	0	0	0	0	3	3	2	3	3	
1		Pine Ave	From Ormond Esplanade To Ormond Rd	W	2P 8am - 8pm		43	19	21	23	24	26	27	25	25	25	
1				E	Permit Zone		37	23	25	25	25	27	28	28	27	26	
1					2P 8am - 6pm, Permit Zone All Other Times		2	0	0	0	0	1	1	1	1	0	
1		Ormond Esplanade	From Pine Ave To Foam St	N	Unrestricted	Clearway 7am-9am, 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	4	0	0	0	0	0	0	0	1	1	
0				S	No Stopping	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	0	0	0	0	0	0	0	0	0	0	0
1		Foam St	From Ormond Esplanade To Ormond Rd	W	2P 10am-8pm Sat-Sun Nov -March		40	20	24	27	30	32	33	34	33	31	
1				E	Permit Zone		33	21	23	26	28	29	29	29	29	28	
1		Ormond Esplanade	From Foam St To Kingsley St	N	Unrestricted	Clearway 7am-9am, 4:30pm-6:30pm Mon-Fri, 6am-10am Sat-Sun	15	0	0	0	0	4	4	4	4	3	
0				S	No Stopping	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	0	0	0	0	0	0	0	0	0	0	0
1		Kingsley St	From Ormond Esplanade To Ormond Rd	W	Unrestricted		31	21	24	26	27	28	28	28	28	28	
1					Disabled		1	0	1	1	0	0	0	0	1	1	
1				E	Unrestricted		30	20	23	24	24	26	28	29	27	25	
1		Joyce St	From Kingsley St To End	N	Unrestricted		11	8	9	9	9	10	10	10	10	9	
1				S	Unrestricted		12	7	9	10	10	10	10	11	10	9	
1			From Kingsley St To St Kilda St	N	Unrestricted		8	7	7	7	7	7	7	8	8	7	
1				S	Unrestricted		8	4	5	6	6	7	7	8	7	6	
1		Ormond Esplanade	From Kingsley St To St Kilda St	N	Unrestricted	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	8	0	0	0	0	1	2	2	1	0	
0				S	No Stopping	Clearway 7am-9am Mon-Fri, 6am-10am Sat-Sun	0	0	0	0	0	0	0	0	0	0	0
1		Head St	From St Kilda St To End	N	Unrestricted		18	12	14	15	15	15	15	15	14	12	
1					Disabled		3	2	0	0	0	1	1	1	2	2	
1				S	Unrestricted		25	13	14	15	16	17	17	17	17	16	
1		Dawson Ave	From St Kilda St To End	N	Unrestricted		36	27	32	33	33	34	35	36	35	34	
1				S	Unrestricted		40	14	16	18	19	21	23	22	20	18	
1		Car Park 1			P 5mins 7:30am-10am, 3pm-6pm Mon-Fri, 1P All Other Times	No Stopping 1am-5am	2	0	0	0	0	1	1	1	1	0	

Parking Elwood.xlsx

1					P Ticket 8am-11pm	No Stopping 1am-5am	341	224	280	283	286	299	311	307	283	258
1					P10mins 7:30am-6pm Mon-Fri, P Ticket 6pm-11pm Mon-Fri, 8am-11pm Sat-Sun & Public Holiday	No Stopping 1am-5am	7	3	4	5	5	5	5	5	5	5
1					Disabled	No Stopping 1am-5am	4	0	0	0	0	1	2	2	1	0
1					No Stopping All Other Times Approved Councils Vendors Excepted	No Stopping 11pm-5am	2	0	1	1	0	1	1	1	1	0
1					Permit Zone 8am-11pm Sat-Sun Public Holidays 1 Nov-30 Apr, Elwood Life Saving Vehicles Only, P Ticket 8am-11pm All Other Times	No Stopping 11pm-5am	5	3	3	3	3	3	3	3	3	3
1					Loading Zone		1	0	0	0	0	1	1	1	1	0
1					Disabled		3	1	1	1	0	1	2	2	1	0
1					No Stopping Elwood Bathers Official Vehicles Excepted		8	4	5	5	5	5	5	6	6	5
1					Unrestricted		18	13	15	15	15	17	18	18	18	17
	PUBLIC CAPACITY							1255	1255	1255	1255	1255	1255	1255	1255	1255
	PUBLIC OCCUPANCIES							692	796	833	849	939	977	970	931	858
	PUBLIC VACANCIES							563	459	422	406	316	278	285	324	397
	PUBLIC % OCCUPANCIES							55%	63%	66%	68%	75%	78%	77%	74%	68%

not available for public parking

Appendix B Tube Count Results

AUTOMATIC COUNTER SUMMARY AND DATA SHEET



Site Head St

Direction ▼[Back to Site Summary Page](#)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
Date	4/04/2022	5/04/2022	6/04/2022	7/04/2022	8/04/2022	9/04/2022	3/04/2022	Total	Average	Total	Average	Total	Average
AM Peak	09:00	10:00	11:00	09:00	11:00	10:00	11:00	N/A	11:00	N/A	09:00	N/A	11:00
PM Peak	17:00	18:00	19:00	18:00	16:00	12:00	12:00	N/A	18:00	N/A	18:00	N/A	12:00
00:00	0	1	3	2	0	2	6	14	2	6	1	8	4
01:00	3	0	0	1	1	1	3	9	1	5	1	4	2
02:00	0	0	0	2	1	3	1	7	1	3	1	4	2
03:00	0	0	1	0	0	0	3	4	1	1	0	3	2
04:00	0	0	1	0	1	0	1	3	0	2	0	1	1
05:00	0	1	1	1	1	0	0	4	1	4	1	0	0
06:00	8	8	6	12	6	2	2	44	6	40	8	4	2
07:00	8	12	9	10	23	17	6	85	12	62	12	23	12
08:00	10	7	8	21	10	15	19	90	13	56	11	34	17
09:00	20	16	14	39	20	21	17	147	21	109	22	38	19
10:00	17	28	18	15	23	35	33	169	24	101	20	68	34
11:00	19	19	19	19	29	31	53	189	27	105	21	84	42
12:00	9	17	9	18	28	39	23	143	20	81	16	62	31
13:00	13	17	16	17	30	37	21	151	22	93	19	58	29
14:00	19	18	13	14	22	30	16	132	19	86	17	46	23
15:00	9	17	20	16	27	23	11	123	18	89	18	34	17
16:00	19	19	20	18	32	23	15	146	21	108	22	38	19
17:00	28	45	41	21	24	16	17	192	27	159	32	33	17
18:00	19	62	45	47	11	33	17	234	33	184	37	50	25
19:00	18	51	55	38	20	12	17	211	30	182	36	29	15
20:00	5	11	16	10	8	9	7	66	9	50	10	16	8
21:00	3	10	8	8	8	7	4	48	7	37	7	11	6
22:00	3	6	4	5	7	8	5	38	5	25	5	13	7
23:00	2	4	8	2	5	4	3	28	4	21	4	7	4
Total	232	369	335	336	337	368	300	2277	324	1609	321	668	338
% Heavy	8.62%	2.98%	5.97%	4.46%	4.75%	1.90%	3.00%	4.30%		5.10%		2.40%	

AUTOMATIC COUNTER SUMMARY AND DATA SHEET



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Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
Date	4/04/2022	5/04/2022	6/04/2022	7/04/2022	8/04/2022	9/04/2022	3/04/2022	Total	Average	Total	Average	Total	Average
AM Peak	10:00	09:00	10:00	10:00	11:00	11:00	11:00	N/A	11:00	N/A	10:00	N/A	11:00
PM Peak	17:00	18:00	19:00	18:00	17:00	13:00	12:00	N/A	19:00	N/A	19:00	N/A	12:00
00:00	1	0	2	1	0	2	3	9	1	4	1	5	3
01:00	1	1	1	1	0	1	3	8	1	4	1	4	2
02:00	2	0	0	1	0	4	1	8	1	3	1	5	3
03:00	0	0	1	2	1	0	0	4	1	4	1	0	0
04:00	0	0	1	0	1	0	0	2	0	2	0	0	0
05:00	0	1	1	1	1	0	0	4	1	4	1	0	0
06:00	4	1	1	2	3	0	2	13	2	11	2	2	1
07:00	5	12	9	17	6	3	3	55	8	49	10	6	3
08:00	9	11	11	15	19	14	10	89	13	65	13	24	12
09:00	21	17	10	22	22	24	19	135	19	92	18	43	22
10:00	22	15	18	37	13	22	16	143	20	105	21	38	19
11:00	15	15	18	16	28	36	33	161	23	92	18	69	35
12:00	13	34	18	20	20	26	49	180	26	105	21	75	38
13:00	18	28	22	19	31	37	38	193	28	118	24	75	38
14:00	10	13	11	15	23	24	30	126	18	72	14	54	27
15:00	19	17	14	21	34	32	12	149	21	105	21	44	22
16:00	16	18	14	12	35	29	18	142	20	95	19	47	24
17:00	22	23	35	22	36	27	17	182	26	138	28	44	22
18:00	17	64	21	41	19	29	14	205	29	162	32	43	22
19:00	19	62	74	39	20	29	15	258	37	214	43	44	22
20:00	14	21	30	17	12	13	12	119	17	94	19	25	13
21:00	4	29	23	33	6	7	2	104	15	95	19	9	5
22:00	2	6	2	2	8	10	6	36	5	20	4	16	8
23:00	2	7	5	4	4	5	2	29	4	22	4	7	4
Total	236	395	342	360	342	374	305	2354	336	1675	335	679	345
% Heavy	5.51%	3.54%	3.80%	5.56%	3.80%	1.07%	2.62%	3.61%		4.36%		1.77%	

AUTOMATIC COUNTER SUMMARY AND DATA SHEET



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Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	7 days		Weekday		Weekend	
Date	4/04/2022	5/04/2022	6/04/2022	7/04/2022	8/04/2022	9/04/2022	3/04/2022	Total	Average	Total	Average	Total	Average
AM Peak	09:00	10:00	11:00	09:00	11:00	11:00	11:00	N/A	11:00	N/A	10:00	N/A	11:00
PM Peak	17:00	18:00	19:00	18:00	16:00	13:00	12:00	N/A	19:00	N/A	19:00	N/A	12:00
00:00	1	1	5	3	0	4	9	23	3	10	2	13	7
01:00	4	1	1	2	1	2	6	17	2	9	2	8	4
02:00	2	0	0	3	1	7	2	15	2	6	1	9	5
03:00	0	0	2	2	1	0	3	8	1	5	1	3	2
04:00	0	0	2	0	2	0	1	5	1	4	1	1	1
05:00	0	2	2	2	2	0	0	8	1	8	2	0	0
06:00	12	9	7	14	9	2	4	57	8	51	10	6	3
07:00	13	24	18	27	29	20	9	140	20	111	22	29	15
08:00	19	18	19	36	29	29	29	179	26	121	24	58	29
09:00	41	33	24	61	42	45	36	282	40	201	40	81	41
10:00	39	43	36	52	36	57	49	312	45	206	41	106	53
11:00	34	34	37	35	57	67	86	350	50	197	39	153	77
12:00	22	51	27	38	48	65	72	323	46	186	37	137	69
13:00	31	45	38	36	61	74	59	344	49	211	42	133	67
14:00	29	31	24	29	45	54	46	258	37	158	32	100	50
15:00	28	34	34	37	61	55	23	272	39	194	39	78	39
16:00	35	37	34	30	67	52	33	288	41	203	41	85	43
17:00	50	68	76	43	60	43	34	374	53	297	59	77	39
18:00	36	126	66	88	30	62	31	439	63	346	69	93	47
19:00	37	113	129	77	40	41	32	469	67	396	79	73	37
20:00	19	32	46	27	20	22	19	185	26	144	29	41	21
21:00	7	39	31	41	14	14	6	152	22	132	26	20	10
22:00	5	12	6	7	15	18	11	74	11	45	9	29	15
23:00	4	11	13	6	9	9	5	57	8	43	9	14	7
Total	468	764	677	696	679	742	605	4631	661	3284	656	1347	681
% Heavy	7.05%	3.27%	4.87%	5.03%	4.27%	1.48%	2.81%	3.95%		4.72%		2.08%	