

Paid Parking Investigation
Final Scenario 1 - Suggested Scheme

Estimated Income

Proposed Hourly Car Parking Rate	\$ 2.00	Assume triangular distribution of patronage over the day	
Proposed Hourly Car + Trailer Parking Rate	\$ 5.00		
Paid Hours Per Day (e.g. 9am to 5pm)	8 hours	Assumed % of carpark users are Tweed Shire Residents with Permits	25%
Resident parking permit annual fee	\$ 25.00	Assumed % of households purchasing one annual ticket	7%

Note: 50% NSW:QLD usage generally observed. Discount by further 50% for non-permit holders.
 based on Byron Shire figures of 1000 permits per 15,000 dwellings

Car only Parking

Location	No. of Car Parks Available	Average Patronage Without Paid Parking	Patronage Reduction Factor**	Estimated Average Peak Patronage With Paid Parking	Percentage of Area of Carpark on Council Land	Percentage of Area of Carpark on Crown Land	Percentage of Area of Carpark on Private Land	Expected Net Annual Revenue from Council Land	Expected Net Annual Revenue from Crown Land	Expected Net Annual Revenue from Pay Parking	Number of Ticket Machines Required*
Tumbulgum - Riverside Drive Foreshore	56	52%	0.6	31%	100%	0%	0%	\$ 38,252	\$ -	\$ 38,252	7
Kennedy Drive Boatramp	11	45%	0.5	23%	0%	100%	0%	\$ -	\$ 5,475	\$ 5,475	1
Point Danger Tourist Area	38	61%	0.5	30%	12%	88%	0%	\$ 2,936	\$ 22,249	\$ 25,185	2
Duranbah Beach	104	45%	0.8	36%	22%	78%	0%	\$ 17,759	\$ 64,585	\$ 82,344	6
Kingscliff A (Surf Club)	130	70%	0.6	42%	20%	80%	0%	\$ 24,159	\$ 96,203	\$ 120,362	4
Kingscliff B (Beach)	32	19%	0.6	11%	0%	100%	0%	\$ -	\$ 8,015	\$ 8,015	1
Kingscliff C (River/Boat Ramp)	33	36%	0.6	21%	0%	100%	0%	\$ -	\$ 15,476	\$ 15,476	2
Cabarita Beach - Pandanus Parade	59	46%	0.6	28%	100%	0%	0%	\$ 35,956	\$ -	\$ 35,956	2
Cabarita Beach - Norries Headland	125	32%	0.8	26%	45%	55%	0%	\$ 31,653	\$ 38,586	\$ 70,239	5
Fingal Boat	9	33%	0.7	23%	0%	100%	0%	\$ -	\$ 4,599	\$ 4,599	1
Fingal Surf Club	39	44%	0.6	26%	49%	51%	0%	\$ 11,029	\$ 11,473	\$ 22,502	2
Chinderah Boat Ramp	24	26%	0.8	20%	100%	0%	0%	\$ 10,762	\$ -	\$ 10,762	1
Salt	298	34%	0.5	17%	100%	0%	30%	\$ 111,447	\$ -	\$ 111,447	11
Pottsville- Ambrose Brown	51	47%	0.7	33%	0%	100%	0%	\$ -	\$ 36,792	\$ 36,792	2
Bay St	83	51%	0.6	31%	100%	0%	0%	\$ 55,845	\$ -	\$ 55,845	1
Stotts Island#	10	28%	0.8	22%	100%	0%	0%	\$ 4,906	\$ -	\$ 4,906	2
Hastings Point	60	41%	0.8	33%	71%	29%	0%	\$ 30,485	\$ 12,439	\$ 42,924	2
Sub-Total								\$ 375,188	\$ 315,894	\$ 691,082	
Expected Annual Revenue from Resident Parking Permits										\$ 66,667	
TOTAL										\$ 757,748	

* based on maximum 50m walk from parked car
 **Patronage Reduction Factor:
 0.5 = Ample free parking within a short walking distance
 0.6 = Some free parking within a short walking distance
 0.7 = Ample free parking within a significant walking distance
 0.8 = Some free parking within a significant walking distance
 0.9 = No nearby free parking available

Car + Trailer Parking

Location	No. of Car Parks Available	Average Patronage Without Paid Parking	Patronage Reduction Factor**	Estimated Average Peak Patronage With Paid Parking	Percentage of Area of Carpark on Council Land	Percentage of Area of Carpark on Crown Land	Percentage of Area of Carpark on Private Land	Expected Net Annual Revenue from Council Land	Expected Net Annual Revenue from Crown Land	Expected Net Annual Revenue from Pay Parking	Number of Ticket Machines Required*
Tumbulgum - Riverside Drive Foreshore	9	25%	0.6	15%	100%	0%	0%	\$ 7,300	\$ -	\$ 7,300	1
Kennedy Drive Boatramp	13	44%	0.5	22%	0%	100%	0%	\$ -	\$ 15,513	\$ 15,513	1
Kingscliff C (River/Boat Ramp)	11	15%	0.9	14%	0%	100%	0%	\$ -	\$ 8,213	\$ 8,213	1
Fingal Boat	54	17%	0.6	10%	0%	100%	0%	\$ -	\$ 30,973	\$ 30,973	2
Chinderah Boat Ramp	6	76%	0.6	46%	100%	0%	0%	\$ 15,017	\$ -	\$ 15,017	1
Stotts Island#	15	33%	0.5	17%	100%	0%	0%	\$ 54,750	\$ -	\$ 54,750	2
Sub-Total								\$ 77,067	\$ 54,698	\$ 131,765	
TOTAL										\$ 131,765	

Stotts Island area not well defined, so parking numbers approximate. Area is used by caravan, campers over night and for different time periods to other day time parking areas. Assume trailer rate, for 12 hour period, with rectangular distribution (i.e. parking from 6pm to 6am with little turn over during this period). Assume no Tweed permit holders. Assume high reduction factors as users seeking free parking go elsewhere.

Estimated Expenditure

Total Number of Units Required: 60

	Establishment Costs			Running Costs		
	Initial Outlay	units	Total	Yearly Cost	units	Total
Unit Cost of Meter (stainless steel, coin and credit card)	8745	per unit	\$ 524,700	Maintenance	500	\$/unit \$ 30,000
Freight and Installation	2000	per unit	\$ 120,000	Vandalism Repair	1	units per yr \$ 8,745
Database and Software Setup	5000	total	\$ 5,000	License Fee	60	\$/month \$ 720
Card Facilities Establishment Fee	180	per unit	\$ 10,800	Card Site Fees	90	\$/month \$ 1,080
Card Funds Transfer Process Setup	500	total	\$ 500	Card transaction fees	0.07	\$/transaction \$ 7,810
Signage and linemarking	51000	total	\$ 51,000	Wireless data fees	50	\$/month 600
Design/Survey	25500	total	\$ 25,500	Upgrades	150	\$/unit \$ 9,000
Parking Demand Study	30000	total	\$ 30,000	Consumables	250	\$/unit \$ 15,000
Parking Officer vehicle purchase x 1	35000	each	\$ 35,000	Additional Enforcement	1	Parking Officers \$ 58,100
Purchase Coin Counting Machine	500	total	\$ 500	Parking Officer Vehicle	1000	\$/month \$ 12,000
				Revenue Administration	0.5	Revenue Officer \$ 27,400
Contingencies	10%	of total	\$ 76,750	Secure Cash in Transit	25.46	\$/collection \$ 52,660
Supervision	5%	of total	\$ 38,375	Forward Capital Replacement	0.14	\$/year \$ 107,689
Total			\$ 918,125	Total		\$ 330,804

Grade 4A Point 2
 Grade 4 Point 2
 Assume collection every 3 days
 Assume 7 year operating life

NPV Assessment

Annual Discount Rate	6%
Initial Cost of Investment	-\$ 918,125
Annual Income	\$ 889,513
Annual Expenditure	-\$ 330,804
Annual Return	\$ 558,710
Year 1	\$ 558,710
Year 2	\$ 558,710
Year 3	\$ 558,710
Year 4	\$ 558,710
Year 5	\$ 558,710
Year 6	\$ 558,710
Year 7	\$ 558,710
Net Present Value	\$2,200,805

Paid Parking Investigation
Final Scenario 2 - Higher fees, lower utilisation

Estimated Income			
Proposed Hourly Car Parking Rate	\$ 4.00	Assume triangular distribution of patronage over the day	
Proposed Hourly Car + Trailer Parking Rate	\$ 7.00		
Paid Hours Per Day (e.g. 9am to 5pm)	8 hours	Assumed % of carpark users are Tweed Shire Residents with Permits	25%
Resident parking permit annual fee	\$ 30.00	Assumed % of households purchasing one annual ticket	5%

Car only Parking

Location	No. of Car Parks Available	Average Patronage Without Paid Parking	Patronage Reduction Factor**	Estimated Average Peak Patronage With Paid Parking	Percentage of Area of Carpark on Council Land	Percentage of Area of Carpark on Crown Land	Percentage of Area of Carpark on Private Land	Expected Net Annual Revenue from Council Land	Expected Net Annual Revenue from Crown Land	Expected Net Annual Revenue from Pay Parking	Number of Ticket Machines Required*
Tumbulgum - Riverside Drive Foreshore	56	52%	0.3	16%	100%	0%	0%	\$ 38,252	\$ -	\$ 38,252	7
Kennedy Drive Boatramp	11	45%	0.3	14%	0%	100%	0%	\$ -	\$ 6,570	\$ 6,570	1
Point Danger Tourist Area	38	61%	0.3	18%	12%	88%	0%	\$ 3,523	\$ 26,699	\$ 30,222	2
Duranbah Beach	104	45%	0.3	14%	22%	78%	0%	\$ 13,319	\$ 48,439	\$ 61,758	6
Kingscliff A (Surf Club)	130	70%	0.3	21%	20%	80%	0%	\$ 24,159	\$ 96,203	\$ 120,362	4
Kingscliff B (Beach)	32	19%	0.3	6%	0%	100%	0%	\$ -	\$ 8,015	\$ 8,015	1
Kingscliff C (River/Boat Ramp)	33	36%	0.3	11%	0%	100%	0%	\$ -	\$ 15,476	\$ 15,476	2
Cabarita Beach - Pandanus Parade	59	46%	0.3	14%	100%	0%	0%	\$ 35,956	\$ -	\$ 35,956	2
Cabarita Beach - Norries Headland	125	32%	0.3	10%	45%	55%	0%	\$ 23,740	\$ 28,939	\$ 52,679	5
Fingal Boat	9	33%	0.3	10%	0%	100%	0%	\$ -	\$ 3,942	\$ 3,942	1
Fingal Surf Club	39	44%	0.3	13%	49%	51%	0%	\$ 11,029	\$ 11,473	\$ 22,502	2
Chinderah Boat Ramp	24	26%	0.3	8%	100%	0%	0%	\$ 8,072	\$ -	\$ 8,072	1
Salt	298	34%	0.3	10%	100%	0%	30%	\$ 133,736	\$ -	\$ 133,736	11
Pottsville- Ambrose Brown	51	47%	0.3	14%	0%	100%	0%	\$ -	\$ 31,536	\$ 31,536	2
Bay St	83	51%	0.3	15%	100%	0%	0%	\$ 55,845	\$ -	\$ 55,845	1
Stotts Island#	10	28%	0.3	8%	100%	0%	0%	\$ 3,679	\$ -	\$ 3,679	2
Hastings Point	60	41%	0.3	12%	71%	29%	0%	\$ 22,864	\$ 9,329	\$ 32,193	2
Sub-Total								\$ 374,173	\$ 286,623	\$ 660,796	
								Expected Annual Revenue from Resident Parking Permits		\$ 60,000	
								TOTAL		\$ 720,796	

* based on maximum 50m walk from parked car
 **Patronage Reduction Factor:
 0.5 = Ample free parking within a short walking distance
 0.6 = Some free parking within a short walking distance
 0.7 = Ample free parking within a significant walking distance
 0.8 = Some free parking within a significant walking distance
 0.9 = No nearby free parking available

Car + Trailer Parking

Location	No. of Car Parks Available	Average Patronage Without Paid Parking	Patronage Reduction Factor**	Estimated Average Peak Patronage With Paid Parking	Percentage of Area of Carpark on Council Land	Percentage of Area of Carpark on Crown Land	Percentage of Area of Carpark on Private Land	Expected Net Annual Revenue from Council Land	Expected Net Annual Revenue from Crown Land	Expected Net Annual Revenue from Pay Parking	Number of Ticket Machines Required*
Tumbulgum - Riverside Drive Foreshore	9	25%	0.3	7%	100%	0%	0%	\$ 5,110	\$ -	\$ 5,110	1
Kennedy Drive Boatramp	13	44%	0.3	13%	0%	100%	0%	\$ -	\$ 13,031	\$ 13,031	1
Kingscliff C (River/Boat Ramp)	11	15%	0.3	5%	0%	100%	0%	\$ -	\$ 3,833	\$ 3,833	1
Fingal Boat	54	17%	0.3	5%	0%	100%	0%	\$ -	\$ 21,681	\$ 21,681	2
Chinderah Boat Ramp	6	76%	0.3	23%	100%	0%	0%	\$ 10,512	\$ -	\$ 10,512	1
Stotts Island#	15	33%	0.3	10%	100%	0%	0%	\$ 45,990	\$ -	\$ 45,990	2
Sub-Total								\$ 61,612	\$ 38,544	\$ 100,156	
								TOTAL		\$ 100,156	

Stotts Island area not well defined, so parking numbers approximate. Area is used by caravan, campers over night and for different time periods to other day time parking areas. Assume trailer rate, for 12 hour period, with rectangular distribution (i.e. parking from 6pm to 6am with little turn over during this period). Assume no Tweed permit holders. Assume high reduction factors as users seeking free parking go elsewhere.

Estimated Expenditure

Total Number of Units Required: 60

	Establishment Costs			Running Costs		
	Initial Outlay	units	Total	Yearly Cost	units	Total
Unit Cost of Meter (stainless steel, coin and credit card)	8745	per unit	\$ 524,700	Maintenance	500	\$/unit \$ 30,000
Freight and Installation	2000	per unit	\$ 120,000	Vandalism Repair	1	units per yr \$ 8,745
Database and Software Setup	5000	total	\$ 5,000	License Fee	60	\$/month \$ 720
Card Facilities Establishment Fee	180	per unit	\$ 10,800	Card Site Fees	90	\$/month \$ 1,080
Card Funds Transfer Process Setup	500	total	\$ 500	Card transaction fees	0.08	\$/transaction \$ 4,308
Signage and linemarking	51000	total	\$ 51,000	Wireless data fees	50	\$/month 600
Design/Survey	25500	total	\$ 25,500	Upgrades	150	\$/unit \$ 9,000
Parking Demand Study	30000	total	\$ 30,000	Consumables	250	\$/unit \$ 15,000
Parking Officer vehicle purchase x 1	35000	each	\$ 35,000	Additional Enforcement	1	Parking Officers \$ 58,100
Purchase Coin Counting Machine	500	total	\$ 500	Parking Officer Vehicle	1000	\$/month \$ 12,000
				Revenue Administration	0.5	Revenue Officer \$ 27,400
Contingencies	10%	of total	\$ 76,750	Secure Cash in Transit	25.46	\$/collection \$ 52,660
Supervision	5%	of total	\$ 38,375	Forward Capital Replacement	0.14	\$/year \$ 107,689
Total			\$ 918,125	Total		\$ 327,302

Grade 4A
 Grade 4
 Assume collection every 3 days
 Assume 7 year operating life

NPV Assessment

Annual Discount Rate	6%
Initial Cost of Investment	-\$ 918,125
Annual Income	\$ 820,952
Annual Expenditure	-\$ 327,302
Annual Return	\$ 493,650
Year 1	\$ 493,650
Year 2	\$ 493,650
Year 3	\$ 493,650
Year 4	\$ 493,650
Year 5	\$ 493,650
Year 6	\$ 493,650
Year 7	\$ 493,650
Net Present Value	\$1,837,618

Paid Parking Investigation
Final Scenario 4 - Increased enforcement

Estimated Income

Proposed Hourly Car Parking Rate	\$ 2.00	Assume triangular distribution of patronage over the day
Proposed Hourly Car + Trailer Parking Rate	\$ 5.00	
Paid Hours Per Day (e.g. 9am to 5pm)	8 hours	
Resident parking permit annual fee	\$ 25.00	

Assumed % of carpark users are Tweed Shire Residents with Permits	25%	Note: 50% NSW:QLD usage generally observed. Discount by further 50% for non-permit holders.
Assumed % of households purchasing one annual ticket	7%	

Car only Parking

Location	No. of Car Parks Available	Average Patronage Without Paid Parking	Patronage Reduction Factor**	Estimated Average Peak Patronage With Paid Parking	Percentage of Area of Carpark on Council Land	Percentage of Area of Carpark on Crown Land	Percentage of Area of Carpark on Private Land	Expected Net Annual Revenue from Council Land	Expected Net Annual Revenue from Crown Land	Expected Net Annual Revenue from Pay Parking	Number of Ticket Machines Required*
Tumbulgum - Riverside Drive Foreshore	56	52%	0.6	31%	100%	0%	0%	\$ 38,252	\$ -	\$ 38,252	7
Kennedy Drive Boatramp	11	45%	0.5	23%	0%	100%	0%	\$ -	\$ 5,475	\$ 5,475	1
Point Danger Tourist Area	38	61%	0.5	30%	12%	88%	0%	\$ 2,936	\$ 22,249	\$ 25,185	2
Duranbah Beach	104	45%	0.8	36%	22%	78%	0%	\$ 17,759	\$ 64,585	\$ 82,344	6
Kingscliff A (Surf Club)	130	70%	0.6	42%	20%	80%	0%	\$ 24,159	\$ 96,203	\$ 120,362	4
Kingscliff B (Beach)	32	19%	0.6	11%	0%	100%	0%	\$ -	\$ 8,015	\$ 8,015	1
Kingscliff C (River/Boat Ramp)	33	36%	0.6	21%	0%	100%	0%	\$ -	\$ 15,476	\$ 15,476	2
Cabarita Beach - Pandanus Parade	59	46%	0.6	28%	100%	0%	0%	\$ 35,956	\$ -	\$ 35,956	2
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Fingal Boat	9	33%	0.7	23%	0%	100%	0%	\$ -	\$ 4,599	\$ 4,599	1
Fingal Surf Club	39	44%	0.6	26%	49%	51%	0%	\$ 11,029	\$ 11,473	\$ 22,502	2
Chinderah Boat Ramp	24	26%	0.8	20%	100%	0%	0%	\$ 10,762	\$ -	\$ 10,762	1
Salt	298	34%	0.5	17%	100%	0%	30%	\$ 111,447	\$ -	\$ 111,447	11
Pottsville- Ambrose Brown	51	47%	0.7	33%	0%	100%	0%	\$ -	\$ 36,792	\$ 36,792	2
Bay St	83	51%	0.6	31%	100%	0%	0%	\$ 55,845	\$ -	\$ 55,845	1
Stotts Island#	10	28%	0.8	22%	100%	0%	0%	\$ 4,906	\$ -	\$ 4,906	2
Hastings Point	60	41%	0.8	33%	71%	29%	0%	\$ 30,485	\$ 12,439	\$ 42,924	2
Sub-Total								\$ 375,188	\$ 315,894	\$ 691,082	
Expected Annual Revenue from Resident Parking Permits										\$ 66,667	
TOTAL										\$ 757,748	

* based on maximum 50m walk from parked car
****Patronage Reduction Factor:**
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Car + Trailer Parking

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Kennedy Drive Boatramp	13	44%	0.5	22%	0%	100%	0%	\$ -	\$ 15,513	\$ 15,513	1
Kingscliff C (River/Boat Ramp)	11	15%	0.9	14%	0%	100%	0%	\$ -	\$ 8,213	\$ 8,213	1
Fingal Boat	54	17%	0.6	10%	0%	100%	0%	\$ -	\$ 30,973	\$ 30,973	2
Chinderah Boat Ramp	6	76%	0.6	46%	100%	0%	0%	\$ 15,017	\$ -	\$ 15,017	1
Stotts Island#	15	33%	0.5	17%	100%	0%	0%	\$ 54,750	\$ -	\$ 54,750	2
Sub-Total								\$ 77,067	\$ 54,698	\$ 131,765	
TOTAL										\$ 131,765	

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Unit Cost of Meter (stainless steel, coin and credit card)	8745	per unit	\$ 524,700	Maintenance	500	\$/unit \$ 30,000
Freight and Installation	2000	per unit	\$ 120,000	Vandalism Repair	1	units per yr \$ 8,745
Database and Software Setup	5000	total	\$ 5,000	License Fee	60	\$/month \$ 720
Card Facilities Establishment Fee	180	per unit	\$ 10,800	Card Site Fees	90	\$/month \$ 1,080
Card Funds Transfer Process Setup	500	total	\$ 500	Card transaction fees	0.07	\$/transaction \$ 7,810
Signage and linemarking	100000	total	\$ 100,000	Wireless data fees	50	\$/month 600
Design/Survey	25500	total	\$ 25,500	Upgrades	150	\$/unit \$ 9,000
Parking Demand Study	100000	total	\$ 100,000	Consumables	250	\$/unit \$ 15,000
Parking Officer vehicle purchase x 2	35000	each	\$ 70,000	Additional Enforcement	2	Parking Officers \$ 116,200
Purchase Coin Counting Machine	500	total	\$ 500	Parking Officer Vehicle x 2	1000	\$/month \$ 24,000
				Revenue Administration	1	Revenue Officer \$ 54,800
Contingencies	10%	of total	\$ 88,650	Secure Cash in Transit	25.46	\$/ site collection \$ 78,990
Supervision	5%	of total	\$ 44,325	Forward Capital Replacement	0.14	\$/year \$ 107,689
Total			\$ 1,089,975	Total		\$ 454,634

Grade 4A
Grade 4
Assume collection every 2 days
Assume 7 year operating life

NPV Assessment

Annual Discount Rate	6%
Initial Cost of Investment	-\$ 1,089,975
Annual Income	\$ 889,513
Annual Expenditure	-\$ 454,634
Annual Return	\$ 434,880
Year 1	\$ 434,880
Year 2	\$ 434,880
Year 3	\$ 434,880
Year 4	\$ 434,880
Year 5	\$ 434,880
Year 6	\$ 434,880
Year 7	\$ 434,880

Net Present Value \$1,337,689