



TPSGROUP™

Traffic & Parking Systems


**Review of Parking Management
(In Period to end January 2019)**

Bangalow

Prepared by

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Issue Doc.No.	Prepared By	Issue Date	Signature
BangalowRep1	Glen R Holdsworth (RPEQ 4152)	27 th Mar 2019	

1. Background

This is one of three reports aimed at providing an assessment of parking demands, supply, infringement and enforcement for Bangalow, Brunswick Heads and Mullumbimby.

The attached analysis of parking demands, durations and infringements is based on sample data provided to TPS by Council.

The sample data for Bangalow was generally drawn from

- May 2018 to July 2018 (inclusive) (*LOW demand period*)
- September 2018 & October (*AVERAGE demand period*)
(*Note : Occupancy data was not available for this period*)
- The 4 days Fri, Sat, Sun and Mon of the 2019 Australia Day weekend in Jan 2019 (*HIGH demand period*)

As shown above, the above periods have been defined as, and referred to in this report as the “Low”, “Average” and “High” demand periods respectively.

Where cells for a particular day in the occupancy tables are shown blank, this represents that data was not available for that particular day.

2. Parking Space Inventory

An inventory of parking supply and associated description of the number of spaces in each zone and the allowable duration limit is attached to this report.

The inventory was prepared by Council officers.

3. Conclusions Drawn from the Attached Tabulated Analyses.

Note : To assist the reading and understanding of the following conclusions see the page immediately following "Conclusions and Recommendations" for zone number definitions and locations.

Supply

Parking demands in the Low and High periods appears to be approaching capacity, defined as 90% of supply.

Zones no. 6 and 7 are the only zones which appear to offer parking vacancies at most times.

Demands by Persons Holding Permits

During Low periods motorists holding permits which relieve them of the need to pay at meters in Byron Bay, represent approximately 20%-25% of all demands. There appears to be tendency for this rate to increase to in excess of 25% during peak demand periods such as Saturdays and Australia Day weekend.

Durations

The average length of stay in the Low, Average and High demand periods is approximately 20 minutes.

The overall level of parking duration infringement for the Low, Average and High demand periods was 3%, 3% and 4%. This is a "no less than" estimate and grossly underestimates the actual level of infringement, particularly in the 1 hour limit zones. The underestimation arises from the extent to which the time between ANPR runs exceed the posted parking limit duration. Whilst TPS has no basis for estimating the degree to which the underestimate is occurring, it is reasonable to expect that the surveyed rates of infringement represent between 30% and 50% of the actual rate.

Having regard to the above, there is considerable duration infringement occurring in zone no. 8 at nearly all times of the year.

Infringement Notices

The rate at which duration infringements are detected at times when officers visit the Township varies from approximately 4% , 2.5%, and 3% of demand during Low, Average and High demand periods respectively. These rates are lower than the rate of infringement usually expected in unmetered environments.

Zones 1, 3, 4 and 6 have the highest rates of detection across all periods.

4. Conclusions & Recommendations

Note : To assist the reading and understanding of the following conclusions and recommendations see the page immediately following “Conclusions and Recommendations” for zone number definitions and locations.

Parking demand surveys indicate that demands are approaching capacity at most times of the year with zones 6 and 7 being the only zones which regularly offer parking opportunities to a significant degree.

Despite the finding that parking demands are approaching capacity, there is a surprisingly low rate of duration limit infringement and a surprisingly low rate of detection by enforcement officers. This possibly reflects the shorter parking duration demands which are occurring in the Centre relative to the other Centres. That is, the current duration restrictions are catering satisfactorily for parking duration demands.

It is recommended that the frequency and effectiveness of enforcement be maintained in the Centre in order to continue to encourage motorists to comply with duration limits.

There is nothing in the analyses which supports the need for a change to existing parking duration limits in the Centre.





ZONE TIME LIMITS	
1P MON-SUN 9:00AM 6:00PM	01 - Byron St (Lismore Rd - Ashton St)
2P MON-SUN 9:00AM 6:00PM	02 - Byron St (Station Ln - Market St)
2P MON-SUN 9:00AM 6:00PM	03 - Byron St (Market St - Station Ln)
1P MON-SUN 9:00AM 6:00PM	04 - Byron St (Station Ln - Lismore Rd)
1P MON-SUN 9:00AM 6:00PM	05 - Station St (Byron St - Lane)
2P MON-SUN 9:00AM 6:00PM	06 - Station St (Lane - Dead End)
2P MON-SUN 9:00AM 6:00PM	07 - Station St (Dead End - Byron St)
1P MON-SUN 9:00AM 6:00PM	08 - Station St (Byron St - Dead End)

Surveyed Parking Zone Occupancy As % of Supply

All Months (May, June, July, Jan)

		Percent Demand Relative to Supply											
	Zone	1	2	3	4	5	6	7	8	9	10	Tot	% Permit
All Days	Spaces	21	13	9	26	2	17	15	2			105	
	Demand	82%	94%	119%	83%	101%	62%	67%	150%			83%	
	Permits	20%	21%	28%	20%	26%	11%	9%	15%			18%	21%
Saturday	Spaces	21	13	9	26	2	17	15	2			105	
	Demand	97%	62%	90%	103%	100%	74%	66%	150%			86%	
	Permits	29%	17%	2%	32%	33%	10%	21%	107%			23%	27%
Sunday	Spaces	21	13	9	26	2	17	15	2			105	
	Demand	65%	161%	134%	29%	167%	68%	65%	600%			87%	
	Permits	25%	14%	11%	6%	67%	20%		50%			15%	17%

		Percent Demand Relative to Supply - Fri,Sat,Sun.Mon of Aust Day W/End											
JAN	Zone	1	2	3	4	5	6	7	8	9	10	Tot	% Permit
All Days	Spaces	21	13	9	26	2	17	15	2			105	
	Demand	66%	132%	101%	53%	123%	51%	50%	390%			77%	
	Permits	23%	12%	20%	14%	50%	17%	16%	45%			18%	24%
Saturday	Spaces												
	Demand												
	Permits												
Sunday	Spaces	21	13	9	26	2	17	15	2			105	
	Demand	65%	161%	134%	29%	167%	68%	65%	600%			87%	
	Permits	25%	14%	11%	6%	67%	20%		50%			15%	17%

Note : Where occupancy is indicated as exceeding 100% this is due to vehicles recorded by the ANPR system exceeding the nominated capacity of the zone.

**Surveyed Parking Durations in Sample Periods from April 2018 to January 2019
As % of Demand**

Duration (Less than or equal to MINUTES duration)																		
Zone	Limit (hr)	0	60	120	180	240	300	360	420	480	540	600	660	720	780	840	TOTAL	% Exceeding Limit
1	1	96%	1%	2%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	3%
2	2	97%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	1%
3	2	94%	1%	4%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	1%
4	1	95%	0%	1%	1%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	100%	4%
5	1	99%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	1%
6	6	93%	1%	3%	1%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	100%	3%
7	2	92%	1%	3%	1%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	100%	4%
8	1	88%	0%	3%	7%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	12%
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Surveyed Parking Durations					
Zone	Limit (hr)	AVG (min)	<=60	<=120	% Exceeding Limit
1	1	20	97%	98%	3%
2	2	18	97%	99%	1%
3	2	21	95%	99%	1%
4	1	22	96%	97%	4%
5	1	16	99%	100%	1%
6	6	25	94%	97%	3%
7	2	33	93%	96%	4%
8	1	30	88%	91%	12%
9	0				
10	0				
11	0				
12	0				
13	0				
14	0				
15	0				
TOTAL		23	95%	98%	3%

Note : Average parking durations are based on ANPR records of demands and durations in each zone.

**Surveyed Parking Durations in Sample Periods for September & October 2019
As % of Demand**

		Duration (Less than or equal to MINUTES duration)																
Zone	Limit (hr)	0	60	120	180	240	300	360	420	480	540	600	660	720	780	840	TOTAL	% Exceeding Limit
1	1	98%	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	2%
2	2	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
3	2	95%	0%	4%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	1%
4	1	96%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	100%	4%
5	1	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
6	6	97%	0%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	2%
7	2	94%	0%	1%	5%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	5%
8	1	96%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	4%
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Surveyed Parking Durations					
Zone	Limit (hr)	AVG (min)	<=60	<=120	% Exceeding Limit
1	1	18	98%	99%	2%
2	2	15	100%	100%	0%
3	2	20	95%	99%	1%
4	1	18	96%	98%	4%
5	1	15	100%	100%	0%
6	6	20	97%	98%	2%
7	2	23	94%	95%	5%
8	1	23	96%	96%	4%
9					
10					
11					
12					
13					
14					
15					
TOTAL		19	97%	98%	3%

Note : Average parking durations are based on ANPR records of demands and durations in each zone.

**Surveyed Parking Durations on FRI, Sat, Sun and Mon of Australia Day 2019
As % of Demand**

Duration (Less than or equal to MINUTES duration)																		
Zone	Limit (hr)	0	60	120	180	240	300	360	420	480	540	600	660	720	780	840	TOTAL	% Exceeding Limit
1	1	93%	1%	4%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	100%	7%
2	2	96%	0%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
3	2	89%	2%	6%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	2%
4	1	96%	1%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	4%
5	1	93%	0%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	7%
6	6	89%	2%	8%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	100%	2%
7	2	90%	1%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
8	1	73%	0%	18%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	27%
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Surveyed Parking Durations					
Zone	Limit (hr)	AVG (min)	<=60	<=120	% Exceeding Limit
1	1	23	93%	97%	7%
2	2	18	96%	100%	0%
3	2	23	91%	98%	2%
4	1	18	97%	100%	4%
5	1	20	93%	100%	7%
6	6	25	90%	98%	2%
7	2	22	91%	100%	0%
8	1	41	73%	91%	27%
9					
10					
11					
12					
13					
14					
15					
TOTAL		22	93%	99%	4%

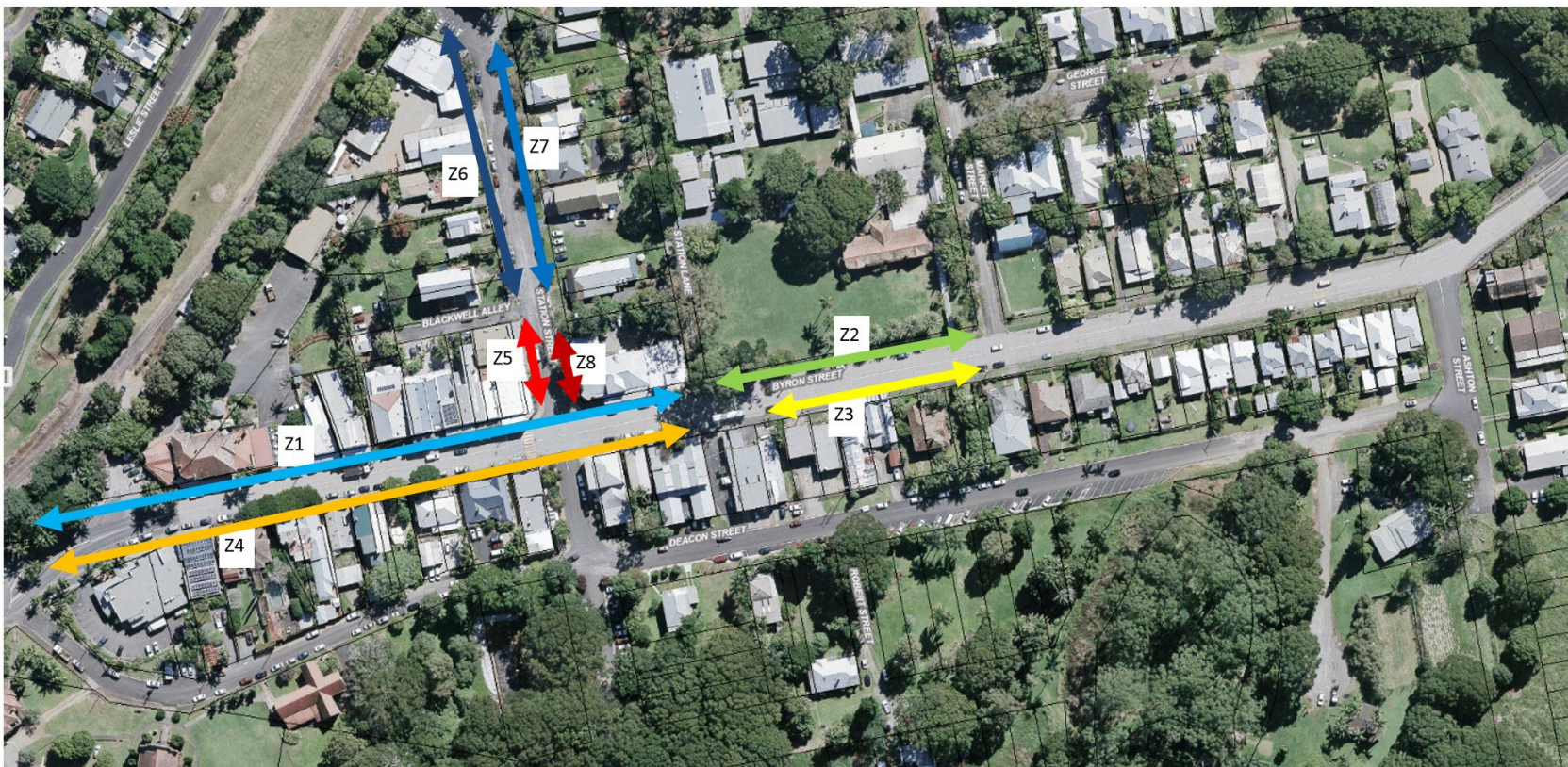
Note : Average parking durations are based on ANPR records of demands and durations in each zone.

Infringements Issued by Zone Per Day as % of Low Demand in Period

BANGALOW		Infringements Issued x Zone																
Dates	Days Attended	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	U/K	All
May 9, 11 and 12	2	2.9%	0.0%	4.7%	4.7%	0.0%	9.4%	0.0%	0.0%									3.5%
Aug 4, Sept 10, 26	3	3.9%	0.0%	0.0%	4.7%	0.0%	0.0%	3.3%	0.0%									2.3%
Jan 25, 26, 27, 28	3	4.8%	0.0%	3.7%	4.9%	0.0%	0.0%	0.0%	4.3%									2.9%



- 1/4P Parking
- Motorcycle Spaces
- Bus Zone
- Disabled Space
- Loading Zone
- ⋮ No Time Restrictions
- 12,2P** - 12 Car Spaces,
- 2P time limit
- Z1 - Zone 1



ZONE TIME LIMITS

1P MON-SUN 9:00AM 6:00PM	01 - Byron St (Lismore Rd - Ashton St)
2P MON-SUN 9:00AM 6:00PM	02 - Byron St (Station Ln - Market St)
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