CENTRAL COAST PARKING STRATEGY PART 1: SHORT-TERM GOSFORD CBD STRATEGY



FOR

CENTRAL COAST COUNCIL



Gold Coast

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EXECUTIVE SUMMARY

Introduction

Bitzios Consulting (Bitzios) has been commissioned by the Central Coast Council (Council) to prepare an integrated parking strategy for the Central Coast Local Government Area (Central Coast Parking Strategy).

The Central Coast Parking Strategy has been prepared in two (2) parts, including:

- Part 1: Short-Term Gosford Central Business District (CBD) Strategy; and
- Part 2: Medium and Long-Term Central Coast Strategy.

This is the Part 1 report.

Purpose of Report

The purpose of Part 1 report is to:

- quantify the short and long-stay parking supply within the Gosford CBD;
- quantify the peak parking demands and daily parking profile for the Gosford CBD, with a particular focus on all-day parking demands generated by the major parking "markets";
- build upon a wealth of previous studies completed for the Gosford CBD;
- seek input from the community to better understand the existing parking challenges; and
- identify a suite of short-term parking strategies that could be implemented by Council to improve the existing all-day parking situation within the Gosford CBD.

All-Day Parking Demands by "Market"

There are three (3) distinct parking "markets" within the Gosford CBD, including:

- Market 1: Gosford Train Station (i.e. 'Park and Ride (Train)' for access to the Sydney CBD);
- Market 2: Gosford CBD / commercial core; and
- Market 3: Central Coast Local Health District (CCLHD).

All three (3) parking markets generate significant all-day parking demands, as summarised below:

- Market 1: recorded a peak parking demand of 1,113 vehicles within the Gosford Train Station commuter car park located on Showground Road, which equates to a peak occupancy of 99%;
- Market 2: recorded a peak parking demand of 1,001 vehicles within the Baker Street and Kibbleplex Shopping Centre parking stations located within the Gosford CBD, which equates to a peak occupancy of 91% of the publicly available supply. It also appears that overflow all-day parking is occurring within private parking stations such as the Imperial and Woolworths Shopping Centres, despite the high parking rates (e.g. \$16.50 per day) imposed to discourage such behaviour; and
- Market 3: recorded a peak demand of 713 vehicles on-street within the CCLHD precinct, which
 equates to a peak occupancy of 87%.

The above findings highlight that the publicly available all-day parking supply within the Gosford CBD and surrounds is currently at practical capacity (i.e. greater than 85%).

Previous Issues / Recommendations / Mitigation Themes

After reviewing relevant literature and previous studies, the following consistent themes were identified:

- Theme 1: there is a lack of short-stay parking in the Gosford CBD;
- Theme 2: there is a need to shift all-day parking outside the core to free up short-stay parking;
- Theme 3: there is a need to reallocate long-stay off-street parking into short-stay parking;
- Theme 4: there is a need to manage parking supply for new developments in the core;
- Theme 5: there is a need to reduce private car use and increase alternative transport mode share;
- Theme 6: there is a need to improve existing active and public transport infrastructure and services;
- Theme 7: there is a need to introduce 'park n ride' facilities outside the core, with shuttle buses; and
- Theme 8: there is a need to consider paid parking within the core, to protect parking for businesses.

Imminent Shortfall in All-Day Parking Supply

The all-day parking arrangements within the Gosford CBD will be significantly impacted in the foreseeable future due to the following factors:

- the Australian Taxation Office (recently constructed) and the NSW Government Finance Building (currently under construction) will collectively generate in the order of 1,200 new jobs within the commercial core, however will provide only 200 additional off-street parking spaces, which equates to one (1) space per six (6) employees. Under an opportunistic rate of 1.5 employees per parked vehicle, the potential overflow all-day parking demand could be in the order of 600 spaces;
- the Gosford District Hospital is currently undergoing a major redevelopment. Whilst the expansion will
 include the construction of a new 800 space multi-story parking station for staff, patients and visitors,
 the expansion will likely increase the demand for free all-day kerbside parking within walking distance
 of the hospital. Whilst this is difficult to quantify, it could be in the order of 200 to 300 spaces; and
- the privately-owned Kibbleplex Shopping Centre is approved to be redeveloped. It currently provides 535 free all-day parking spaces in the heart of the CBD, which equates to approximately 50% of the publicly available all-day parking supply within the commercial core.

The above findings highlight that there could be a shortfall of 535 all-day parking spaces within the core in the immediate future, and that this shortfall could increase to approximately 1,200 spaces once the Australian Taxation Office and NSW Government Finance Buildings are constructed and operating at capacity.

Recommended Short-Term Actions

To plan for and mitigate the imminent all-day parking shortfall within the Gosford CBD, Council will need to:

- protect short-term on-street parking within the commercial core for business customers; and
- provide more all-day parking opportunities, quickly.

Noting the above, the following short-term actions are recommended for further consideration:

- Strategy Item #1: utilise spare capacity at the Baker Street parking station (+100 spaces);
- Strategy Item #2: utilise spare capacity at the Central Coast Leagues Club (+120 spaces);
- Strategy Item #3: construct 'temporary car parks' on the fringe of the CBD (+1,200 spaces);
- Strategy Item #4: implement a 'Park n Ride (Bus)' scheme to service the 'temporary car parks' on the fringe of the CBD, and run a shuttle bus loop service into and around the CBD;
- Strategy Item #5: implement a 'Park n Ride (Cycle)' in conjunction with Strategy Item #4; and
- Strategy Item #6: introduce metered on-street parking within the commercial core over time to protect CBD customer parking and utilise revenue to fund other schemes (e.g. Park n Ride (Bus) etc.).

Strategy Item #1 and #2 utilise existing public and private parking infrastructure and could relatively quickly and easily accommodate in the order of 220 all-day parking spaces within / on the fringe of the core.

Whilst Strategy Item #3 could provide in the order of 1,200 additional all-day parking spaces on the fringe of the CBD, it would take longer to implement due to planning, funding, and land ownership constraints. Furthermore, to be successful it would also require Strategy Item #4, #5, and #6 to be implemented.

Recommended Medium to Long-Term Considerations

In addition to the short-term strategies, the following medium to long-term strategies should be considered:

- Strategy Item #7: expand the 'Park n Ride (Bus & Cycle)' schemes, and include a parking station and shuttle bus service on the eastern side of the "Central Coast and Newcastle Line" (+1,900 spaces);
- Strategy Item #8: convert existing all-day kerbside parking within the CCLHD precinct over time into short-stay parking, to increase availability for patients and visitors;
- Strategy Item #9: improve public transport services, including changes to the train timetable;
- Strategy Item #10: implement smart parking initiatives within the commercial core to provide information to minimise traffic circulation, reduce enforcement costs and to monitor usage; and
- Strategy Item #11: construct new multi-level parking station/s on the fringe of the Gosford CBD.

The medium to long-term strategies will be explored in further detail during the Part 2 report.

1. **INTRODUCTION**

1.1 BACKGROUND

Bitzios Consulting (Bitzios) has been commissioned by the Central Coast Council (Council) to prepare an integrated parking strategy for the Central Coast (referred herein as the "Central Coast Parking Strategy").

The Central Coast Parking Strategy has been prepared in two (2) parts, including:

- Part 1: Short-Term Gosford Central Business District (CBD) Strategy; and
- Part 2: Medium and Long-Term Central Coast Strategy.

This is the Part 1 report.

1.2 CONTEXT

The Central Coast is located between Sydney and Newcastle along the east coast of Australia. It has a land area of approximately 1,680km² and is divided into five (5) administrative wards including Gosford West, Gosford East, The Entrance, Wyong, and Budgewoi. It is currently the ninth largest urban centre in Australia in terms of population, with the existing population of 340,000 people (2016) predicated to increase by 22% to 415,000 people over the next 20 years (2036), at a rate of approximately 1.1% per annum. Gosford is located in the heart of the Central Coast region and is located approximately 76km north of the Sydney CBD.

There are three (3) distinct parking "markets" within the Gosford CBD, including:

- Market 1: Gosford Train Station (i.e. 'Park and Ride (Train)' for access to the Sydney CBD);
- Market 2: Gosford CBD / commercial core; and
- Market 3: Central Coast Local Health District (CCLHD).

The "Central Coast and Newcastle Line" provides rail access to Sydney, with an 80-minute (approximate) commute time between Gosford Station and Central Station. As such, there is a significant demand for all-day parking at the Gosford Station commuter car park, with all 1,115 spaces occupied prior to 7:00am.

Within the core, there are approximately 1,100 publicly available all-day parking spaces, including:

- 570 paid spaces within the Council-owned Gosford City Car Park on Baker Street (Baker Street); and
- 535 free spaces within the privately-owned Kibbleplex Shopping Centre (Kibbleplex), which is planned to be demolished and redeveloped in the foreseeable future.

There is a significant demand for all-day parking within the commercial core, with the publicly available supply at practical capacity now. There is also overflow demand spilling into private parking stations. Furthermore, the imminent loss of the Kibbleplex will place considerable strain on the finite parking capacity in the core.

In addition to the above, there has been in the order of 60 applications for large development approved in the Gosford CBD over the past few years with a total construction value estimated at \$1.6 billion. This includes several high-profile projects including the Australian Taxation Office (ATO) Building and New South Wales (NSW) Government Finance Building (Finance Building), as well as many other multi-storey residential developments. Once constructed, these developments will increase the number of residents and employees in the Gosford CBD and place further strain on the finite parking capacity in the CBD.

The Gosford District Hospital is located in the CCLHD and currently provides in the order of 500 beds. The GDH provides a range of medical, surgical and maternity services to the Central Coast region, and its emergency department is the third busiest in NSW. The GDH is also a teaching hospital of the University of Newcastle and the University of New England. As such, there is a significant demand for long-stay parking within walking proximity to the GDH, with all kerbside parking generally at practical capacity all day. Furthermore, the GDH is currently undergoing a major redevelopment to increase operating capacity.

Council is acutely aware of the emerging all-day parking challenges and the need for a consistent integrated policy across the amalgamated area. In particular, Council recognises the need for an immediate improvement strategy for the Gosford CBD, which is the focus of this Part 1 report.

Key Objectives 1.3

The key objectives of this study are:

- quantify the short and long-stay parking supply within the Gosford CBD;
- quantify the peak parking demands and daily parking profile for the Gosford CBD, with a particular focus on all-day parking demands generated by the major parking "markets";
- build upon a wealth of previous studies completed for the Gosford CBD;
- seek input from the community to better understand the existing parking challenges; and
- identify a suite of short-term parking strategies that could be implemented by Council to improve the existing all-day parking situation within the Gosford CBD.

SCOPE OF WORKS 1.4

Table 1.1 provides a summary of the scope of works for Part 1.

	Scope of w	UIKS
ID	Task	Scope of Works
Task 1.01	Inception Activities	 inception meeting with Project Control Group (PCG), and site inspection.
Task 1.02	Information Review and Supply Mapping	 review relevant policy documents, and recent approvals within the CBD; compare parking provision rates with other LGA's; and undertake a desktop parking inventory assessment and mapping in GIS.
Task 1.03	Occupancy Surveys (Round 1)	 undertake a 'snap shot parking survey' for the Gosford CBD on a typical weekday between 10:00am to 2:00pm (1 observation)
Task 1.04	Supply vs Demand Modelling	 undertake detailed supply vs demand modelling in GIS; identify 'hot spots' and shortfall in supply; and quantity potential impacts of the imminent loss Kibbleplex Shopping Centre.
Task 1.05	Workshop #1.1 Data Summary and Options	 facilitate a workshop with the PCG to present key findings from the parking occupancy surveys as well as the supply vs demand analysis; and discuss potential parking strategy options and short-term recommendations.
Task V.1	Occupancy Surveys (Round 2)	 undertake a detailed parking occupancy survey for the Gosford CBD on a typical weekday between 6:00am to 8:00pm (14 observations).
Task V.2	Parking Interviews	 undertake parking interview surveys at the Baker Street and Gosford Train Station Parking Stations to identify origin and destination of trips, and gauge community support for various short-term parking strategies.
Task 1.06	Parking Strategy Option Testing	 investigate the effectiveness and feasibility of various short-term parking strategy options to address the parking shortfall.
Task 1.07	Short-Term Recommendations	 recommend a suite of short-term parking strategies that could readily be implemented by Council to address the parking shortfall.
Task 1.08	Draft Part 1 Report	 prepare a draft report to document key findings and recommendations.
Task 1.09	Workshop #1.2 Recommendations	 facilitate a workshop with the PCG to present key findings from the parking survey (round 2), the parking interviews, and draft recommendations.
Task 1.10	Final Part 1 Report	 finalise report incorporating feedback from the workshop.

Table 1 1. Scope of Works

REFERENCES 1.5

The following material has been referenced in preparing this report:

- Gosford Local Environment Plan 2014 (LEP 2014);
- Development Control Plan 2013 (DCP 2013);
- Gosford Parking Study Report (GTA Consultants, 2010);
- Gosford Strategic Parking Study Report (Brown Smart Consulting, 2011);
- Gosford Urban Design and Implementation Framework (Government Architect NSW, 2018);

- Gosford City Centre Transport Management and Accessibility Plan (AECOM, 2010);
- New South Wales Department of Planning and Environment population projections; and
- parking occupancy survey data and parking interview survey data obtained by Traffic, Data & Control.

2. EXISTING CONDITIONS

2.1 STUDY AREA & PARKING PRECINCTS

Figure 2.1 illustrates the study area as well as the adopted "parking precincts" (i.e. P1 to P5).





Figure 2.1:

Study Area, Land Uses, and Precinct Boundaries



Key points to note regarding the study area are:

- the study area has a perimeter of approximately 9km and an area of approximately 270ha;
- the study area boundary aligns with the Gosford City Centre boundary as per Figure 1.1 of Part 4.1 of the Gosford Development Control Plan 2013;
- the study area is bound by residential land uses to the north, Rumbalara Reserve (bushland reserve) to the east, Brisbane Water (waterfront) to the south, and the Entertainment Grounds (racecourse) and Gosford Golf Club to the west; and
- the five (5) "parking precincts" have been adopted based on land use and physical barriers (e.g. rail line) and are summarised below:
 - Precinct 1 (P1): CBD Central (Commercial Core and Mixed Use);
 - Precinct 2 (P2): CBD South (Mixed Use and Residential);
 - Precinct 3 (P3): CBD North (Mixed Use and Residential);
 - Precinct 4 (P4): Health and Education (Hospital and Schools); and
 - Precinct 5 (P5): Station and Surrounds (Train Station, Mixed Use and Residential).

2.2 LAND USES

Figure 2.1 also illustrates the existing land uses within the study area. Key points to note:

- the CBD is located on the eastern side of the rail line and extends northwards parallel to the rail line;
- there are several key trip attractors on the eastern side of the rail line including several car parking stations, Gosford Private Hospital (immediately adjacent to the study area), TAFE NSW Gosford, Central Coast Leagues Club, and the Central Coast Stadium; and
- there are several key trip attractors on the western side of the rail line including the Gosford Station commuter car park, CCLHD, Gosford Public School, Gosford High School, Henry Kendall High School, the Entertainment Grounds (immediately adjacent to the study area), and the Gosford Tennis Centre.

2.3 ROAD NETWORK

Figure 2.2 illustrates key elements of the road network in proximity to the study area, with key characteristics summarised in Table 2.1 below.

Road Name	Jurisdiction	Hierarchy	Typical Cross Section	Speed Limit	
Central Coast Highway	RMS	Highway	6 lanes, two-way	70 km/h	
Pacific Highway	RMS	Highway	2 lanes, two-way	70 km/h	
Riou Street	Council	Arterial	2 lanes, two-way	50 km/h	
Donnison Street	Council	Arterial	2 lanes, two-way	50 km/h	
Mann Street	Council	Arterial	2 lanes, two-way	40 km/h	
Racecourse Road	RMS	Arterial	2 lanes, two-way	60 km/h	
Showground Road	Council	Arterial	2 lanes, two-way	50 km/h	
Henry Parry Drive	RMS	Arterial	2 lanes, two-way	40 / 50 km/h	

Table 2.1:	Road Network

RMS = NSW Department of Roads and Maritime Services

Key points to note are:

- there are four (4) key routes into and out of the study area including the Pacific Highway and Showground Road to the north, and the Central Coast Highway to the east and west;
- there are three (3) vehicular crossings of the rail line, including the Central Coast Highway to the south, Donnison Street in proximity to the Gosford Train Station and Racecourse Road to the north; and
- there are three (3) key north-south routes through the study area including Showground Road on the western side of the rail lines, Mann Street and Henry Parry Drive on the eastern side of rail line.

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2.4 PUBLIC TRANSPORT

2.4.1 Bus Network

Figure 2.3 illustrates bus routes and bus stops within the study area.



Figure 2.3: Study Area Bus Routes and Stops



Table 2.2 provides a summary of relevant bus routes and their frequencies.

Table 2.2:Bus Routes and Frequencies

Route No.	Provider	Servicing	No. of Weekday Services	No. of Weekends & Public Holiday Services
17	Red Bus Services	Gosford to The Entrance	7	0
18	Red Bus Services	Gosford to The Entrance	6	0
19	Red Bus Services	Gosford to Wyong	13	28
20	Red Bus Services	Gosford to Matcham Loop	8	0
21	Red Bus Services	Gosford to The Entrance	20	32
22	Red Bus Services	Gosford to The Entrance	15	28
23	Red Bus Services	Gosford to The Entrance	16	22
28	Red Bus Services	Gosford to The Entrance	3	5
32	Busways	Gosford, Somersby, Mangrove Mountain, Spencer	7	0
33	Busways	Gosford West, Gosford, Somersby	9	0
34	Busways	Gosford, Kariong	27	29
36	Busways	Gosford, Narara, Niagara Park, Ourimbah, Tuggerah	21	29
37	Busways	Gosford, Lisarow, Settlers Park, Ourimbah, Tuggerah	22	30
38	Busways	Gosford, Wyoming	38	42
40	Red Bus Services	Gosford – North Gosford Loop (Red Bus Services)	20	12
41	Red Bus Services	Gosford – West Gosford Loop (Red Bus Services)	7	3
42	Red Bus Services	Gosford – Point Frederick Loop (Red Bus Services)	9	3
43	Red Bus Services	Gosford to Springfield	9	1
44	Red Bus Services	Gosford to Erina Fair	20	24
55	Busways	Gosford, Woy Woy, Umina Beach, Ettalong Beach	33	40
63	Busways	Gosford, Davistown, Saratoga via Green Point	22	22
64	Busways	Gosford, Kincumber, Woy Woy via Empire Bay & Booker Bay	23	27
65	Busways	Gosford, Wagstaffe via Kincumber & MacMasters Beach	6	2
66A	Busways	Gosford, Avoca & Copacabana (anti clockwise route)	13	10
66C	Busways	Gosford, Avoca & Copacabana (clockwise route)	10	10
67	Busways	Gosford, Erina Fair, Terrigal, North Avoca	15	23
68	Busways	Gosford, Erina Fair, Wamberal, Terrigal	20	32
70	Busways	Gosford, Woy Woy, Ettalong Beach via Priestley Parade	11	10

Key points to note are:

- the "Central Coast and Newcastle Line" runs north-south through the middle of the study area, with the Gosford Station Interchange (rail and bus) located adjacent to the CBD; and
- there are 28 bus services operated by "Busways" and "Red Bus Services" which service the interchange, including three (3) loop services within the study area (40 north, 41 west and 42 south).

Table 2.3 provides a travel time comparison between bus and private vehicle trips to the Gosford CBD.

Origin	Destination	Bus Journey Time	Vehicle Journey Time	Difference
Terrigal Surf Club	Gosford Station	34 minutes (B68)	18 minutes	16 minutes
The Entrance Surf Club	Gosford Station	60 minutes (B21)	35 minutes	25 minutes
Umina Surf Club	Gosford Station	34 minutes (B55)	22 minutes	12 minutes

Table 2.3: Travel Time Comparison (Bus vs. Private Vehicle)

When adding in walk times and wait times for buses, it appears that buses are at a clear disadvantage when competing with private vehicles for modal share, even when parking charges are considered.

2.4.2 Train Network

The "Central Coast and Newcastle Line" runs through the Central Coast LGA, on an alignment approximately 10km west of the coastline. There are 13 stations on the rail line within the Central Coast LGA. Figure 2.4 illustrates the location of each train station within the Central Coast LGA and proximity to the Sydney CBD.



Figure 2.4: Train Network



Table 2.4 and Table 2.5 provides a summary of inbound and outbound train services to / from Sydney CBD.

Table 2.4:	Inbound Train Services					
Route	Weekday Inbound Services	Direct Weekday Inbound Services to Sydney CBD	Direct Weekday Inbound Services to Sydney CBD Arriving Between 6-9am	Average Travel Time to Sydney CBD	Quickest Travel Time to Sydney CBD	
Warnervale	26	18	1	1:51	1:43	
Wyong	57	42	9	1:42	1:32	
Tuggerah	57	42	9	1:39	1:29	
Ourimbah	35	21	4	1:39	1:37	
Lisarow	30	18	1	1:36	1:34	
Niagrara Park	30	18	1	1:33	1:32	
Narara	35	21	4	1:31	1:30	
Gosford	50	50	15	1:24	1:15	
Point Clare	25	25	5	1:23	1:22	
Tascott	25	25	5	1:21	1:20	
Koolewong	25	25	5	1:18	1:17	
Woy Woy	50	50	15	1:14	1:08	
Wondabyne	20	20	5	1:09	1:08	

Route	Weekday Outbound Services	Direct Weekday Outbound Services from Sydney CBD	Direct Weekday Outbound Services from Sydney CBD Departing Between 4-7pm	Average Travel Time from Sydney CBD	Quickest Travel Time from Sydney CBD
Wondabyne	21	21	5	1:08	1:08
Woy Woy	52	52	16	1:14	1:09
Koolewong	27	27	5	1:17	1:15
Tascott	27	27	5	1:21	1:17
Point Clare	27	27	5	1:23	1:19
Gosford	52	52	16	1:25	1:18
Narara	34	25	5	1:32	1:26
Niagrara Park	34	25	5	1:34	1:28
Lisarow	34	25	5	1:36	1:30
Ourimbah	34	25	5	1:40	1:34
Tuggerah	52	43	10	1:40	1:30
Wyong	52	43	10	1:43	1:33
Warnervale	30	22	2	1:49	1:41

Key points to note are:

- there are 13 train stations within the Central Coast LGA, with Gosford and Woy Woy being the main commuter train stations with 15 direct inbound services to Sydney CBD in the morning peak (6:00 to 9:00) and 16 direct outbound services from CBD in the afternoon peak (16:00 to 19:00);
- the travel time to / from Sydney CBD via Woy Woy and Gosford Stations is approximately 70 and 80
 minutes respectively, compared to approximately 90 to 100 minutes via Tuggerah and Wyong; and
- stations either side of Gosford have very limited daily and peak period services, despite similar travel times to / from Sydney CBD.

2.5 ACTIVE TRANSPORT

Figure 2.5 indicatively illustrates the existing active transport (walking and cycling) network in the study area.



Figure 2.5: Active Transport Network

Whilst the walking network is well-established, there are gaps. There is also limited cycle infrastructure. Furthermore, the rail corridor creates a barrier for east-west walking and cycling movements.

2.6 PARKING

2.6.1 Overview

Figure 2.6 illustrates the existing kerbside parking allocation by precinct, as well as the location of key parking stations and off-street car parks within the study area for the Part 1 study.



Figure 2.6: Kerbside Parking Allocation and Off-Street Parking Locations

Kerbside Parking 2.6.2

Table 2.6 and Figure 2.7 provides a summary of the kerbside allocation by parking type and precinct.

In presenting this data, the following definitions have been adopted:

- Long-Stay Parking: "Accessible", "4P", and "Unrestricted" (i.e. low turnover spaces); and
- Short-Stay Parking: "10min", "1/4P", "1/2P", "1P", and "2P" (i.e. high turnover spaces).

Table 2.6: Kerbside Parking Supply by Precinct

Drocinct	Long-Stay Parking			Short-Stay Parking					Total
Frecinci	Unrestricted	4P	Accessible	2P	1P	1/2P	1/4P	10min P	TOtal
1	153	51	8	132	213	14	15	16	602
2	504	67	1	18	59	-	2	-	651
3	516	-	-	75	89	-	-	5	685
4	775	39	6	-	-	-	-	36	856
5	784	-	-	-	-	-	-	24	808
τοται	2,732	157	15	225	361	14	17	81	2 402
2,904 (81%)		698 (19%)					3,002		

Note: Accessible = Parking for Persons with Disabilities



Figure 2.7: Kerbside Parking Supply by Precinct

Key points to note are:

- Precinct 1 (P1): has predominately short-stay kerbside parking (i.e. 390 spaces or 65% of supply);
- Precinct 2 (P2): has predominately long-stay kerbside parking (i.e. 572 spaces or 88% of supply);
- Precinct 3 (P3): has predominately long-stay kerbside parking (i.e. 516 spaces or 75% of supply);
- Precinct 4 (P4): has predominately long-stay kerbside parking (i.e. 820 spaces or 96% of supply);
- Precinct 5 (P5): has predominately long-stay kerbside parking (i.e. 784 spaces or 97% of supply); and
- overall, 20% (698 spaces) of all kerbside parking within the study area is short-stay (i.e. 2P or less).

The above findings are logical in that the commercial core (Precinct 1) provides short-stay time limited parking whilst the surrounding residential areas provide predominately unrestricted, long-stay parking.

2.6.3 Off-Street Parking

Table 2.7 and Figure 2.8 provides a summary of the parking capacity at each location.

			Long-Stay	Shor	t-Stay	TOTAL	Publicly	
ID	Name	Precinct	Unrestricted	3P	2P	(Spaces)	Available (Spaces)	
1	Gosford Station Car Park	5	1,119	-	-	1,119	1,119	
2	Baker Street Car Park	1	671	35	-	706	605	
3	Imperial Shopping Centre	1	399	-	-	399	-	
4	Woolworths Shopping Centre	1	107	-	-	107	-	
5	Central Coast Leagues Club	1	355	-	-	355	-	
6	Park Plaza Shopping Mall	1	-	-	51	51	-	
7	Gateway Centre Gosford	1	49	-	-	49	-	
8	Kibbleplex Shopping Centre	1	535	-	-	535	535	
9	AquaSplash Car Park	2	-	-	26	26	-	
10	Yacht Sailing Club Car Park	2	75	-	-	75	-	
TOTAL	-	-	3,310 (97%)	112	(3%)	3,422	2,259 (66%)	





Figure 2.8: Off-Street Parking Supply by Location

Key points to note are:

- Station 1, 2 and 8 are the only publicly available all-day parking stations;
- Station 1 is free and provides approximately 33% of the off-street parking capacity (1,119 spaces);
- Station 2 is a paid parking station and provides 21% of the off-street parking capacity (706 spaces) although 101 spaces are leased for private use. It is free for the first two (2) hours; then between \$4.00 (2 hours) to \$11.00 (8 hours), with a maximum rate of \$11. There is also an early bird discount of \$8.00;
- Station 3 and Station 4 are both paid parking stations for private use and provide 15% of the off-street parking capacity (506 spaces). These stations are free for the first three (3) hours; then between \$1.60 (3 hours) to \$13.20 (7 hours), with a maximum daily rate of \$16.50;
- Station 5 is a private station for visitors only and is supervised by security guards to prevent all day commuter parking. It contributes 10% of the off-street parking capacity (355 spaces);
- Station 6 is a small retail car park for private use only;
- Station 7 is a private parking station which includes a \$10.00 fee for the first hour; then \$2.00 per hour thereafter. It contributes less than 2% of the off-street parking capacity (49 spaces);
- Station 8 is free and provides 15% of the off-street parking capacity (535 spaces);
- Station 9 and 10 are small remote car parks for private use only;
- 70% of the off-street capacity (2,360 spaces) is provided by three (3) stations (Station 1, 2, and 8);
- 37% (1,261 spaces) of all off-street parking is paid parking (Station 2, 3, 4, and 7); and
- only 3% (112 spaces) of all off-street parking is short-stay (i.e. 3P or less).

2.6.4 Total Parking Supply

Table 2.8 provides a summary of the total parking supply by precinct.

	Ker	bside Park	king	Off-Street Parking		Т	ſ			
Precinct	Long-Stay	Short-Stay	Total	Long-Stay	Short-Stay	Total	Long-Stay	Short-Stay	Total	Distribution
1	212	390	602	2,116	86	2,202	2,328	476	2,804	40%
2	572	79	651	75	26	101	647	105	752	11%
3	516	169	685	-	-	-	516	169	685	10%
4	820	36	856	-	-	-	820	36	856	12%
5	784	24	808	1,119	-	1,119	1,903	24	1,927	27%
τοτλι	2,904	698	3,602	3,310	112	3,422	6,214	810	7,024	100%
TOTAL	81%	19%	100%	97%	3%	100%	88%	12%	100%	100%

Table 2.8: Total Parking Supply by Precinct

In summary, there are in the order of 7,000 parking spaces within the study area, with approximately:

- 51% kerbside parking spaces and 49% off-street parking spaces; and
- 88% long-stay (i.e. 4P, unrestricted, Accessible etc.) and 12% short-stay (i.e. 3P, 2P, 1P etc.).

Based on the above, and relative to other city centres of a similar scale, there appears to be an imbalance in short-stay to long-stay parking within the study area.

It is important to note that this supply does not include all private off-street parking within the study area.

2.7 KIBBLEPLEX SHOPPING CENTRE

The privately-owned Kibbleplex Shopping Centre, which is currently vacant and provides 535 free longterm parking spaces in the heart of the CBD, is planned to be demolished and redeveloped in the foreseeable future. Whilst the timing of the redevelopment is unknown, it is understood that Lederer Group lodged an \$850 million Stage One Masterplan with Council in March 2016, and that the masterplan includes nine (9) buildings with residential, commercial and retail land uses.

This parking station provides 15% of the total off-street parking supply in and around the Gosford CBD, with 85% occupancy prior to 9:00am on weekdays and all 535 spaces occupied prior to 11:00am.

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LITERATURE REVIEW 3.

3.1 OVERVIEW

A detailed review has been undertaken of information contained in the following:

- demographics (i.e. population and employment projections);
- travel patterns (i.e. journey to work, car ownership rates, parking infringements etc.);
- relevant previous studies for the Gosford CBD;
- relevant policy and planning documents;
- recent decisions related to parking provisions for new CBD developments; and
- benchmarking parking provision rates with comparative LGA's.

3.2 DEMOGRAPHICS

3.2.1 Population Projections

Table 3.1 provides a summary of population projections for NSW, the Central Coast LGA, and for the Gosford-West Gosford area, based on various sources.

Location	2016	2021	2026	2031	2036	Net Change	Growt p.a.
NSW ^[1]	7,748,000	8,297,500	8,844,700	9,386,850	9,925,550	2,177,550	1.4%
Central Coast LGA ^[1]	339,550	357,250	374,900	391,050	415,050	75,500	1.1%
Gosford – West Gosford ^[2]	4,970	6,187	7,653	9,361	11,028	6,058	6.1%

Table 3.1: Population Projections

Source: [1] www.planning.nsw.gov.au/research-and- demography/demography/population-projections Source: [2] http://forecast.id.com.au/

Key points are:

- the Gosford-West Gosford population is predicted to increase by 6.1% p.a. between 2016 and 2036, which is rapid growth and significantly higher than the Central Coast LGA (1.1% p.a.) and NSW (1.4% p.a.); and
- Gosford-West Gosford is predicted to accommodate a total of 11,000 persons by 2036, which is more than double the current population (4,970 persons in 2016).

3.2.2 **Employment Projections**

Table 3.2 provides a summary of employment projections for NSW, the Central Coast LGA, and for the Gosford-West Gosford area, based on various sources.

Table 3.2: **Employment Projections**

Location	2016	2021	2026	2031	2036	Net Change	Growth p.a.
NSW ^[1]	3,051,728	3,285,008	3,515,847	3,759,972	4,020,935	969,207	1.6%
Central Coast LGA	149,695 ^[1]	n/a	n/a	n/a	174,695 ^[4]	25,000 ^[2]	0.8%
Gosford – West Gosford	2,526 ^[1]	n/a	n/a	n/a	8,526 ^[4]	6,000 ^[3]	11.9%

Source: [1] http://forecast.id.com.au/

Source: [2] Central Coast Regional Plan Monitoring Report

Source: [3] DCP2014

Source: [4] Derived utilising a combination of sources.

Key points are:

- Gosford-West Gosford employment is predicted to increase by 11.9% p.a. between 2016 and 2036, which highlights incredibly rapid growth and is significantly higher than the Central Coast LGA (0.8% p.a.) and NSW (1.6% p.a.); and
- Gosford-West Gosford employment is predicted to accommodate a total of 8,500 jobs by 2036.

3.3 TRAVEL PATTERNS

3.3.1 Journey to Work

Table 3.3 provides a summary of the Australian Bureau of Statistics (ABS) journey to work data from the 2016 census, for the suburb of Gosford, the Central Coast LGA, and for the state of NSW.

Table 2.2.		a Mark	/hu Daaidanta	of Fools Area)
1 able 5.5.	Journey		(by Residents	UI Eacli Alea)

Travel to Work	Gosford (Suburb)	Central Coast (LGA)	NSW (State)
Car, as driver (one method)	863 (50.0%)	91,077 (65.3%)	1,953,399 (57.8%)
Car, as passenger (one method)	73 (4.2%)	6,388 (4.6%)	252,786 (7.5%)
Travelled by car as driver or passenger	997 (57.0%)	102,048 (73.1%)	2,182,854 (64.6%)
Train (one method)	270 (15.7%)	5,346 (3.8%)	252,786 (7.5%)
Bus (one method)	50 (2.9%)	1,437 (1.0%)	133,903 (4.0%)
Travelled by public transport	400 (22.9%)	12,297 (8.8%)	540,215 (16.0%)
Walked (one method)	159 (9.2%)	2,326 (1.7%)	130,957 (3.8%)
Total	1,751 (100%)	139,593 (100%)	3,380,332 (100%)

Source: http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC11722?opendocument

Key points to note:

- approximately 57% of employees that live in Gosford (suburb) travel to work by car as driver or passenger, which is less than the Central Coast LGA (73%) and the state of NSW (65%);
- approximately 23% of employees that live in Gosford (suburb) travel to work by public transport, which
 is more than the Central Coast LGA (9%) and the state of NSW (16%); and
- approximately 9% of employees that live in Gosford (suburb) walk to work, which is more than the Central Coast LGA (2%) and the state of NSW (4%).

The vast majority of public transport users are on the train and commuting southwards towards the Sydney CBD. Public transport usage for trips into the Gosford CBD is relatively low.

3.3.2 Car Ownership

Table 3.4 provides a summary of the ABS car ownership data from the 2016 census, for the suburb of Gosford, the Central Coast LGA, and for the state of NSW.

Number of Motor Vehicles	Gosford (suburb)	Central Coast (LGA)	NSW (State)
None	243 (14.9%)	8,388 (6.9%)	239,625 (9.2%)
1 motor vehicle	877 (53.7%)	44,315 (36.6%)	946,159 (36.3%)
2 or more motor vehicles	441 (27.0%)	63,532 (52.5%)	1,322,902 (50.8%)
Not Stated	72 (4.4%)	4,810 (4.0%)	95,623 (3.7%)
Total	1,633 (100%)	121,045 (100%)	2,604,309 (100%)

Table 3.4: Car Ownership

Source: http://www.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC11722?opendocument

Key points to note:

- approximately 15% of dwellings in Gosford (suburb) have no registered vehicles;
- approximately 54% of dwellings in Gosford (suburb) have only one (1) registered vehicle, which is more than the Central Coast LGA (37%) and the state of NSW (36%); and
- approximately 27% of dwellings in Gosford (suburb) have two (2) or more registered vehicles, which is less than the Central Coast LGA (53%) and the state of NSW (51%).

At face value, Gosford has relatively low car ownership, but this is more likely related to its population's demographic characteristics rather than the propensity to use public transport in lieu of the private vehicles.

3.4 PREVIOUS STUDIES

3.4.1 Overview

A detailed review has been undertaken for the following sources relevant to car parking in the study area:

- Gosford Parking Study Report (GTA Consultants, 2010);
- Gosford Strategic Parking Study Report (Brown Consulting, 2011);
- Gosford Urban Design and Implementation Framework (Government Architect NSW, 2018); and
- Gosford City Centre Transport Management and Accessibility Plan (AECOM, 2010).

3.4.2 Gosford Parking Study

In May 2010, GTA Consultants prepared the Gosford Parking Study for Gosford City Council. As part of the study a parking demand model was developed based on surveyed CBD car parking demands. The parking demand model was then used to estimate parking demands in future years (2011, 2021 and 2031) based on expected development and population growth.

Key findings from the study were:

- surveyed car parking demands were higher than those estimated by applying parking provision rates required by Council planning instruments to the each of the land uses within the CBD;
- as would be expected, the parking demand model indicated that significantly more parking (particularly in 2021 and 2031) would need to be provided within the CBD to support growth;
- providing all of the parking predicted to be required by the model would come with significant construction costs and other costs such as those required to upgrade roads etc. Therefore, significant cost savings could be made by reducing future parking demands; and
- future parking demands could likely be decreased by improving public and active transport infrastructure provisions and promoting alterative transport options. The money effectively saved by not providing additional parking could be put towards alternative transport infrastructure upgrades.

Key recommendations from the study were:

- increase the level of parking enforcement within short-term time-restricted parking areas;
- utilise development-based parking rates to achieve an increase in the supply of short and long-term parking;
- increase the provision of public short-term parking within existing long-term parking stations;
- determine the costs of building additional parking facilities to allow for a contribution scheme;
- investigate improvements to pedestrian and cycle links;
- provide a free shuttle bus to circulate around the Gosford and connect key off-street parking areas;
- implement methods to influence modal shift away from private vehicles;
- consult with car sharing companies and establish their interest in locating in Gosford; and
- consider the introduction of paid parking areas. Consideration should be given to pricing on-street car
 parking first as this is seen as fundamental to achieve turnover. This cannot be introduced however
 without consideration given to protection for adjacent residential streets.

3.4.3 Gosford Strategic Parking Study

In November 2011, Brown Consulting (NSW) Pty Ltd (Brown Consulting) prepared the Gosford Strategic Parking Study for Gosford City Council. The study focussed on the need to reduce car parking demands to try and limit future impacts on roads, the environment etc. whilst promoting CBD development.

To achieve this, the study recommended implementing strategies such as:

- reducing parking provision requirements for developments (particularly retail and commercial developments) in and around the CBD in conjunction with improving public transport;
- reducing parking provision requirements for developments in proximity to bus routes or the train station;
- converting existing, long-stay public car parking in and around the CBD to short-stay over time to reduce commuter parking and increase the number of spaces available for visitors, customers etc.;



- providing park and ride facilities outside of the CBD area which are serviced by high quality public transport that links to major economic/tourism hubs e.g. the CBD or the waterfront precinct;
- allowing developers to provide less parking than specified by the relevant planning document, if they
 contribute a proportion of the money saved towards local transport infrastructure (e.g. footpaths, bicycle
 paths) or road widening; and
- requiring new developments within the CBD area to only provide a proportion of parking spaces on-site
 with the remaining spaces to be located within public parking areas. It was expected that this would
 increase parking utilisation and also allow Council to reduce the number of CBD parking spaces over
 time with improved public transport.

3.4.4 Gosford Urban Design and Implementation Framework

In April 2018, Government Architect New South Wales publishes the Gosford Urban Design and Implementation Framework (GUDIF). The GUDIF focused on continuing to develop Gosford City Centre as an attractive regional city by adopting a place-based focus. The GUDIF discussed the current conflicts between the long-term commuter parking and short-term visitor parking within Gosford city centre.

The GUDIF identified the following key opportunities:

- relocating commuter car parking to outside the city centre to a site within 800-1000m of the Gosford train station and the provision of a shuttle bus service to the new car parks;
- repurposing the commuter car parking spaces to short-term parking spaces within the city centre with the exception of Mann Street and in the vicinity of Kibble Park; and
- introducing maximum car parking rates for developments and the provision of alternatives such as car share spaces and improved public transport services to reduce vehicle dependence.

3.4.5 Gosford City Centre Transport Management & Accessibility Plan

In November 2011, AECOM completed the Gosford City Centre Transport Management & Accessibly Plan (TMAP) for Transport for NSW. The purpose of the TMAP was to increase the public transport of work trips (only 6%) into the Gosford City Centre. The TMAP was built on a host of previous studies for Gosford including the Gosford Challenge Masterplan, Gosford Waterfront Masterplan, Gosford Parking Strategy, Gosford City Centre PAMP, and the Gosford Cycle Strategy.

Key recommendations from the TMAP were:

- forward planning and network management of east-west traffic in and around Gosford to encourage and facilitate a modal shift in Gosford over time;
- making public transport more attractive by improving bus connectivity and encouraging the use of bus travel within Gosford and surrounding regions;
- making active transport more attractive by improving cycle and pedestrian connectivity with the increase of bicycle parking at key destinations;
- limiting the growth of car parking within the Gosford City Centre to increase the use of public transport;
- regularly reviewing (every 5 years) the patronage of public transport to assess the effectiveness of measures on the ground and help to focus funding and program and project delivery over time;
- regularly reviewing RMS' (formerly known as RTA) model to review progress towards mode share to
 ensure the rate of development upgrades are in line with the development of Gosford City Centre;
- regular meetings with Transport NSW, Gosford City Council and other key government stakeholders to ensure the delivery of the TMAP outcomes and measures overtime;
- establishing travel behaviour change programs that promotes the reduction of car travel into the city centre by listing the positive impacts on the environment, addressing sustainability and climate change objectives and encouraging healthy and active travel choices for workers;
- implementing workplace travel plans for developments that promotes greener, cleaner and healthier travel options as opposed to single occupancy car-use; and
- establishing a program of works for road and intersection upgrades that does not just enhance the traffic capacity but also provides improvements to bus service travel times and reliability.

3.4.6 Previous Issues / Recommendations / Mitigation Themes

After reviewing relevant literature and previous studies, the following consistent themes were identified:

- Theme 1: there is a lack of short-stay parking in the Gosford CBD;
- Theme 2: there is a need to shift all-day parking outside the core to free up short-stay parking;
- Theme 3: there is a need to reallocate long-stay off-street parking into short-stay parking;
- Theme 4: there is a need to manage parking supply for new developments in the core;
- Theme 5: there is a need to reduce private car use and increase alternative transport mode share;
- Theme 6: there is a need to improve existing active and public transport infrastructure and services;
- Theme 7: there is a need to introduce 'park n ride' facilities outside the core, with shuttle buses; and
- Theme 8: there is a need to consider paid parking within the core, to protect parking for businesses.

3.5 POLICY AND PLANNING DOCUMENTS

3.5.1 Overview

A detailed review has been undertaken for the following sources in relation to car parking:

- Gosford Local Environment Plan 2014 (LEP2014); and
- Gosford Development Control Plan 2013 (DCP2013).

3.5.2 Gosford Local Environmental Plan 2014

Part 8 of LEP2014 sets environmental planning provisions for land in the CBD, with the following objectives:

- a) "to promote the economic and social revitalisation of Gosford City Centre;
- b) to strengthen the regional position of Gosford City Centre as a multi-functional and innovative centre for commerce, education, health care, culture and the arts, while creating a highly liveable urban space with design excellence in all elements of its built and natural environments;
- c) to protect and enhance the vitality, identity and diversity of Gosford City Centre;
- d) to promote employment, residential, recreational and tourism opportunities in Gosford City Centre;
- e) to encourage responsible management, development and conservation of natural and man-made resources and to ensure that Gosford City Centre achieves sustainable social, economic and environmental outcomes;
- f) to protect and enhance the environmentally sensitive areas and natural and cultural heritage of Gosford City Centre for the benefit of present and future generations;
- g) to help create a mixed-use place, with activity during the day and throughout the evening, so that Gosford City Centre is safe, attractive and efficient for, and inclusive of, its local population and visitors alike;
- h) to enhance the Gosford waterfront; and
- *i)* to provide direct, convenient and safe pedestrian links between Gosford City Centre and the Gosford waterfront."

Part 8.6 Clause (1) of LEP2014 outlines the following <u>minimum</u> car parking requirements for new commercial and retail developments within the Gosford City Centre:

- "at least one car parking space is provided for every 75 square metres of the gross floor area of the building that is to be used for commercial activities; and
- at least one car parking space is provided for every 40 square metres of the gross floor area of the building that is to be used for the purpose of retail premises."

Part 8.6 Clause (2) of LEP2014 also states that:

• *"car parking required to be provided by this Plan must be provided on site unless the consent authority is satisfied that the provision of car parking is adequately provided elsewhere."*

BITZIOS

In summary, the LEP2014 sets minimum parking provision rates for new commercial and retail buildings in the CBD, which should be accommodated on-site or in nearby parking stations (subject to authority consent).

3.5.3 Gosford Development Control Plan 2013

The DCP2013 provides support for the guidelines and provisions outlined in the LEP2014.

Part 4.1 of the DCP2013 relates specifically to the study area. It provides detailed provisions which expand on the Gosford LEP2014 for development in the study area to:

- a) contribute to the growth and character of Gosford; and
- b) Protect and enhance the public domain.

In terms of land use and growth, the following key points are noted:

- Residential zones to accommodate an additional 10,000 residents over the next 25 years;
- Commercial core to be a destination for workers and visitors, and accommodate 6,000 new jobs; and
- Mixed Use zones at the city edge to complement commercial core and promote a walkable city.

Part 7.1 of the DCP2013 relates to car parking.

Part 7.1.1.2 states that the purpose of Part 7.1 is to:

"ensure that sufficient, well designed on-site parking provisions are made in all new developments and when changes occur to the existing use/development of premises. It provides details of Council's requirements and guidelines for the planning and design of on-site car parking facilities which satisfy the demand resulting from the development of the site."

Part 7.1.1.3 sets out the following objectives:

- a) To facilitate traffic management and safe traffic movement;
- *b)* To establish an appropriate environmental quality for parking facilities associated with site development;
- c) To provide parking facilities which are convenient and sufficient for the use of service groups, employees, and visitors; and
- d) To ensure that a balance is achieved between the needs of the proposed development and its use, and that of vehicular and pedestrian traffic.

Part 7.1.2.1 outlines the following general principles to determine parking requirements for new development:

- a) The minimum standards as set out in this chapter;
- b) The likely demand for on-site parking to be generated by the development;
- c) The availability of public transport in the vicinity to service the likely demands to be generated by the development;
- d) Traffic volumes on the surrounding street network, including, where relevant, likely future traffic volumes;
- e) The probable mode of transport of the users of the development;
- f) The likely peak usage times of the development; and
- *g)* The provision of alternative private transport arrangements (e.g. courtesy buses to licensed premises at no charge to users).

Table 7.1.3.2 provides car parking rates for various land uses.

- Office Premises (commercial): 1 space per 30m2 gross floor area in the B5 Enterprise Corridor at Erina, elsewhere 1 space per 40m² gross floor area; and
- Shops (retail): a) In the B3 Commercial Core or B4 Mixed Use Zone 1 space per 40m² gross floor area; and b) In any other situation 1 space per 30m² gross floor area.

It is understood that the DCP2013 parking rates are superseded by the LEP2014 parking rates.



Table 7.1.4.2 refers to the Australian Standards AS2890.1 for parking spaces and driveway requirements.

In summary, the DCP2013 sets out guidelines to ensure new developments provide well designed on-site parking provisions that are likely to accommodate peak parking demands generated by the use. It also estimates an additional 10,000 residents and 6,000 new jobs within the study area over the next 25 years.

3.6 RECENTLY APPROVED CBD PARKING PROVISIONS

3.6.1 Overview

The following large-scale developments have been approved in the Gosford CBD in the past few years:

- Australian Taxation Office Building, which has recently been constructed; and
- NSW Government Finance Building, which is currently under construction.

This section provides a summary of relevant details for each site, including the approved parking provision.

3.6.2 Australian Taxation Office Building

On 4th August 2016, Council issued development consent (DA 49223/2016) for a proposed mixed use commercial and retail premises (ATO building) located at 99 Georgiana Terrace, Gosford CBD.

The 'Traffic and Parking Impact Assessment Report' prepared for the development application (Barker Ryan Stewart, March 2016) outlined the following key development statistics:

- Size: 7,827m² Gross Floor Area (GFA);
- Employees: 600 employees (sourced from an online media release);
- Car Parking Spaces: 92 spaces, including two (2) accessible spaces;
- Motor Cycling Parking Spaces: four (4) spaces;
- Bicycle Parking Spaces: 94 spaces, including eight (8) visitor spaces and associated facilities; and
- On-Street Parking Spaces: nett increase of 16 spaces.

In terms of on-site car parking requirements for the proposed development, the 'Traffic and Parking Impact Assessment Report' outlined the following comparisons to relevant planning instruments:

- Gosford LEP 2014: 1 space / 75m² GFA (minimum) = 105 spaces (minimum); and
- Gosford Waterfront DCP 2014: 1 space / 80m² GFA (maximum) = 98 spaces (maximum).

Further to the above, the 'Traffic and Parking Impact Assessment Report' noted that:

- there is a conflict between the two (2) planning instruments that cannot be met;
- the on-site parking provision of 92 spaces complies with the Gosford Waterfront DCP 2014;
- the total parking provision of 108 spaces (including 19 on-street) complies with the Gosford LEP 2014;
- most inner-city Council's through their DCP's look to restrict the maximum number of car parking spaces to be provided for development to minimise the use of private vehicles in their CBD's and to encourage the use of public transport, pedestrian and cycling access and facilities;
- the bicycle parking provision of 94 spaces is well in excess of the Gosford Waterford DCP 2014;
- the site is located close to the Gosford Train Station and adjacent to a bus stop; and
- the site has access to on-street parking and nearby public car parking stations.

In summary, the ATO building was approved with the following parking provision rates:

- GFA: 1 space / 85m² GFA, approximately 10% less than the LEP2014 minimum requirements; and
- Employee: 1 space / 6.5 employees.

Based on the ABS Journey to Work data, the parking supply is highly likely to be insufficient to cater for employee parking demands, with the excess demand likely to consume all CBD long-stay parking capacity.

3.6.3 NSW Government Finance Building

On 24th February 2017, Council issued development consent (DA 49685/2016) for a proposed mixed use commercial development located at 32 Mann Street, Gosford CBD.

The 'Traffic Impact Assessment' prepared for the development application (Cardno, April 2016) outlined the following key development statistics:

- Size: 7,700m²GFA;
- Employees: 600 employees (assumed based on comparable GFA to the ATO building);
- Car Parking Spaces: 104 spaces including two (2) accessible spaces;
- Motor Cycling Parking Spaces: five (5); and
- Bicycle Parking Spaces: 50 spaces, including 11 visitor spaces and associated facilities.

In terms of on-site car parking, the 'Traffic Impact Assessment Report' outlined the following provisions which comply with the LEP2014:

- Car Parking: 1 space / 75m² GFA (minimum) = 104 spaces (minimum);
- Accessible Car parking: 1 space / 100 car parking spaces = 1 space;
- Bicycle Parking: 1 space / 200m² GFA (employees) + 1 space / 750m² GFA (visitors) = 39 spaces; and
- Motorcycle Parking: 1 space per 25 car parking spaces = 5 spaces.

Further to the above, the 'Traffic and Parking Impact Assessment Report' noted that:

- the existing Georgiana Terrace / Mann Street, Baker Street / Georgiana Terrace and Georgiana Terrace / Dane Drive intersection would operate in an acceptable manner in 2015, 2018 and 2028 (with and without development);
- the existing Central Coast Highway / Dane Drive intersection would operate in an unacceptable manner in the PM peak hour periods in 2015, 2018 and 2018 (with and without development); and
- the existing Central Coast Highway / Masons Parade intersection would operate in an unacceptable manner in the PM peak hour period of 2028 (with and without development).

In summary, the ATO building was approved with the following parking provision rates:

- GFA: 1 space / 74m² GFA, which is compliant with the LEP2014; and
- Employee: 1 space / 5.8 employees.

Based on the ABS Journey to Work data, the parking supply is highly likely to be insufficient to cater for employee parking demands, with the excess demand likely to consume all CBD long-stay parking capacity.

3.6.4 Summary of Recent Approvals

It appears that the commercial parking provision rate in the LEP2014 (1 space / 75m² GFA) is low, particularly when considering the number of employees anticipated at both the ATO Building (600 employees) and the NSW Government Finance Building (600 employees). It is highly likely that there will be a significant parking demand which will not be accommodated on-site. Under an opportunistic rate of 1.5 employees per vehicle, the potential overflow parking demand could be in the order of 600 bays.

3.7 PARKING PROVISION RATES BENCHMARKING

Table 3.5 provide a comparison of the commercial, retail, and residential parking provision rate outlined in the LEP2014 and DCP2013, with other comparative LGA's in NSW.

LGA	Commercial Rate	Retail Rate	Residential Rate
Gosford LEP2014	1 space per 75m ² GFA	1 space per 40m ² GFA	-
Gosford LEP2007	1 space per 40m ² GFA	1 space per 30m ² GFA	-
Gosford Waterfront DCP2014	1 space per 80m ² GFA	1 space per 18m ² GFA	Resident (B 1): 1 space/dwelling Resident (B 2): 1.2 spaces/dwelling Resident (B 3+): 1.5 spaces/dwelling Visitor: 1 space per 800m ² GFA
Gosford DCP2013	1 space per 40m ² GFA	1 space per 40m ² GFA	Resident (B 1): 1 space/dwelling Resident (B 2): 1.2 spaces/dwelling Resident (B 3+): 1.5 spaces/dwelling Visitor: 0.2 spaces per dwelling
Newcastle	1 space per 50m ² GFA	1 space per 60m ² GFA	Resident: 1 car spaces per dwelling Visitor: 0.2 spaces per dwelling
Hawkesbury	1 space per 30m ² GFA	1 space per 30m ² GFA	Resident: 1 car spaces per dwelling Visitor: 0.2 spaces per dwelling
Lake Macquarie	1 space per 40m ² GFA	1 space per 25m ² GFA	Resident: 1 car spaces per dwelling Visitor: 0.25 spaces per dwelling
Cessnock	1 space per 30m ² GFA	1 space per 45m ² GFA	Resident: 1 car spaces per dwelling Visitor: N/A
The Hills	1 space per 25m ² GFA	1 space per 18.5m ² GFA	Resident: 1 car spaces per dwelling Visitor: 0.4 spaces per dwelling
Hornsby	1 space per 48m ² GFA	1 space per 29m ² GFA	Resident: 1 car spaces per dwelling Visitor: N/A
Northern Beaches	1 space per 40m ² GFA	1 space per 40m ² GFA	Resident: 1 car spaces per dwelling Visitor: 0.25 spaces per dwelling

Table 3.5: Parking Provision Rates Benchmarking

Figure 3.1 graphically compares the commercial parking provision rates, in terms of spaces per 100m² GFA.



Figure 3.1: Parking Provision Rates Benchmarking: Commercial Uses















Key points are noted below:

- Commercial: LEP2014 rate (1 space / 75m² GFA) is very low compared to the other LGA's. It is noted that the previous LEP2007 rate (1 space / 40m² GFA) is consistent with the average of the dataset;
- Retail: LEP2014 rate (1 space / 40m² GFA) is consistent with the average of the dataset; and
- Residential: LEP2014 rates for one (1) bedroom (1 space / dwelling) and visitor parking (0.2 spaces per dwelling) are consistent with the average of the dataset. Whereas the rates for two (2) bedroom (1.2 spaces / dwelling) and three (3) bedroom (1.5 spaces per dwelling) are higher.

The low commercial rate will result in an undersupply of new parking to accommodate new demands, which will place further strain on the finite parking capacity within the Gosford CBD.

4. PARKING DEMAND ANALYSIS

4.1 DATA OVERVIEW

Figure 4.1 illustrates the surveyed daily parking demand profile within the study area based on data captured on Wednesday 2nd May 2018 between 6:00am and 7:00pm. A copy of the data is included at **Appendix A**.



Figure 4.1: Daily Parking Demand Profile for Study Area

Key observations are noted below:

- Total Supply: there are approximately 7,000 parking spaces within the study area;
- Peak Period: there were over 5,000 parked vehicles each hour between 9:00am and 3:00pm; and
- Absolute Peak: occurred at 12:00pm with 5,368 parked vehicles or 77% occupancy.

Figure 4.2 illustrates the surveyed parking occupancy rates within the study area at 12:00pm, based on the following occupancy categories:

- 0% to 20% (Dark Green): negligible parking demands;
- 21% to 40% (Light Green): limited parking demands;
- 41% to 60% (Yellow): moderate parking demands;
- 61% to 84% (Orange): high parking demands, reaching practical capacity; and
- 85% to 100% (Red): significant parking demands, exceeding practical capacity.

It is noted that in large parking areas, 'practical occupancy' is usually realised at about 85% occupancy, accounting for the inefficiencies in circulating to find a vacant space in the direction of travel.

The surveyed parking occupancy rates for each hour of the day are included at Appendix B.

In presenting this data, the following definitions have been adopted:

- Long-Stay Parking: "Accessible", "4P", and "Unrestricted" (i.e. low turnover spaces); and
- Short-Stay Parking: "10min", "1/4P", "1/2P", "1P", and "2P" (i.e. high turnover spaces).






Peak Parking Occupancy on Wednesday 2nd May 2018 at 12:00pm

4.2 PRECINCT 1: CBD CENTRAL

4.2.1 Precinct 1: Kerbside Parking

Figure 4.3 illustrates the parking demand profile for short and long-stay kerbside parking within Precinct 1.





Table 4.1 provides a summary of the peak kerbside parking occupancy surveyed in Precinct 1.

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)
Total Supply	212	390	602
Peak Demand (10:00am)	161	265	426
Peak % Occupied	76%	68%	71%
Spare Capacity at Peak	51	125	176

 Table 4.1:
 Precinct 1 Peak Occupancy: Kerbside Parking

Key observations are noted below:

- Total Supply: 602 spaces, including 390 short-stay spaces (65%) and 212 long-stay spaces (35%);
- Peak Occupancy (Total): 426 vehicles (71% occupancy) at 10:00am;
- Peak Occupancy (Short-Stay): 265 vehicles (68% occupancy); and
- Peak Occupancy (Long-Stay): 161 vehicles (76% occupancy).

The results indicate that the kerbside parking within Precinct 1 is well utilised, although below the typically adopted 'practical capacity' threshold of 85%.

4.2.2 Precinct 1: Station #2 – Baker Street Car Park

Figure 4.4 illustrates the parking demand profile for short and long-stay within Station #2.



Figure 4.4: Precinct 1 Parking Demand Profile: Station #2 – Baker Street

Table 4.2 provides a summary of the peak parking occupancy surveyed within Station #2.

Table 4.2: Precinct 1 Peak Occupancy: Station #2 – Baker Street

Scopario	Long-Stay Parking (Spaces)		Short-Stay Parking (Spaces)	Total (Spaces)	
Scenario	Publicly Available	Allocated	3P	Total (Spaces)	
Total Supply	570	101	35	706	
Peak Demand (12:00pm)	464	78	26	568	
Peak % Occupied	81%	77%	100%	80%	
Spare Capacity at Peak	106	23	9	138	

Key observations are noted below:

- Total Supply: 706 spaces, including 35 short-stay spaces (5%), 570 publicly available long-stay parking spaces (81%), and 101 allocated long-stay parking spaces (14%));
- Peak Occupancy (Total): 568 vehicles (80% occupancy) at 12:00pm;
- Peak Occupancy (Short-Stay): 26 vehicles (74% occupancy);
- Peak Occupancy (Allocated Long-Stay): 78 vehicles (77% occupancy); and
- Peak Occupancy (Publicly Available Long-Stay): 464 vehicles (81% occupancy).

The results indicate that Station #2 is well utilised, with a constant demand all day. However, it appears that there is spare long-stay parking capacity in both the allocated (23 spaces) and publicly available (106 spaces) supply, that could be better utilised. This is discussed further in Section 6 of this report.

4.2.3 Precinct 1: Station #3 – Imperial Shopping Centre

Figure 4.5 illustrates the parking demand profile within Station #3.





Table 4.3 provides a summary of the peak parking occupancy surveyed within Station #3.

Table 4.3: Precinct 1 Peak Occupancy: Station #3 – In	nperial Car Park:
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Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)
Total Supply	399	-	399
Peak Demand (12:00pm)	384	-	384
Peak % Occupied	96%	-	96%
Spare Capacity at Peak	15	-	15

Key observations are noted below:

- Total Supply: 399 spaces, all long-stay paid parking; and
- Peak Occupancy: 384 vehicles (96% occupancy) at 12:00pm.

The results indicate that Station #3 is well utilised, with a constant demand all day. Furthermore, it appears that Station #3 is over 85% occupied between 9:00am and 1:00pm, and over 75% between 1:00pm and 3:00pm. Whilst this is a private paid parking station for customers at the Imperial Shopping Centre, the constantly high parking demand throughout the middle of the day is inconsistent with typical retail trading profiles, which suggests that it is being utilised for all day parking, despite the maximum daily rate of \$16.50.

Whilst ultimately a matter for the operator of Station #3 to consider, it may be worth increasing the maximum daily rate to discourage all-day parking and increase the available short-stay parking for bonafide patrons at the Imperial Shopping Centre. This may also increase the availability of nearby short-stay kerbside parking.

4.2.4 Precinct 1: Station #4 – Woolworths Shopping Centre

Figure 4.6 illustrates the parking demand profile within Station #4.





Table 4.4 provides a summary of the peak parking occupancy surveyed in Station #4.

Table 4.4:	Precinct 1 Peak Occu	pancy: Station #4 -	Woolworths Car Park
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Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)
Total Supply	107	-	107
Peak Demand (12:00pm)	107	-	107
Peak % Occupied	100%	-	100%
Spare Capacity at Peak	0	-	0

Key observations are noted below:

- Total Supply: 107 spaces, all long-stay paid parking; and
- Peak Occupancy: 107 vehicles (100% occupancy) at 10:00am.

The results indicate that Station #4 is well utilised, with a constant demand all day. Furthermore, it appears that Station #4 is over 90% occupied between 9:00am and 1:00pm. Whilst this is a private paid parking station for customers at Woolworths, the constantly high parking demand throughout the middle of the day is inconsistent with typical retail trading profiles, which suggests that it is being utilised for all day parking, despite the maximum daily rate of \$16.50.

Whilst ultimately a matter for the operator of Station #4 to consider, it may be worth increasing the maximum daily rate to discourage all-day parking and increase the available short-stay parking for bonafide patrons at Woolworths. This may also increase the availability of nearby stay-term kerbside parking.

4.2.5 Precinct 1: Station #5 – Central Coast Leagues Club

Figure 4.7 illustrates the parking demand profile within Station #5.





Table 4.5 provides a summary	of the pea	k parking occupancy	v surveyed in Station #5.
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Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)
Total Supply	355	-	355
Peak Demand (3:00pm)	185	-	185
Peak % Occupied	52%		52%
Spare Capacity at Peak	170	-	170

 Table 4.5:
 Precinct 1 Peak Occupancy: Station #5 – Central Coast Leagues Club

Key observations are noted below:

- Total Supply: 355 spaces, all long-stay parking; and
- Peak Occupancy: 107 vehicles (52% occupancy) at 3:00pm.

The results indicate that Station #5 is underutilised, which is to be expected as it is supervised by security guards to prevent all day commuter parking.

Whilst ultimately a matter for the operator of Station #5, it may be worth allowing public access to the top two (2) levels of the parking station (i.e. Level 3 and 4) for all day parking. The occupancy survey data suggests that these levels are not utilised by patrons at the Central Coast Leagues Club during weekdays (i.e. peak demand of 21 vehicles vs. a supply of 116 spaces). The operator could charge for parking at a rate comparable to Station #2 (\$8.00 early bird) and Station # 3 and #4 (\$16.50 all day) and utilise the security guards already on-site to manage the process. This is discussed further in Section 6 of this report.

4.2.6 Precinct 1: Station #6 – Park Plaza Shopping Mall

Figure 4.8 illustrates the parking demand profile within Station #6.



Figure 4.8: Precinct 1 Parking Demand Profile: Station #6 – Park Plaza

Table 4.8 provides a summary of the peak parking occupancy surveyed in Station #6.

Table 4.6:Precinct 1 Peak Occupancy: Station #6 – Park Plaza

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)
Total Supply	-	51	51
Peak Demand (all day)	-	51	51
Peak % Occupied	-	100%	100%
Spare Capacity at Peak	-	0	0

Key observations are noted below:

- Total Supply: 51 spaces, all short-stay parking; and
- Peak Occupancy: 51 vehicles (100% occupancy) between 10:00am and 4.00pm.

It is important to note that Station #6 it is a small retail car park for private use only.

4.2.7 Precinct 1: Station #7 – Gateway Centre Gosford

Figure 4.9 illustrates the parking demand profile within Station #7.



Figure 4.9: Precinct 1 Parking Demand Profile: Station #7 – Gateway

Table 4.7 provides a summary of the peak parking occupancy surveyed in Station #7.

Table 4.7:	Precinct 1 Peak Occupancy: Station #7 – Gateway
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Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)
Total Supply	49	-	49
Peak Demand (all day)	49	-	49
Peak % Occupied	100%	-	100%
Spare Capacity at Peak	0	-	0

Key observations are noted below:

- Total Supply: 49 spaces, all long-stay paid parking; and
- Peak Occupancy: 49 vehicles (100% occupancy) from 7:00am to 4.00pm.

The results indicate that Station #7 is well utilised, with a constant demand all day. Furthermore, it appears that Station #7 is 100% occupied between 7:00am and 4:00pm. Whilst this is a private paid parking station for customers at the Gateway Shopping Centre, the constantly high parking demand throughout the middle of the day is inconsistent with typical retail trading profiles, which suggests that it is being utilised for all day parking by CBD workers, despite the high parking rates (i.e. \$10 for the first hour, then \$2 per hour thereafter).

Whilst ultimately a matter for the operator of Station #7 to consider, it may be worth increasing the maximum daily rate to discourage all-day parking and increase the available short-stay parking for bonafide patrons at the Gateway Shopping Centre. This may also increase the availability of nearby short-stay kerbside parking.

4.2.8 Precinct 1: Station #8 – Kibbleplex Shopping Centre

Figure 4.10 illustrates the parking demand profile within Station #8.



Figure 4.10: Precinct 1 Parking Demand Profile: Station #8 – Kibbleplex

Table 4.8 provides a summary of the peak parking occupancy surveyed in Station #8.

Table 4.8:	Precinct 1 P	eak Occupancy:	Station #8 -	Kibbleplex
		1 2		

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)		
Total Supply	535	-	535		
Peak Demand (11:00am)	535	-	535		
% Occupied	100%	-	100%		
Spare Capacity at Peak	0	-	0		

Key observations are noted below:

- Total Supply: 535 spaces, all free long-stay parking; and
- Peak Occupancy: 535 vehicles (100% occupancy).

The results indicate that Station #8 is very well utilised, with a constant demand all day. Furthermore, it appears that Station #8 is 100% occupied between 11:00am and 2:00pm.

4.3 PRECINCT 2: CBD SOUTH

4.3.1 Precinct 2: Kerbside Parking

Figure 4.11 illustrates the surveyed parking demand profile for short and long-stay parking within Precinct 2.





Table 4.9 provides a summary of the peak kerbside parking occupancy surveyed in Precinct 2.

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)	
Total Supply	572	79	651	
Peak Demand (1:00pm) 361		64	425	
Peak % Occupied	63%	81%	65%	
Spare Capacity at Peak	211	15	226	

Table 4.9: Precinct 2 Peak Occupancy: Kerbside Parking

Key observations are noted below:

- Total Supply: 651 spaces, including 79 short-stay spaces (12%) and 572 long-stay spaces (88%);
- Peak Occupancy: 425 vehicles (65% occupancy) at 1:00pm;
- Short-Stay Parking: 64 vehicles (81% occupancy); and
- Long-Stay Parking: 361 vehicles (63% occupancy).

The results indicate that the kerbside parking within Precinct 2 is reasonably well utilised, although below the typically adopted 'practical capacity' threshold of 85%. It is also noted that the spare kerbside parking capacity within Precinct 2 is generally located on the fringe of the study area within the residential areas.

4.3.2 Precinct 2: Station #9 – AquaSplash Car Park

Figure 4.14 illustrates the parking demand profile within Station #9.





Table 4.10 provides a summary of the peak parking occupancy surveyed within Station #9.

Table 4.10: Precinct 2 Peak Occupancy: Station #9 – Aquasplash

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)	
Total Supply	-	26	26	
Peak Demand (10:00am)	-	25	25	
Peak % Occupied	-	96%	96%	
Spare Capacity at Peak	-	1	1	

Key observations are noted below:

- Total Supply: 26 spaces, all short-stay parking; and
- Peak Occupancy: 25 vehicles (96% occupancy) at 10:00am & 6.00pm.

It is important to note that Station #9 it is a small remote car park for private use only.

4.3.3 Precinct 2: Station #10 – Yacht Sailing Club Car Park

Figure 4.13 illustrates the parking demand profile within Station #10.





Table 4.11 provides a summary of the peak parking occupancy surveyed within Station #10.

Table 4.11: Precinct 2 Peak Occupancy: Station #10 – Yacht Club

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)
Total Supply	75	-	75
Peak Demand (5:00pm)	22	-	22
Peak % Occupied	29%	-	29%
Spare Capacity at Peak	53	-	53

Key observations are noted below:

- Total Supply: 75 spaces, all long-stay parking; and
- Peak Occupancy: 22 vehicles (29% occupancy) at 5.00pm.

It is important to note that Station #10 it is a small remote car park for private use only.

4.4 PRECINCT 3: CBD NORTH

4.4.1 Precinct 3: Kerbside Parking

Figure 4.14 illustrates the surveyed parking demand profile for short and long-stay parking within Precinct 3.





Table 4.12 provides a summary of the peak kerbside parking occupancy surveyed in Precinct 3.

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)	
Total Supply	516	169	685	
Peak Demand (11:00am)	349	135	484	
Peak % Occupied	68%	80%	71%	
Spare Capacity at Peak	167	31	201	

able 4.12:	Precinct 3 Peak Occupancy: Kerbside Pa	arking

Key observations are noted below:

- Total Supply: 685 spaces, including 169 short-stay spaces (25%) and 516 long-stay spaces (75%);
- Peak Occupancy: 484 vehicles (71% occupancy) at 11:00am;
- Short-Stay Parking: 135 vehicles (80% occupancy), with a relatively constant demand; and
- Long-Stay Parking: 349 vehicles (68% occupancy), with a relatively constant demand.

The results indicate that the kerbside parking within Precinct 3 is reasonably well utilised, although below the typically adopted 'practical capacity' threshold of 85%. It is also noted that the spare kerbside parking capacity within Precinct 3 is generally located on the fringe of the study area within the residential areas.

4.4.2 Precinct 3: Off-Street Parking

Nil.

4.5 PRECINCT 4: HEALTH & EDUCATION

4.5.1 Precinct 4: Kerbside Parking

Figure 4.15 illustrates the surveyed parking demand profile for short and long-stay parking within Precinct 4.



Figure 4.15: Precinct 4 Parking Demand Profile: Long-Stay vs. Short-Stay Parking

Table 4.13 provides a summary of the peak kerbside parking occupancy surveyed in Precinct 4.

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)	
Total Supply	820	36	856	
Peak Demand (10:00am) 713		23	736	
Peak % Occupied	87%	64%	86%	
Spare Capacity at Peak	107	13	120	

 Table 4.13:
 Precinct 4 Peak Occupancy: Kerbside Parking

Key observations are noted below:

- Total Supply: 856 spaces, including 36 short-stay spaces (4%) and 820 long-stay spaces (96%);
- Peak Occupancy: 736 vehicles (86% occupancy) at 10:00am;
- Short-Stay Parking: 23 vehicles (64% occupancy), with a relatively constant demand; and
- Long-Stay Parking: 713 vehicles (87% occupancy), with a relatively constant demand.

The results indicate that the kerbside parking within Precinct 4 is highly utilised, with demands at 'practical capacity' (i.e. > 85%) from 7:00am to 1:00pm, with another peak at 3:00pm (presumably associated with the school pick up period). It is noted that the only 'spare kerbside parking capacity' within Precinct 4 is on the western end of Faunce Street West, away from the key parking generators (i.e. hospital and schools). Nevertheless, there is an opportunity to convert long-stay kerbside parking in proximity to the key parking generators into short-stay parking, to maximum utilisation. This is further discussed in Section 6 of this report.

4.5.2 Precinct 4: Off-Street Parking

Nil.

4.6 PRECINCT 5: STATION & SURROUNDS

4.6.1 Precinct 5: Kerbside Parking

Figure 4.16 illustrates the surveyed parking demand profile for short and long-stay parking within Precinct 5.





Table 4.14 provides a summary of the peak kerbside parking occupancy surveyed in Precinct 5.

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)	
Total Supply	784	24	808	
Peak Demand (1:00pm) 429		9	438	
Peak % Occupied	55%	38%	54%	
Spare Capacity at Peak	355	15	370	

 Table 4.14:
 Precinct 5 Peak Occupancy: Kerbside Parking

Key observations are noted below:

- Total Supply: 808 spaces, including 24 short-stay spaces (3%) and 784 long-stay spaces (97%);
- Peak Occupancy: 438 vehicles (54% occupancy) at 1:00pm;
- Short-Stay Parking: 9 vehicles (38% occupancy), with a relatively constant demand; and
- Long-Stay Parking: 429 vehicles (55% occupancy), with a relatively constant demand.

The results indicate that the kerbside parking within Precinct 5 is underutilised, and well below the typically adopted 'practical capacity' threshold of 85%. That said, it is noted that the 'spare kerbside parking capacity' is located towards the south-west extent of Precinct 5, away from the key parking generators (i.e. Gosford Train Station etc.). Given the distance between the available kerbside parking and the key parking generators, it is unlikely that modifying the parking allocation would increase parking utilisation.

4.6.2 Precinct 5: Station #1 – Gosford Train Station Car Park

Figure 4.17 illustrates the parking demand profile within Station #1.





Table 4.15:	Precinct 5 Peak Occupancy: Station #1 – Train Station Commuter Car Park
-------------	-------------------------------------------------------------------------

Scenario	Long-Stay Parking (Spaces)	Short-Stay Parking (Spaces)	Total (Spaces)	
Total Supply	1,119	-	1,119	
Peak Demand (9:00am)	1,113	-	1,113	
Peak % Occupied	99%	-	99%	
Spare Capacity at Peak	6	-	6	

Key observations are noted below:

- Total Supply: 1119 spaces, all long-term parking; and
- Peak Occupancy: 1113 vehicles (99% occupancy) at 9.00am.

The results indicate that Station #1 is very well utilised, with a constant demand all day. Furthermore, it appears that Station #1 is over 90% occupied between 7:00am and 4:00pm.

4.7 SUMMARY OF SURVEY RESULTS

4.7.1 Kerbside Parking

Table 4.16 provides a summary of the peak kerbside occupancy at 12.00pm on 2nd May 2018.

Table 4.16: Summary of Parking Demands at Peak (12:00pm): Kerbside Parking

Precinct	Long-Stay Parking			Short-Stay Parking				Total		
TTECHICI	Unrestricted	4P	PWD	2P	1P	1/2P	1/4P	10min P	Total	
		•	•	Supply (Sp	baces)	•				
1	153	51	8	132	213	14	15	16	602	
2	504	67	1	18	59	-	2	-	651	
3	516	-	-	75	89	-	-	5	685	
4	775	39	6	-	-	-	-	36	856	
5	784	-	-	-	-	-	-	24	808	
τοται	2,732	157	15	225	361	14	17	81	2 (0 2	
TOTAL		2,904				698			3,002	
Demand (Vehicles)										
1	107	30	7	98	136	3	12	7	400	
2	306	50	1	14	46	-	2	-	419	
3	345	-	-	55	72	-	-	5	477	
4	676	33	2	-	-	-	-	28	739	
5	412	-	-	-	-	-	-	8	420	
τοται	1,846	113	10	167	254	3	14	48	2.455	
TOTAL		1,969		486					2,433	
				Occupanc	y (%)					
1	70%	59%	88%	74%	64%	21%	80%	44%	66%	
2	61%	75%	100%	78%	78%	-	100%	-	64%	
3	67%	-	-	73%	81%	-	-	100%	70%	
4	87%	85%	33%	-	-	-	-	78%	86%	
5	53%	-	-	-	-	-	-	33%	52%	
TOTAL	68%	72%	67%	74%	70%	21%	82%	59%	600/	
TOTAL		68%				70%			00%	

Key points to note:

- Precinct 1 (P1): was 66% occupied which is below the practical capacity of kerbside parking;
- Precinct 2 (P2): was 64% occupied which is below the practical capacity of kerbside parking;
- Precinct 3 (P3): was 70% occupied which is below the practical capacity of kerbside parking;
- Precinct 4 (P4): was 86% occupied which is over the practical capacity of kerbside parking; and
- Precinct 5 (P5): was 52% occupied which is below the practical capacity of kerbside parking.

The results indicate the existing kerbside parking in all precincts is underutilised, except Precinct 4. However, most of the spare kerbside parking capacity is on the fringe of the study area within residential areas and away from key parking generators.

Off-Street Parking 4.7.2

Table 4.17 provides a summary of the peak off-street parking occupancy at 12.00pm on 2nd May 2018.

Tab	able 4.17: Summary of Parking Demands at Peak (12:00pm): Off-Street Parking							
ID	Name	Precinct	Parking Supply (Spaces)	Peak Demand (Vehicles)	Peak % Occupied	Spare Capacity (Spaces)	Spare Publicly Available Capacity (Spaces)	
1	Gosford Station Car Park	5	1,119	1,058	95%	61	61	
2	Baker Street Car Park	1	706	568	80%	138	112	
3	Imperial Shopping Centre	1	399	384	96%	15	-	
4	Woolworths Shopping Centre	1	107	107	100%	0	-	
5	Central Coast Leagues Club	1	355	137	39%	218	-	
6	Park Plaza Shopping Mall	1	51	51	100%	0	-	
7	Gateway Centre Gosford	1	49	49	100%	0	-	
8	Kibbleplex Shopping Centre	1	535	534	100%	1	1	
9	AquaSplash Car Park	2	26	23	88%	3	-	
10	Yacht Sailing Club Car Park	2	75	2	3%	73	-	
	TOTAL 3,422 2,913 85% 509 173							

ole 4.17:	Summar	of Parking	Demands at	Peak (12:00)pm): Off-St	reet Parking
	ounnui	,	p Donnanias at	1 0010 (12.00	, ping. On O	loot i unting

Key points to note:

- six (6) parking stations were observed to be at or close to 100% occupied including 1, 3, 4, 6, 7 and 8:
- Station 2 (Baker Street) was 80% occupied with 138 spare spaces of which 108 are publicly available long stay spaces. Given this is a public station, the spare capacity here could be better utilised;
- Station 5 (Leagues Club) was 39% occupied with 218 spare parking spaces (at 12pm). Whilst ultimately a matter for the operator to consider, there appears to be an opportunity to utilise the top two (2) levels of the car park for paid all-day parking; and
- Station 9 (Aquasplash) and 10 (Yacht Club) are small remote car parks for private use only and as such, any spare capacity here could not be utilised.

4.7.3 **Total Demand**

Table 4.18 provides a summary of the peak parking network occupancy at 12.00pm on 2nd May 2018.

Precinct	Parking Supply (Spaces)	Parking Demand (Vehicles)	% Occupied	Underutilised Capacity (Spaces)
1	2,804	2,230	80%	574
2	752	444	59%	308
3	685	477	70%	208
4	856	739	86%	117
5	1,927	1,478	77%	449
TOTAL	7,024	5,368	76%	1,656

Table 4.18: Summary of Parking Demands at Peak (12:00pm): Total Area

There are in the order of 7,000 parking spaces within the study area, with approximately 51% located onstreet and 49% off-street. During the peak of the occupancy survey, the kerbside parking supply was observed to be at 68% capacity (which is below the practical capacity of 85%), whilst the off-street parking supply was observed to be at 85% (which is close to fully occupied). Overall, all five (5) precincts had spare parking capacity with a total occupancy for the study area of 76% (i.e. 1,656 available parking spaces), however this is typically on the fringes of the study area and away from key parking generators.

4.7.4 All Day Parking Demands by Parking Markets

As noted previously, the three (3) major parking "markets" within the Gosford CBD and surrounds, including:

- Market 1: Gosford Train Station (i.e. 'Park and Ride (Train)' for access to the Sydney CBD);
- Market 2: Gosford CBD / commercial core; and
- Market 3: Central Coast Local Health District.

All three (3) markets generate significant all-day parking demands, as highlighted in Figure 4.18, Figure 4.19 and Figure 4.20 respectively.



Figure 4.18: Market 1 – Publicly Available All-Day Parking in Precinct 5



Figure 4.19: Market 2 – Publicly Available All-Day Parking in Precinct 1



Figure 4.20: Market 3 – Publicly Available All-Day Parking in Precinct 4

Key points to note are:

- Market 1: peak of 1,113 vehicles (99% of supply) within Station #1;
- Market 2: peak of 1,001 vehicles (91% of the publicly available supply) within Station #2 and #8; and
- Market 3: peak of 713 vehicles (87% of supply) on-street within the CCLHD precinct.

The above highlights that the all-day parking supply within the study area is at capacity and as such, overflow parking is occurring within private paid parking stations (i.e. Imperial, Woolworths, and Gateway etc.) despite the high daily parking rates imposed to discourage such behaviour.

5. PARKING INTERVIEW SURVEYS

Survey staff conducted interviews from Monday 21st to Friday 25th of May 2018, at the following times:

- Station #1: 5:00am to 9:00am; and
- Station #2: 7:00am to 11:00am.

The intent of undertaking interviews at Station #1 was to understand where Sydney CBD bound rail commuters originate, and gauge level of support for potential short-term parking strategies. The intent of undertaking interviews at Station #2 was to understand where Gosford CBD workers originate, and gauge level of support for potential short-term parking strategies.

Table 5.1 provides a summary of the number of surveys completed at each location

Table 3.1. Taking interviews. Number of Surveys per Day by Elecation								
Station	Monday	Tuesday	Wednesday	Thursday	Friday	TOTAL		
#1	59	67	58	41	56	281		
#2	58	54	82	48	56	298		
TOTAL	117	121	140	89	112	579		

 Table 5.1:
 Parking Interviews: Number of Surveys per Day by Location

The survey staff also recorded the number of vehicles parked on-site before and after the interview period, in order to estimate the size of the sample. The results are summarised in Table 5.2 and Table 5.3 below.

No. of Vehicles	Monday	Tuesday	Wednesday	Thursday	Friday	Average
Start (before 5:00am)	174	191	186	205	198	191
Finish (after 9:00am)	985	996	989	991	982	989
Additional Vehicles	811	805	803	786	874	798
No. of Interviews	59	67	58	41	56	56
Sample Size	7.3%	8.3%	7.2%	5.2%	7.1%	7.0%

Table 5.2: Parking Interviews: Estimated Sample Size at Station #1

Table 5.3: Parking Interviews: Estimated Sample Size at Station #2

No. of Vehicles	Monday	Tuesday	Wednesday	Thursday	Friday	TOTAL
Start (7:00am)	38	42	34	36	24	35
Finish (11:00am)	483	498	498	498	422	480
Additional Vehicles	445	456	464	462	398	445
No. of Interviews	58	54	82	48	56	298
Sample Size	13.0%	11.8%	17.7%	10.4%	14.1%	13.4%

Key points to note:

- 281 surveys were conducted at Station #1, which equates to an approximate sample size of 7.0%; and
- 298 surveys were conducted at Station #2, which equates to an approximate sample size of 13.4%.

Table 5.4 provides a summary of the parking interview results.

A copy of the raw parking interview results is included at Appendix C.





2000

2020

2067

Post Code

2077

2250

Other

2060





Based on the parking interview survey results, the following observations are noted:

- Question 1: 50% of trips originate in Gosford (2250), 33% of trips originate from the east (2251, 2257, 2260, and 2261), 7% of trips originate from the north (2258, 2259, 2262, and 2263), 2% of trips originate from the south (2256), and 8% 'other'. Therefore, the majority of motorists are not travelling far to access the parking stations;
- Question 1: 50% of trips have a destination south of the Central Coast LGA including 25% within the Sydney CBD, 40% of trips have a destination in Gosford (2250), and 11% other;
- Question 3: there is moderate support for a Park n Ride (Bus) scheme (36% Yes);
- Question 4: there is strong support for a Park n Walk scheme (53% Yes);
- Question 5: there is strong support to modify train timetable (44% would utilise alternative station);
- Question 6: the existing bus network is not frequent or convenient and cannot compete with car accessibility (only 16% prefer to utilise a bus); and
- Question 7: there are several barriers preferring high bus mode share including 'poor frequency / inconvenient' (37%), 'prefer driving' (20%), and 'poor travel time' (17%).

6. **RECOMMENDED PARKING STRATEGIES**

6.1 IMMINENT SHORTFALL IN ALL-DAY PARKING SUPPLY

Figure 6.1 provides an overview of the short-term parking challenges within the Gosford CBD.



Figure 6.1: Short-Term Parking Challenge within the Gosford CBD

Key points to note are:

- the all-day parking supply within the study area is at practical capacity now, with a surveyed peak demand of 2,828 vehicles or 93% of publicly available supply (i.e. 3,044 spaces);
- once the Kibbleplex site is redeveloped, 535 all-day parking spaces will be removed from the supply;
- once the ATO and the Finance Building are constructed and operating at capacity, they will collectively
 generate a potential overflow all-day parking demand of 600 spaces. This, coupled with the loss of the
 Kibbleplex site, could increase the total shortfall of all-day parking in the CBD to 1,200 spaces;
- the GDH is currently undergoing a major redevelopment. Whilst the expansion will include the construction of a new 800 space multi-story parking station for staff, patients and visitors, the expansion will likely increase the demand for free all-day kerbside parking within walking distance of the hospital. Whilst this is difficult to quantify, it could be in the order of 200 to 300 spaces, which could increase the total shortfall of all-day parking in the study area to 1,500 spaces; and
- whilst ultimately a medium to long-term consideration, the DCP2013 envisages an additional 10,000
 residents and 6,000 jobs within the study area by 2036.

To plan for and mitigate the imminent all-day parking shortfall within the Gosford CBD, Council will need to:

- protect short-term on-street parking within the commercial core for business customers; and
- provide more all-day parking opportunities, quickly.

6.2 PREVIOUS ISSUES / RECOMMENDATIONS / MITIGATION THEMES

After reviewing relevant literature and previous studies, the following consistent themes were identified:

- Theme 1: there is a lack of short-stay parking in the Gosford CBD;
- Theme 2: there is a need to shift all-day parking outside the core to free up short-stay parking;
- Theme 3: there is a need to reallocate long-stay off-street parking into short-stay parking;
- Theme 4: there is a need to manage parking supply for new developments in the core;
- Theme 5: there is a need to reduce private car use and increase alternative transport mode share;
- Theme 6: there is a need to improve existing active and public transport infrastructure and services;
- Theme 7: there is a need to introduce 'park n ride' facilities outside the core, with shuttle buses; and
- Theme 8: there is a need to consider paid parking within the core, to protect parking for businesses.

SHORT-TERM PARKING ACTIONS 6.3

6.3.1 Overview

The following short-term strategies are recommended for further consideration:

- Strategy Item #1: utilise spare capacity at Station #2 (Baker Street);
- Strategy Item #2: utilise spare capacity at Station #5 (Central Coast Leagues Club);
- Strategy Item #3: construct 'temporary car parks' on the fringe of the CBD;
- Strategy Item #4: implement a 'Park n Ride (Bus)' scheme on the fringe of the CBD;
- Strategy Item #5: implement a 'Park n Ride (Cycle)' scheme in conjunction with Strategy Item #4; and
- Strategy Item #6: introduce metered on-street parking within the commercial core.

Figure 6.2 provides an overview of the recommended short-term parking strategies.



Figure 6.2:

6.3.2 Strategy Item #1: Utilise Spare Capacity at Station #2 (Baker Street)

Station #2 is a Council-owned asset located within the commercial core with a total capacity of 706 spaces. It provides 21% of the off-street parking capacity within the study area. Noting the significant cost of parking infrastructure and the high demand for all-day parking within the commercial core, this parking station should be 100% utilised on weekdays. However, recent parking occupancy survey data recorded a peak demand of just 80%, with a total of 138 parking spaces available during the peak period.

Table 6.1 provides a summary of the surveyed peak occupancy by level at Station #2.

Level	Category	Supply	Demand	Occupancy	Spare Capacity					
Ground	Public: 3P	35 spaces	26 spaces	74%	9 spaces					
1	Allocated: Long-Stay	101 spaces	78 spaces	77%	23 spaces					
2	Public: Long-Stay	143 spaces	134 spaces	94%	9 spaces					
3	Public: Long-Stay	143 spaces	122 spaces	85%	21 spaces					
4	Public: Long-Stay (early bird)	142 spaces	131 spaces	92%	11 spaces					
5	Public: Long-Stay (early bird)	142 spaces	77 spaces	53%	65 spaces					
TOTAL	-	706 spaces	568 spaces	80%	138 spaces					

Table 6.1:	Station #2: Peak Occupancy by Level at 12.00pm	

Key observations are noted below:

- Allocated Parking: the allocated spaces on Level 1 are underutilised (77%);
- Early Bird Parking: the early bird spaces on Level 5 are underutilised (72%); and
- Spare Capacity: of the 138 spare parking spaces, 108 are publicly available spaces.

Whilst it is likely that the publicly available spare capacity will be consumed once Station #8 (Kibbleplex) is demolished, there are other initiatives Council could explore to maximise the use of their asset, including:

- remove the boom gate on Level 4 (early bird) to release capacity within Level 4 and 5 (+76 spaces);
- install sensors and digital signage to advise motorists of available parking (+30 spaces). It is understood
 this is something that Council is currently investigating for implementation in the near future; and
- reduce number of allocated spaces on Level 1 to match demand (+23 spaces). It is acknowledged that
 this may not be feasible due to existing leasing arrangements. Nevertheless, it is still worth exploring.

Strategy Item #1 could provide an additional 106 to 138 all-day parking spaces within the commercial core.

6.3.3 Strategy Item #2: Utilise Spare Capacity at Station #5 (Central Coast Leagues Club)

Station #2 is a privately-owned asset located on the fringe of the commercial core with a capacity of 355 spaces. It provides 10% of the off-street parking capacity within the study area, although it is actively supervised by security guards to prevent all-day commuter parking. Recent parking occupancy survey data recorded a peak demand of just 52%, with 170 parking spaces still available.

Table 6.2 provides a summary of the surveyed peak occupancy by level at Station #5.

Level	Category	Supply	Demand	Occupancy	Spare Capacity			
Ground	Private: Long-Stay	65 spaces	51 spaces	78%	14 spaces			
1	Private: Long-Stay	89 spaces	75 spaces	84%	14 spaces			
2	Private: Long-Stay	85 spaces	38 spaces	45%	47 spaces			
3	Private: Long-Stay	48 spaces	14 spaces	29%	34 spaces			
4	Private: Long-Stay	68 spaces	7 spaces	10%	61 spaces			
TOTAL	-	355 spaces	185 spaces	52%	170 spaces			

 Table 6.2:
 Station #5: Peak Occupancy by Level (3pm)

Key observations are noted below:

- Ground and Level 1 are reasonably well utilised (126 vehicles or 82% occupied);
- Level 2 is underutilised (38 vehicles or 45% occupied);
- Level 3 and 4 are underutilised (59 vehicles or 18% occupied); and
- Level 3 and 4 provide a total supply of 116 spaces.

Whilst this is a privately-owned asset, it is strategically located on the fringe of the commercial core and currently has significant spare capacity that could accommodate all-day parking in the immediate future. Noting the significant cost of parking infrastructure, and the time required to plan, fund, and construct a new parking station, Station #2 represents a key short-term option to address the emerging parking issues within the Gosford CBD. This strategy could also generate an additional revenue stream for the Leagues Club.

Given the above, it is recommended that Council:

- liaise with the operator regarding the potential short-term use of Level 3 and 4 (+116 spaces) of the car park for paid public all-day parking, and if supported, negotiate relevant leasing arrangements;
- investigate what infrastructure (i.e. boom gates etc.) would be required to separate the free parking on Ground, Level 1 and 2 (for bona-fide visitors) from the paid parking on Level 3 and 4;
- investigate what administrative arrangements would be required to manage parking on-site (i.e. collection of fees; ensuring the all-day public parking is restricted to Level 3 and 4 only); and
- investigate a potential parking fee structure comparative to other parking stations in the CBD (i.e. \$8 early-bird rate at Station #2 vs. \$16.50 all day rate at Stations #3 and #4).

Strategy Item #2 could provide an additional 116 all-day parking spaces on the fringe of the commercial core.

6.3.4 Strategy Item #3: Construct 'Temporary' Car Parks on Fringe of Core

Council is currently investigating the feasibility of constructing 'temporary' at-grade car parks at up to four (4) locations on the fringe of the study area. Figure 6.3 illustrates the location of each site.

Table 6.3 provides a summary of the potential temporary car parks, including the <u>estimated</u> parking capacity of each site as well as the estimated walking distance to Gosford Train Station and the William Street Mall.

ID	Street Address	Approximate Number of Parking Spaces	Walking Distance to Gosford Train Station	Walking Distance to William Street Mall
1	10 Racecourse Road, Gosford	180 spaces	1,350m (17 minutes)	1.700m (21 minutes)
2	26 Racecourse Road, Gosford	215 spaces	800m (10 minutes)	1,000m (13 minutes)
3	84A Showground Road, Gosford	500 spaces	1,000m (13 minutes)	1,300m (16 minutes)
4	1 Glennie Street West, Gosford	300 spaces	1,200m (15 minutes)	1,500m (19 minutes)
TOTAL		1,195 spaces	Average 14 minutes	Average 17 minutes

 Table 6.3:
 Short-Term: Potential Temporary Car Park Locations





Figure 6.3:

Short-Term: Potential Temporary Car Park Locations



Based on the above, it appears that:

- all sites are located on the fringe of the study area and are likely to be too remote from the Gosford Train Station and the commercial core to provide a 'Park n Walk' function (i.e. > 10-minute walk);
- Sites 1 and 2 could be utilised for 'Park n Ride (Bus)' and/or 'Park n Ride (Cycle)'; and
- all sites would assist with all day parking constraints within Precinct 4 (Hospital and School).

It is noted that further detailed traffic analysis will be required to confirm traffic related impacts and associated road upgrades (if any) for each site, however at this strategy stage, the following observations are noted:

- Sites 1 and 2 would generate relatively low traffic demands, whilst Site 3 and 4 would generate
 relatively high traffic demands. This assumes that each parking spaces would generate two (2) trips per
 day (i.e. inbound trip in the AM and outbound trip in the PM). Whilst external road upgrades are unlikely,
 further traffic analysis should be undertaken at the intersection of Central Coast Highway / Racecourse
 Road and the intersection of Racecourse Road / Showground Road;
- Site 1: gains access via the existing Gosford Tennis Club driveway on Racecourse Road. At this location, there are double barrier lines prohibiting right turn access into and out of the Tennis Club, presumably due to the horizontal curve and restricted sight distances to the immediate east. If all movement access is required, the driveway crossover may need to be relocated;
- Site 2: gains access via the existing Gosford Golf Club driveway on Racecourse Road. At this location, there are double barrier lines prohibiting right turn access into and out of the Golf Club, presumably due to the horizontal curve to the west and vertical curve to the east. There is no opportunity to relocate the driveway and as such, access would need to be limited to left-in and left-out;
- Site 3: gains access via the existing Gosford Showground driveway/s on Showground Road. Both driveways appear to be relatively narrow (4.5m) and as such, may need to be upgraded to accommodate two (2) traffic flows (i.e. 6m to 10m depending on the number of driveways utilised). Both driveways accommodate all turning movements and there appears to be adequate sight distances; and
- Site 4: would gain access via existing Gosford Showground / Hospital Parking Site driveways on either Showground Road or Glennie Street West. Both driveways appear to be relatively narrow (4.5m) and as such, may need to be upgraded to accommodate two (2) traffic flows (i.e. 6m to 10m depending on the number of driveways utilised). Both driveways accommodate all turning movements and there appears to be adequate sight distances.

These sites have the potential to collectively provide a total of 1,195 parking spaces (+1,195 spaces), and as such, it is recommended that Council fast-tracks the feasibility investigations to identify a preferred site for early delivery. However, given the location of these sites, the challenge will be providing high frequency shuttle bus connectivity into the commercial core, which is complemented by a bicycle share scheme. Refer to Strategy Item #4 and Strategy Item #5 for further details.

In addition to the above, it is recommended that Council:

- identify construction or development sites within walking distance (800m) of the commercial core and Gosford Train Station that could be utilised as temporary car parks;
- negotiate leases with property owners or approvals for temporary car parks;
- set fees commensurate with still encouraging Park and Bus/Cycle at preferred fringe sites; and
- prioritise temporary car parks on the fringe rather than in the commercial core.

Strategy Item #3 could provide an additional 1,200 all-day parking spaces on the fringe of the study area. However, quality bus (Park n Bus) and cycle (Park n Cycle) provisions will be required for access into the commercial core.

6.3.5 Strategy Item #4: Implement a 'Park n Ride (Bus)' Scheme

As outlined in Section 6.3.4, Site 1 and 2 could potentially be utilised as part of a 'Park n Ride (Bus)' scheme for access to the Gosford Train Station and the Gosford CBD / commercial core.

Figure 6.4 illustrates the location of each site as well as three (3) alternative shuttle bus route options.



Figure 6.4: Short-Term: Park n Ride (Bus) Locations with Potential Shuttle Bus Route Options



As illustrated on Figure 6.4, the most efficient route (Route #1A - Green) would be to:

- start at Site 1 (Gosford Tennis Court);
- access Site 2 (Gosford Golf Club) via Showground Road;
- cross the "Central Coast and Newcastle Line" via the Showground Road overpass;
- turn right into Mann Street;
- stop adjacent to Gosford Train Station;
- stop adjacent to the William Street Mall;
- turn right onto the Pacific Highway;
- cross the "Central Coast and Newcastle Line" via the Donnison Street overpass;
- continue onto Donnison Street West;
- turn right into Young Street;
- turn left into Faunce Street West; then
- turn right back onto Racecourse Road.

An alternative route would be to turn left after the Donnison Street overpass, continue on the Central Coast Highway and then turn right into Racecourse Road (Route #1B – Orange). This route could be utilised to pick up the 'enterprise corridor' in the south-west corner of the study area.

Another alternative would be to utilise the existing 'Route 41', which is operated by Red Bus Services (Route #1C). This is similar to Route #1A, however it picks up more of the commercial core.

Table 6.4 provides a summary of the estimated route distance and travel times. The average speed of 20km/h has been adopted to allow for multiple pick-up / drop-off location as well as intersection and link delays.

Route ID	Parking Capacity	Round Trip Distance	Inbound Trip Distance	Adopted Average Speed	Route Trip Time	Inbound Trip Time
#1A	395 spaces	4.0km	2.0km (Site 1 to CBD)	20 km/h	~ 12 minutes	~ 6 minutes
#1B	395 spaces	5.0km	2.0km (Site 1 to CBD)	20 km/h	~ 15 minutes	~ 6 minutes
#1C	395 spaces	5.0km	2.0km (Site 1 to CBD)	20 km/h	~ 15 minutes	~ 6 minutes

 Table 6.4:
 Park n Ride (Bus) Shuttle Bus Route Details

A key challenge for all 'Park n Ride (Bus)' schemes will be providing high frequency bus services so that patrons can efficiently park their vehicle and board a bus with a limited transfer penalty. Importantly, each bus route option is relatively 'tight' loop which will help increase frequencies and reduce travel times. Importantly, these routes provide access to all three (3) parking markets to maximise exposure and usage.

Given the above, it is recommended that Council:

- fast-tracks the feasibility investigations for Site 1 and 2;
- liaise with Red Bus Services regarding opportunities to increase the number of peak hour services on the existing Route 41 (referred to as Route #1C), including cost sharing opportunities;
- identifies key drop-off / pick-up locations along each route to maximise coverage;
- undertake financial feasibility investigations for the proposed 'Park n Ride (Bus)' scheme;
- identify pus priority infrastructure along the bus routes to maximise efficiency and reduce travel times.

Strategy Item #4 could help activate 395 all-day parking spaces on the fringe of the study area (Site 1 and 2).

6.3.6 Strategy Item #5: Implement a 'Park n Ride (Cycle)' Scheme

To support Strategy Item #3 and activate the proposed parking on the fringe of the study area, it is recommended that Council implements a bicycle sharing scheme at Site 1 and 2.

Table 6.5 provides a summary of the estimated route distance and travel times. The average speed of 15km/h has been adopted to allow for based on the mostly flat terrain.

Route ID	Parking Capacity	Round Trip Distance	Inbound Trip Distance	Inbound Trip Adopted Distance Average Speed		Estimated Inbound Trip Time
#1A	395 spaces	4.0km	2.0km (Site 1 to CBD)	15 km/h	< 16 minutes	< 8 minutes
#1B	395 spaces	5.0km	2.0km (Site 1 to CBD)	15 km/h	< 20 minutes	< 8 minutes

 Table 6.5:
 Short-Term: Park n Ride (Cycle) Cycle Route Details

Figure 6.5 illustrates the potential 'Park n Ride (Cycle)' locations and cycle routes.





Figure 6.5: Short-Term: Park n Ride (Cycle) Locations with Potential Cycle Routes

A key challenge for the 'Park n Ride (Cycle)' schemes will be ensuring adequate and safe cycle infrastructure is provided along both routes and providing parking stations at key locations within the Gosford CBD.

In terms of existing cycle infrastructure, the following points are noted:

- Cycle Route #1A: there are no pathways or crossing facilities on Racecourse Road along the frontage
 of the Gosford Tennis Centre (Site #1), and whilst Faunce Street West is a low speed local road and
 therefore may be suitable for on-road cycling, there are also noticeable gaps in the pathway network.
 Addressing these items should be considered during the feasibility investigations; and
- Cycle Route #1B: there are pathways on Racecourse Road along the frontage of the Gosford Golf Club (Site #2), as well as a signalised pedestrian in front of and Gosford High School. There is a dedicated pedestrian facility on the Racecourse Road overpass, however it is relatively narrow (1.5m) and fenced, and therefore may 'force' cyclists to stay on-road. As such, a safety review of the cycle facilities on the overpass (or lack of) should be included in the feasibility investigations.

Given the above, it is recommended that Council investigates opportunities to:

- co-locate a cycle share scheme at Sites 1 and 2;
- provide cycle parking facilities at the Gosford Train Station, commercial core, and CCLHD precinct; and
- implement dedicated or priority cycle infrastructure along the cycle routes connecting Sites 1 and 2 with the commercial core to maximise efficiency and safety along the routes.

Strategy Item #5 could help activate 395 all day parking spaces on the fringe of the study area (Site 1 and 2).

6.3.7 Strategy Item #6: Introduce Metered On-Street Parking within the Commercial Core

The "Commercial Core" as defined in the DCP2013 is bound by Faunce Street to the north, Henry Parry Drive to the east, commercial developments on the southern side of Donnison Street to the south, and the "Central Coast and Newcastle Line" to the west. The extents are graphically illustrated in Figure 6.6.





Figure 6.6: Extent of Commercial Core

Table 6.6 provides a summary of the existing kerbside parking supply and parking demand within the core

Scenario	Accessible	10 min P	1/4P	1/2P	1P	2P	4P	TOTAL	
Existing Supply	3	10	15	14	110	-	-	152	
Peak Demand (10am)	3	3	12	3	82	-	-	103	
Spare Capacity	-	7	3	11	28	-	-	49	

Table 6.6: Commercial Core Kerbside Parking: Supply vs. Peak Demand

Figure 6.7 illustrates the existing kerbside parking demand profile within the commercial core.



Figure 6.7: Existing Kerbside Parking Demand Profile (Commercial Core)

Key points to note are:

- there are 152 kerbside parking spaces within the commercial core, with the majority being 1P (72%);
- kerbside parking within the commercial core peaked at 10:00am at 68% (103 vehicles);
- kerbside parking within the commercial core is generally above 60% occupied from 10:00am to 4:00pm;
- whilst it appears that there is 'spare capacity' within the commercial core during the peak periods, it is
 noted that approximately half of the spaces are 1/2P or less; and
- Council has advised that there is poor compliance with existing time limits within the commercial core, with motorists parking for longer than the allocated time.

In summary, kerbside parking within the commercial core is at or close to practical capacity now, with existing compliance issues. The influx of 1,200 employees associated with the new ATO and NSW Government Finance Buildings coupled with the imminent loss of Kibbleplex, will result in significant additional all-day parking demands within the commercial core and surrounds, which will compound existing compliance issues and place further strain on the finite parking capacity in the CBD.

The introduction of paid on-street parking within the commercial core will:

- help regulate turnover of short-stay parking spaces for bona-fide customers / visitors, which is highly desirable for businesses within the commercial core;
- generate a revenue stream that could be utilised by Council to fund other short-term strategies (i.e. 'Park n Ride (Bus)', temporary car parks etc.); and
- help 'push' all-day parking away from the core and encouraging parking at the preferred fringe sites.

Based on the above, it is recommended that Council explore opportunities to implement metered parking within the commercial core. This could be rolled out over time, and trialled street by street.

Strategy Item #6 could help fund other strategies whilst protecting short-stay parking in the core for customers.

6.3.8 Summary of Short-Term Strategies

Strategy Item #1 and #2 utilise existing public and private parking infrastructure and could relatively quickly and easily accommodate in the order of 220 all-day parking spaces within / on the fringe of the core.

Strategy Item #3 would take longer to implement due to planning, funding, and land ownership constraints. These sites are also somewhat remote from the commercial core. However, given the four (4) sites could collectively provide in the order of 1,200 all-day parking spaces, they should therefore be investigated

further. To maximise their success, Strategy Item #4, #5, and #6 would also need to be implemented. It is noted that 'Park n Ride (Bus)' schemes have been successfully implemented in Newcastle and Canberra.
6.4 MEDIUM TO LONG-TERM CONSIDERATIONS

6.4.1 Overview

The following medium to long-term strategies are recommended for future consideration:

- Strategy Item #7: expand the 'Park n Ride (Bus & Cycle)' schemes, and include a parking station and shuttle bus service on the eastern side of the "Central Coast and Newcastle Line";
- Strategy Item #8: convert of existing all-day kerbside parking within the CCLHD precinct over time into short-stay parking, to increase availability for patients and visitors;
- Strategy Item #9: improve public transport services, including changes to the train timetable;
- Strategy Item #10: implement smart parking initiatives within the core to provide information to minimise traffic circulation, reduce enforcement costs and to monitor usage; and
- Strategy Item #11: construct new multi-level parking station/s on the fringe of the Gosford CBD.

6.4.2 Strategy Item #7: Expand 'Park n Ride (Bus & Cycle)' Schemes

Location of Additional Sites

In addition to the short-term 'temporary car park' sites, Council is investigating the feasibility of constructing car parks at two (2) further locations in the medium-term. Figure 6.8 illustrates the location of each site.

Table 6.7 provides a summary of the potential temporary car parks, including the <u>estimated</u> parking capacity of each site as well as the estimated walking distance to Gosford Train Station and the William Street Mall.

ID	Street Address	Approximate Number of Parking Spaces	Walking Distance to Gosford Train Station	Walking Distance to William Street Mall	
5	80 The Entrance Road, Erina	360 spaces	4,200m	3,800m	
6	4 Racecourse Road	1,500 spaces	1,600m	2,000m	
TOTAL	-	1,860 spaces	-	-	

 Table 6.7:
 Medium-Term: Potential Temporary Car Park Locations



Figure 6.8: Medium-Term: Potential Temporary Car Park Locations

Based on the above, it appears that:

- Site 5 is located 2.5km east of the study area and is too remote to provide a 'Park n Walk' Function. To provide any real benefit to the all-day parking challenges within the study area, Site 5 would need to be utilised as a 'Park n Ride (Bus)' facility with a complementary 'Park n Ride (Cycle)' scheme. Given its location, it could be utilised to service commuters from east (i.e. The Entrance, Terrigal, Avoca Beach, Erina, etc.), with a bus shuttle on the eastern side of the "Central Coast and Newcastle Line"; and
- Site 6 is located on the fringe of the study area and is likely to be too remote from the Gosford Train Station and the commercial core to provide a 'Park n Walk' function (i.e. > 10-minute walk). However, it is located in proximity to Site 1 and 2 and therefore could complement and increase the viability of the previously recommended short-term 'Park n Ride (Bus)' scheme.

High Level Traffic Impacts

It is noted that further detailed traffic analysis will be required to confirm traffic related impacts and associated road upgrades (if any) for each site. However, at this strategy stage, the following observations are noted:

- Sites 5 and 6 would generate high traffic demands, particularly Site 6. This assumes that each parking spaces would generate two (2) trips per day (i.e. inbound trip in the AM and outbound trip in the PM). Both sites have the potential external road network operations, including at the intersection of Central Coast Highway / Pateman Road (Site 5) and Central Coast Highway / Racecourse Road (Site 6);
- Site 5: gains access via the existing The Entertainment Grounds driveway on Racecourse Road. All turning movements are currently permitted at this location, with adequate sight distances in both directions on Racecourse Road. It is understood that a tunnel would need to be constructed under the racetrack for access to the proposed parking area/s, and as such, further traffic engineering design advice will be required to confirm the feasibility of this site (i.e. grades, sight lines, swept paths); and
- Site 6: gains access via the existing Erina Works Depot intersection of Central Coast Highway / Pateman Road. All turning movements are permitted at this location, with left and right turn lane provisions on the Central Coast Highway. The Central Coast Highway at this location has a four (4) lane cross section and is governed by a posted speed limit of 70km/h. Further investigations will be required to confirm potential safety and operation impacts associated with increased demands for motorists turning right onto the Central Coast Highway in the afternoon peak hour.

These sites have the potential to collectively provide a total of 1,860 parking spaces (+1,860 spaces), and as such, it is recommended that Council fast-tracks the feasibility investigations. However, given the location of these sites, particularly Site 5, the challenge will be providing high frequency shuttle bus connectivity into the commercial core, which is complemented by a bicycle share scheme.

Potential Bus Routes

As noted previously, Site 6 could complement the previously recommended short-term 'Park n Ride (Bus)' scheme (Route #1B). However, Site 5 would require a separate bus route (Route 2).

Figure 6.9 illustrates the location of each site as well as the relevant shuttle bus routes.

As illustrated on Figure 6.9, the most efficient route for Route 2 would be to:

- start at Site 6 (Erina);
- travel into the commercial core via the Central Coast Highway and Mann Street;
- stop adjacent to Gosford Train Station;
- stop adjacent to the William Street Mall; then
- return to Site 6 via Henry Parry Drive and the Central Coast Highway.

Table 6.8 provides a summary of the estimated route distance and travel times. The average speed of 20km/h has been adopted to allow for multiple pick-up / drop-off location as well as intersection and link delays.



Figure 6.9: Medium-Term: Park n Ride (Bus) Locations with Potential Shuttle Bus Route Option

Table 6.8:	Medium-Term: Park n Ride (Bus) Shuttle Bus Route Details	s

Route ID	Parking Capacity	Round Trip Distance	Inbound Trip Distance	Adopted Average Speed	Route Trip Time	Inbound Trip Time
#1B	1,895 spaces	5.0km	2.0km (Site 1 to CBD)	20 km/h	~ 15 minutes	~ 6 minutes
#2	360 spaces	9.0km	4.0km (Site 6 to CBD)	20 km/h	~ 25 minutes	~ 12 minutes

As noted previously, a key challenge for all 'Park n Ride (Bus)' schemes will be providing high frequency bus services so that patrons can efficiently park their vehicle and board a bus with a limited transfer penalty. Whilst Routes #1B is a relatively 'tight' loop, Route #2 is a long and linear route and as such, multiple buses will be required to help increase frequencies and reduce travel times. Importantly, these routes provide access to at least two (2) out of the three (3) parking markets to maximise exposure and usage.

Potential Cycle Routes

To activate the proposed parking on the fringe of the study area, it is recommended that Council implements a complementary bicycle sharing scheme at Site 5 and 6.

Table 6.9 provides a summary of the estimated route distance and travel times. The average speed of 15km/h has been adopted to allow for based on the mostly flat terrain.

Route ID	Parking Capacity	Round Trip Distance	Inbound Trip Distance	Adopted Average Speed	Estimated Route Trip Time	Estimated Inbound Trip Time
#1C	1,500 spaces	4.0km	2.0km (Site 1 to CBD)	15 km/h	< 16 minutes	< 8 minutes
#2	360 spaces	9.0km	4.0km (Site 7 to CBD)	15 km/h	< 35 minutes	< 16 minutes

 Table 6.9:
 Medium -Term: Park n Ride (Cycle) Cycle Route Details

Figure 6.10 illustrates the potential 'Park n Ride (Cycle)' locations and cycle routes.



Figure 6.10: Medium-Term: Park n Ride (Cycle) Locations with Potential Cycle Routes

A key challenge for the 'Park n Ride (Cycle)' schemes will be ensuring adequate and safe cycle infrastructure is provided along both routes and providing parking stations at key locations within the Gosford CBD.

- Cycle Route #1C: there are no pathways or crossing facilities on Racecourse Road along the frontage of The Entertainment Grounds (Site #6). However, once cyclists reach the signalised intersection of Central Coast Highway / Racecourse Road, they can cross the highway to utilise the exiting 3.0m wide pathway on the southern side of the highway. This pathway travels under the Brian McGowan Bridge and terminates on Showground Road. From that point, the route would be on-road through to the Gosford Train Station and / or Gosford CBD. It would be worth exploring opportunities to improve the cycle infrastructure along the start (Racecourse Road) and end (Showground Road) of this route; and
- Cycle Route #2: utilise the existing 3.0m wide pathway on the northern side of the Central Coast Highway, which terminates at Russell Street. From that point, there is a continuous pathway network through to the Gosford CBD and Gosford Train Station. It would be worth exploring opportunities to improve the cycle infrastructure along this section of the route.

Given the above, it is recommended that Council:

- fast-tracks the feasibility investigations for Site 5 and 6;
- undertake financial feasibility investigations for the proposed expansion to the 'Park n Ride (Bus)' scheme, and identify key drop-off / pick-up locations along both bus routes to maximise coverage;
- investigate opportunities to co-locate a cycle share scheme at Sites 5 and 6, and provide cycle parking facilities at the Gosford Train Station, commercial core, and CCLHD precinct; and
- implement dedicated or priority cycle and bus infrastructure along the identified routes connecting Sites
 5 and 6 with the commercial core to maximise efficiency and reduce travel times along the routes.

Strategy Item #7 could provide an additional 1,900 all-day parking spaces on the fringe / outside of the study area. However, quality bus (Park n Bus) and cycle (Park n Cycle) provisions will be required for access into the core.

6.4.3 Strategy Item #8: Targeted Conversion of Kerbside Parking Allocation

Figure 6.11 illustrates the typical parking utilisation triggers for modifying kerbside parking allocation.



Figure 6.11: Utilisation Triggers for Modifying Kerbside Parking Allocation

Table 6.10 provides a summary of the potential modifications in each Precinct based on the above triggers.

Precinct	Long-Stay	Short-Stay	Total	Potential Modification of Allocation	
1	76%	68%	71%	Periodic monitoring (no change required)	
2	63%	81%	65%	Periodic monitoring (no change required)	
3	68%	80%	71%	Periodic monitoring (no change required)	
4	87%	64%	86%	Consider introducing shorter time limits	
5	55%	38%	54%	Consider introducing longer time limits	

Table 6.10: Peak Kerbside Parking Occupancy by Precinct

Based on the above, the following potential modifications are noted:

- Precinct 4 (Hospital & Schools): convert long-stay into short-stay parking in proximity to the hospital; and
- Precinct 5 (Station & Surrounds): convert short-stay into long-stay parking.

Within Precinct 4, 90% of all kerbside parking is unrestricted and is generally utilised by the CCLHD. Parking occupancy survey data indicates high utilisation of this parking from 7am to 3pm, as such, it is difficult for patients / visitors to find a free parking space. For this reason, there is an opportunity to convert long-stay kerbside parking in proximity to the GDH into short-stay parking. This could be introduced over time, to allow impacted staff to utilise new short-parks car parks (Strategy Item #3) and / or Park n Bus (Strategy Item #4).

Within Precinct 5, 97% of all kerbside parking is already unrestricted. As such, there is no merit to introducing longer time limits. Furthermore, it is noted that the 'spare kerbside parking capacity' within Precinct 5 is located towards the south-west extent of the study area, away from the key parking generators (i.e. Gosford Train Station etc.), which would contribute to the low surveyed occupancy rates.

In summary, it is recommended that Council considers converting long-stay kerbside parking in proximity to the GDH into short-stay parking to increase available for customers, as illustrated on Figure 6.12 below.

Strategy Item #8 could help patients and visitors at within the CCLHD to gain access to free short-stay kerbside parking. It would complement other strategies, by relocating all-day staff parking to the fringe of the study area.





Figure 6.12: Targeted Conversion of Kerbside Parking Allocation

6.4.4 Strategy Item #9: Improve Public Transport Services, including Train Timetable Changes

The parking interview surveys highlighted a number of key public transport related issues, including:

- the existing bus network is not frequent or convenient and cannot compete with car accessibility, with only 16% of respondents indicated that they would prefer to utilise a bus for access into the CBD; and
- the existing train timetable 'artificially' create a significant parking demand at the Gosford Train Station, with 44% of respondents at the commuter car park indicating they would prefer to utilise an alternative train station if additional services were provided.

Whilst it is important for Council to work with the Department of Transport for New South Wales (TfNSW) to improve bus coverage and frequencies to / from the Gosford CBD over time, it would be very difficult to achieve any real short or median-term modal shifts without significant changes to bus services and network.

However, an alternative to increasing all-day parking supply within the Gosford CBD, would be to reduce demand. A realistic mechanism to reduce demand would be to modify the train timetable to shift / spread the demand to other train stations. It is worth noting that 44% of 1,115 vehicles is approximately 500 vehicles.



Based on a detailed review of the existing train timetable, the following key points are noted:

- there are 13 train stations within the Central Coast LGA;
- Gosford Station and Woy Woy Station are the main commuter stations with 15 direct inbound services to the Sydney CBD in the morning peak period (6:00 to 9:00) and 16 direct outbound services from the Sydney CBD in the afternoon peak period (16:00 to 19:00);
- the travel time to / from Sydney CBD via Gosford Station and Woy Woy Station is approximately 70 and 80 minutes respectively, compared to approximately 90 to 100 minutes via Tuggerah and Wyong; and
- stations either side of Gosford Station have very limited daily and peak period services despite similar travel times to / from Sydney CBD. For example:
 - Lisarow Train Station (located less than 7km north of Gosford Station) current has one (1) direct inbound service to the Sydney CBD in the morning peak period (6:00 to 9:00) and five (5) direct outbound services from the Sydney CBD in the afternoon peak period (16:00 to 19:00); and
 - Tascott Train Station (located less than 2.5km south of Gosford Station) current has five (5) direct inbound service to the Sydney CBD in the morning peak period (6:00 to 9:00) and five (5) direct outbound services from the Sydney CBD in the afternoon peak period (16:00 to 19:00).

Based on the above, it is recommended that Council:

- commence discussions with TfNSW to extend express services to other stations to the north;
- identify a suitable train station or stations either side of Gosford Station that could accommodate a new multi-story parking station; and
- undertake relevant feasibility and impact investigations for a preferred site.

Strategy Item #9 could help reduce parking demands within the Gosford CBD by 400 to 500 vehicles.

6.4.5 Strategy Item #10: Implement Smart Parking Initiatives to Maximise Use of Infrastructure

'Smart parking initiatives' utilise technology to notify users of available parking opportunities in order to reduce vehicular circulation and searching for parking spaces, and also maximise use of existing infrastructure. This technology can also assist with targeted enforcement (and therefore reduced enforcement costs) and also provide additional information to the public via apps and websites.

In November 2017, Council received a \$114,000 grant from the Australian Government to install 450 'smart parking' sensors. It is understood 200 parking sensors were recently installed within the Terrigal CBD, and that a further 250 parking sensors will soon be installed within the Gosford CBD. The data from the sensors will be linked to an app to provide motorists will parking information ahead of time.

Further to the above, it is recommended that Council investigates opportunities to implement a Gosford CBD-wide smart parking 'system'. This may include additional sensors for all parking within the commercial core as well as digital signs on approach to the Gosford CBD.

Strategy Item #10 could help maximise the use of existing parking infrastructure and improve compliance issues.

6.4.6 Strategy Item #11: Construct New Multi-Storey Parking Station/s

As outlined in the DCP2013, it is envisaged that the study area will accommodate an additional 10,000 residents and 6,000 jobs by 2036. Whilst each new development will be required to provide minimum offstreet parking provisions, given the existing shortfall in all-day parking supply, it is likely that Council will need to plan for and construct a new multi-storey parking station or a number of stations to accommodate growth.

Based on the above, it is recommended that Council:

- identify suitable site/s on the CBD fringe to construct new parking station/s;
- undertake relevant feasibility and impact investigations for the preferred site/s; and



• develop funding scheme through development contributions in lieu of on-site parking provision.

Strategy Item #11 could help increase the all-day parking supply on the Gosford CBD fringe by 1,000 spaces.

7. CASE STUDIES

7.1 OVERVIEW

A high-level review has been undertaken of the following parking strategy options implemented by other local governments and road authorities within Australia:

- Newcastle City Council: Park n Ride (Bus);
- Transport Canberra: Park n Ride (Bus) and Park n Ride (Cycle); and
- City of Gold Coast Council: Smart Parking Initiatives.

7.2 NEWCASTLE CITY COUNCIL: PARK N RIDE (BUS) SCHEME

Since 6th November 2017 (7 months ago), Newcastle City Council has been trialling a 'Park n Ride (Bus)' service from the McDonald Jones Stadium into the Newcastle CBD. The bus route (6km) and bus stop locations within the CBD are illustrated on Figure 7.1, with relevant details summarised below.

- Frequency of Service:
 - Inbound: Monday to Friday, 7:00am to 9:00am, with buses every 15 minutes (9 services);
 - Outbound: Monday to Friday, 4:30pm to 6:30pm, with buses every 15 minutes (9 services); and
 - no off-peak or weekend services.
- Cost of Service: \$2.20 per day to park a vehicle at the stadium, however the bus is free;
- Patronage: over 1,000 registrations received in first two (2) months;
- Proposed Benefits:
 - CBD stops designed to deliver commuters within a few minutes' walk of anywhere in the CBD;
 - commuters can save over \$1,440 per year in parking fees (based on \$8 per day for parking);
 - predicted to take up to 350 commuter cars off the roads; and
 - promote public transport and free up parking spaces for shoppers.
- User Survey Feedback (January 2018, based on an online survey with 243 participants):
 - 56% indicated that the service times met their commuting needs; however
 - 79% wanted earlier start times in the afternoon (e.g. 3.00pm);
 - 24% wanted later finish times in the morning (e.g. 9.30am); and
 - 23% wanted later finish time in the evening (e.g. 6.30pm).





Source: www.newcastle.nsw.gov.au

Figure 7.1: Case Study: The City of Newcastle – Park n Ride (Bus)

In summary, it appears that the service is well utilised, however the service times are a key challenge.

7.3 TRANSPORT CANBERRA: PARK N RIDE (BUS & CYCLE) SCHEMES

Transport Canberra operate a comprehensive 'Park n Ride (Bus)' as illustrated on Figure 7.2.

It is noted that Transport Canberra utilise a different 'Park n Ride (Bus)' model compared to Newcastle City Council. Allocated parking spaces are offered to passengers to park their vehicle at 18 parking locations around the city, before they catch an 'ACTION' bus to complete their journey. The 'ACTION' rapid bus routes are general transit routes, not specifically dedicated 'Park n Ride (Bus)' routes.





Figure 7.2: Case Study: Transport Canberra – Park n Ride (Bus)

Relevant details of the 'Park n Ride (Bus)' scheme are summarised below:

- Route Details:
 - Blue Rapid 300: connecting Belconnen, City, Woden and Tuggeranong (40km);
 - Green Rapid 6: connecting Woden, Canberra Hospital, Narrabundah College, Manuka, Kingston, Barton and the City (20km); and
 - Red Rapid 200: connecting Gungahlin, City, Russell, Barton, Kingston and Fyshwick (24km).
- Frequency of Service:
 - Blue Rapid 300: buses depart every 5-8 minutes from 7:00am to 7:00pm and every 15 minutes in the evening. Selected services extend to Kippax and Lanyon;
 - Green Rapid 6: buses depart every 15 minutes or better from 7:00am to 7:00pm; and
 - Red Rapid 200: buses depart every 15 minutes from 7:00am to 7:00pm and more frequently in peak.
- Cost of Service: regular bus fares apply with \$3.14 / trip during peak and \$2.49 / trip during off-peak.

In summary, the Transport Canberra model increases geographical coverage and service frequencies by utilising the existing general transit routes, rather than dedicated 'Park n Ride (Bus)' routes.

Transport Canberra also operate a complementary 'Park n Ride (Cycle)' scheme as illustrated on Figure 7.3.



Source: www.transport.act.gov.au



Relevant details of the 'Park n Ride (Cycle)' scheme are summarised below:

- the intent is to combine bike and bus travel, with patrons riding to a bus stop, before they catch an 'ACTION' bus to complete their journey. Regular bus fares apply; and
- the system includes bike cages, lockers, rails, as well as bike racks on buses to encourage usage.

In summary, the 'Park n Ride (Cycle)' scheme complements the 'Park n Ride (Bus)' scheme, with adequate cycle infrastructure in place to encourage usage.

7.4 CITY OF GOLD COAST: SMART PARKING INITIATIVES

The City of Gold Coast is leading the way with smart parking technology having recently introduced a range of initiatives to make it easier to find parking and to 'keep the city moving'. Some of the initiatives are listed below and illustrated on Figure 7.4:

- installation of parking meter machines with the latest technology (i.e. flexibility payment, ticketless);
- installation of in-ground sensors and numbered parking bays;
- a smartphone app that works in conjunction with the integrated parking system (including the new parking meters machines and in-ground sensors) and provides information on parking prices, locations, maximum stay and real time parking availability;
- 'floating' parking prices which allow Council to increase or decrease the price of parking in individual streets based on utilisation. This will make it cheaper to park in streets with rarely used meters and more expensive in busy areas;
- SMS reminder to users when their time limit is about to expire; and
- ParkInCentre Schemes (PICS) which allow parking prices to be adjusted up or down in 20 cent increments each quarter, according to occupancy.



Source: http://www.goldcoast.qld.gov.au/thegoldcoast/city-parking-map-23619.html Figure 7.4: Case Study: City of Gold Coast Council – Smart Parking Initiatives



8. CONCLUSIONS

All-day parking supply within the Gosford CBD is at practical capacity now and will be significantly impacted in the foreseeable future due to the following factors:

- the Australian Taxation Office (recently constructed) and the NSW Government Finance Building (currently under construction) will collectively generate in the order of 1,200 new jobs within the commercial core, however will provide only 200 additional off-street parking spaces, which equates to one (1) space per six (6) employees. Under an opportunistic rate of 1.5 employees per parked vehicle, the potential overflow all-day parking demand could be in the order of 600 spaces;
- the Gosford District Hospital is currently undergoing a major redevelopment. Whilst the expansion will
 include the construction of a new 800 space multi-story parking station for staff, patients and visitors,
 the expansion will likely increase the demand for free all-day kerbside parking within walking distance
 of the hospital. Whilst this is difficult to quantify, it could be in the order of 200 to 300 spaces; and
- the privately-owned Kibbleplex Shopping Centre is planned to be redeveloped in the foreseeable future. It currently provides 535 free all-day parking spaces in the heart of the CBD, which equates to approximately 50% of the publicly available all-day parking supply within the commercial core.

The above findings highlight that there could be a shortfall of 535 all-day parking spaces within the core in the immediate future, and that this shortfall could increase to approximately 1,200 spaces once the Australian Taxation Office and NSW Government Finance Buildings are constructed and operating at capacity. This shortfall in all-day parking supply will inevitably 'drive' demand into surrounding streets, reducing supply for bona-fide visitors and customers.

To plan for and mitigate the imminent all-day parking shortfall within the Gosford CBD, Council will need to:

- protect short-term on-street parking within the commercial core for business customers; and
- provide more all-day parking opportunities, quickly.

Noting the above, the following short-term actions are recommended for further consideration:

- Strategy Item #1: utilise spare capacity at the Baker Street parking station (+100 spaces);
- Strategy Item #2: utilise spare capacity at the Central Coast Leagues Club (+120 spaces);
- Strategy Item #3: construct 'temporary car parks' on the fringe of the CBD (+1,200 spaces);
- Strategy Item #4: implement a 'Park n Ride (Bus)' scheme to service the 'temporary car parks' on the fringe of the CBD, and run shuttle bus loop service into and around the CBD;
- Strategy Item #5: implement a 'Park n Ride (Cycle)' in conjunction with Strategy Item #4; and
- Strategy Item #6: introduce metered on-street parking within the commercial core over time to protect CBD customer parking and utilise revenue to fund other schemes (e.g. Park n Ride (Bus) etc.).

Strategy Item #1 and #2 utilise existing public and private parking infrastructure and could relatively quickly and easily accommodate in the order of 220 all-day parking spaces within / on the fringe of the core.

Strategy Item #3 would take longer to implement due to planning, funding, and land ownership constraints. Importantly, the four (4) sites could provide in the order of 1,200 all-day parking spaces on the fringe of the CBD. However, to be successful it would also require Strategy Item #4, #5, and #6 to be implemented.

In addition to the short-term strategies, the following medium to long-term strategies should be considered:

- Strategy Item #7: expand the 'Park n Ride (Bus & Cycle)' schemes, and include a parking station and shuttle bus service on the eastern side of the "Central Coast and Newcastle Line" (+1,900 spaces);
- Strategy Item #8: convert of existing all-day kerbside parking within the CCLHD precinct over time into short-stay parking, to increase availability for patients and visitors;
- Strategy Item #9: improve public transport services, including changes to the train timetable;
- Strategy Item #10: implement smart parking initiatives within the core to provide information to minimise traffic circulation, reduce enforcement costs and to monitor usage; and
- Strategy Item #11: construct new multi-level parking station/s on the fringe of the Gosford CBD.

The medium to long-term strategies will be explored in further detail during the Part 2 report.

APPENDIX A

RAW PARKING OCCUPANCY DATA



APPENDIX **B**

PARKING OCCUPANCY BY HOUR OF THE DAY



APPENDIX C

RAW PARKING INTERVIEW DATA

