

# Ku-ring-gai Council

## **Paid Parking**

### Discussion Paper

Issue | 11 March 2015

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 601138

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# ARUP

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# 1 Introduction

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Arup was appointed by Ku-ring-gai Council to prepare a discussion paper regarding the possible implementation of paid parking in Council car parks within the Local Government Area (LGA).

## 1.1 Background

Paid parking currently does not occur within Ku-ring-gai with the exception of the Culworth Ave car park at Killara<sup>1</sup>.

Many of Ku-ring-gai's local centres currently experience parking demand exceeding supply at peak periods. Most of the local centres have off-street parking areas with surrounding streets used to supplement supply. The demand for parking is compounded at most of the centres by the high level of commuter parking associated with rail use.

In most local centres of Ku-ring-gai the high cost of land precludes the acquisition of additional land for providing more parking and therefore constructing costly multi-storey structures on existing car parks is the only practical means of significantly increasing parking supply.

Paid parking is a useful tool for managing the demand for parking and most studies suggest that it is the most powerful tool available in areas of high demand. It is also recognised that the introduction of paid parking should be part of an overall integrated parking policy approach. Paid parking can also encourage alternatives to driving and encourage pedestrian/bike circulation.

Paid parking can raise revenue that can be used to fund additional parking, public transport facilities, local centre improvements etc. This is particularly important in the current context as revenues from developer contributions may fall in the future as a result of recent legislative changes in NSW.

## 1.2 Previous Studies

A number of years ago, Arup prepared three relevant studies - the Ku-ring-gai Town Centre Parking Management Plan, Ku-ring-gai Integrated Transport Plan and the Wahroonga Traffic and Parking Study - which have all included discussion on the benefits that paid parking could bring to Ku-ring-gai LGA and also the associated costs and disadvantages. Relevant excerpts from these documents are presented in Section 4.1.

## 1.3 Paid Parking – An Introduction

Paid parking can be implemented for one or a combination of the following objectives:

- reduce transport/parking problems by increasing parking turnover

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<sup>1</sup> Council resolved in 1965 to construct the car park and levy charges primarily for its operation and maintenance as a commuter car park

- to recover parking facility costs
- to raise revenue for any purpose

The benefits of paid parking can include:

- more efficient use of parking facilities
- reduced motor vehicle traffic
- more efficient land use with less land devoted to parking
- revenue generation
- improved equity because free parking represents a cross-subsidy from people who own fewer than average vehicles and drive less than average

The costs or disbenefits of paid parking can include:

- cost of installing and operating the system
- delay and inconvenience to motorists
- financial costs to motorists
- spillover impacts in other areas
- competitive disadvantage for businesses compared to locations where parking is free

## 1.4 Discussion Paper Objectives

Council require an updated to the short discussion paper prepared in 2009, to highlight all of the issues associated with the introduction of paid parking in Ku-ring-gai. The paper would facilitate further discussion between council officers and councillors and, depending on Council's decision on the way forward, lead to more detailed investigations including consultation with the community.

## 2 Discussion

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### 2.1 Contextual Overview

It is understood that under the statutory provisions of the NSW Local Government Act 1993 and associated regulations<sup>2</sup>, Council can charge fees in all Council-owned car parks and issue infringement notices when necessary. Council already has one paid parking location, the Culworth Ave car park in Killara, with a charge of \$5 per day, 6am-6pm Mon-Fri. Part g of Council's Traffic and Transport Policy states that wider implementation of paid parking could be considered in the future.

It is also understood that there is no restriction on how Council can use revenue generated from parking charges and fines. However, it is good policy that such revenue be used for legitimate purposes such as improving the town centres or transport provision.

Other relevant Council documents include:

- Ku-ring-gai Integrated Transport Strategy
- Traffic and Transport Policy – it is intended that Council-owned public parking is provided for short term parking rather than long term parking.
- Local Centres LEP/DCP – sets out distribution of development, road layout, on-street parking.
- Town Centres Public Domain Manual – on-street parking layout.
- Town Centres Parking Management Plan – parking layout, management of turnover, compliance.
- Ku-ring-gai Contributions Plan 2010 – Parking and transport infrastructure projects identified in Strategy, to service new population.
- Car Park Plans of Management – permissibility of paid parking in Council-owned car parks.
- Car Parks Generic Plan of Management - notes opportunities for paid parking in some circumstances, which can assist Council in offsetting the costs of maintenance.
- Reclassification – sites where paid parking may be proposed are currently the subject of a reclassification process.

### 2.2 Existing Conditions

Table 1 summarises the current parking conditions, particularly for short term parking, by local centre. It can be seen that parking demand in most centres, particularly the main commercial centres of Gordon and St Ives, exceeds supply. It should be noted, however, that this does not necessarily indicate inadequate parking supply but could also point to inadequate enforcement of existing time restrictions and hence inefficient usage of existing bays.

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<sup>2</sup> Refer to clauses 491, 501 and 608, plus Cl 632 which allows Councils to issue fines to persons not acting in accordance with the sign posted rules

Table 1 Summary of Current Parking Conditions by Local Centre (based on surveys undertaken in 2007)

Local Centre	Summary (On and Off-street Parking)
Roseville	Peak parking demand approaches or exceeds capacity
Lindfield	Peak parking demand regularly exceeds capacity, for both Council owned and private parking
Killara	Majority of parking is unrestricted and caters for commuters
Gordon	Peak parking demand regularly exceeds capacity, for both Council owned and private parking
Pymble	Parking supply is generally adequate to accommodate demand
Turramurra	Peak parking demand approaches or exceeds capacity
Wahroonga	Parking demand approaches or exceeds capacity
St Ives	Peak parking demand regularly exceeds capacity, for both Council owned and private parking

This review suggests that most if not all local centres could benefit from paid parking because it would increase parking turnover and increase the availability of spaces.

## 2.3 Parking Charges

The level of parking charges that could be enforced in Ku-ring-gai are unlikely to be sufficiently high enough to bring about a major shift in transport behaviour. It is only in city centres such as Sydney CBD and North Sydney that paid parking can bring about a significant change in mode split.

The parking charges will mainly modify the behaviour of short term parkers and will probably have only a small impact on long stay parkers (except for those illegally exceeding existing time restrictions). The main impact of the charges would be to reduce the length of time that motorists parked, rather than causing a major shift to walking, cycling and public transport.

The broad intent of the current time restrictions, to promote short stay parking over long stay parking, would need to be retained for any paid parking system. This could be achieved by two possible approaches:

- Existing time restrictions could be removed and the pricing structure used to manage demand by favouring short stay parking and discouraging long stay parking. Long stay parking may be permitted but the charge would need to be high enough to discourage this practice<sup>3</sup>. An inherent danger of this approach is that some people may still be willing to pay a high cost for long term parking thus reducing parking turnover. A benefit of this system would be that parking rangers only have to check that each parked vehicle has a valid ticket and they do not have to record vehicle arrival times to identify overstayers. Rangers therefore would only have to do one circuit rather than two to identify infringers which also means that motorists get no prior warning in which to hurriedly move their car or pay for a ticket.

<sup>3</sup> This is the approach adopted by Hornsby Westfield where parking is free up to 3 hours rising steeply to \$40 for 7.0+ hours

- Existing time restrictions could be retained with an hourly charge up to the nominated time limit. This system would require higher levels of enforcement to be effective.

There could be a strong argument for a different pricing structure at each centre, according to local conditions. However, for ease of useability, implementation and operation, a uniform pricing structure across the LGA is preferable.

There should not be a discount for weekly parkers or for businesses to reinforce that Council parking is provided for short term parking. All-day parking should only be available in Transport for NSW (TfNSW) car parks or in streets some distance from the local centre.

Four different pricing structures, aimed at favouring short stay parking and discouraging long stay parking, are presented in Table 2. Option 1 has been used for the financial assessment presented in Section 2.9.

Table 2 Possible Parking Charges – off-street and on-street parking

Option 1	Option 2	Option 3	Option 4
Charges apply between: Mon-Fri 9am-5pm, Sat 9am-4pm Free at other times			
Removal of current time limit restrictions			Retention of current time restrictions
0 - 1 hr \$1.00	0 - 1 hr Free	0 - 1 hr \$2.00	0 - 1 hr \$1.00
1 - 2 hr \$2.00	1 - 2 hr \$2.00	1 - 2 hr \$3.00	1 - 2 hr \$2.00
2 - 3 hr \$6.00	2 - 3 hr \$4.00	2 - 3 hr \$6.00	2+ hr n/a
3 - 4 hr \$9.00	3 - 4 hr \$9.00	3 - 4 hr \$9.00	
4 - 5 hr \$12.00	4 - 5 hr \$12.00	4 - 5 hr \$12.00	
5+ hr \$15.00	5+ hr \$15.00	5+ hr \$15.00	

*Note: Pricing would need to include GST but this has been excluded from the analysis for simplicity*

The pricing structure could include a time free period. However, such a free period is not recommended because this may lead to people purchasing a new ticket at the end of each free time period and thus avoiding the payment of any charges. It would also lead to a substantial loss of revenue.

Similarly, if the pricing structure was not a uniform hourly rate, this may lead to people purchasing a new ticket once during each period before the hourly charge increased.

Development of a suitable pricing structure would need more detailed investigation to address the issues highlighted above. Once operational, the pricing structure would need to be periodically monitored and modified if necessary to achieve the desired turnover rate and vacancy rate. Council would need to clearly state how the parking charges are effective in meeting published policy objectives.

## 2.4 Suitable Locations and Staging

Paid parking can be used to encourage local centre parking turnover and increase short term parking supply. Paid parking has only been considered for time-restricted parking bays because these represent most of the short term parking supply.

The most efficient introduction of paid parking would be within large off-street car parks. If, for example, paid parking was introduced in say Wahroonga and not Turramurra, it may result in an imbalance in trading between the two centres. It would therefore be more efficient and more effective to simultaneously introduce paid parking across the entire LGA.

A possible staging plan for the implementation of paid parking in Ku-ring-gai is presented in Table 3. Stage 1 of the implementation plan includes all of the major Council off-street car parks within the local centres, representing a total of approximately 1500 bays.

Table 3 Possible Staging Plan

Car Park	Bays	Car Park	Bays
<b>Stage 1</b>		<b>Possible Future Stages</b>	
Roseville - Lord Street	58	Other local centre Council off-street car parks	300
Roseville - Larkin Lane	43	<b>Local centre on-street (currently time restricted bays)**:</b>	
Lindfield - Kochia Lane	122	Roseville	80
Lindfield - Woodford Lane	72	Lindfield	80
Gordon - Wade Lane	326	Gordon	80
Pymble - Grandview Lane	52	Pymble	80
Turramurra - Gilroy Lane	144	Turramurra	70
Turramurra - Kissing Point Rd	89	Wahroonga	70
Turramurra - Ray St	118	St Ives	70
Wahroonga - Redleaf Lane	175	<b>Total</b>	<b>830</b>
St Ives - Village Green - at-grade	295		
<b>Total</b>	<b>1494*</b>		

*\*Excludes private car parking in Council car parks*

*\*\*Excludes Pacific Highway parking*

Council would obtain parking equipment at a lower unit cost, via a competitive tender process, if Stage 1 was implemented compared to implementation of a series of smaller stages. This, however, would need to be weighed-up against the greater initial capital outlay required. This is further discussed in Section 2.9.

The smaller Council car parks have been excluded from Stage 1 but could also be considered, e.g. Alma St at Pymble, Marian St at Killara.

Further investigation of the eligibility of paid parking for some areas, such as 40 leased bays on the ground floor of Wade Lane, Gordon, would be required. Stage 1 conservatively only includes actual Council-owned parking on Council land.



The system does not include paid parking at the three main privately operated public car parks, Coles at Lindfield, Gordon Centre and St Ives Centre underground. The effectiveness of the paid parking system would be reduced if free parking were to remain in these car parks.

The state government, i.e. TfNSW, own commuter car parks within Ku-ring-gai and the current policy is that this parking will continue to be provided for free use. It is also recommended that the current parking arrangements for the Council owned portion of the Culworth Ave car park in Killara remain unchanged.

The main element of later stages would be to implement paid parking on inner-core streets where time restrictions currently apply. This equates to approximately 530 bays but would be subject to detailed investigation at each centre. On-street parking charges should ideally be slightly higher than off-street due to their prime location, although for ease of use uniform charges may be more appropriate.

The effectiveness of Stage 1 is unlikely to be significantly reduced if paid on-street parking was not introduced until a later date, because the on-street time restrictions would remain and would encourage turnover if adequately enforced.

Paid parking at other locations, such as Bicentennial Park/Ku-ring-gai Fitness and Aquatic Centre (West Pymble Pool), St Ives Showground, Wildflower Garden, would be primarily a revenue raising measure rather than a measure to manage parking demand. Parking congestion for recreation facilities currently occurs much less frequently than in local centre locations. Patrons using Ku-ring-gai Fitness and Aquatic Centre are already charged an entrance fee and a fee for parking could be construed as double-charging, particularly as the facility serves the entire LGA and the majority of patrons are forced to drive. Parking at these locations is therefore not considered appropriate in the short term.

## 2.5 Payment System and Administrative Support

The payment system selected should be:

- simple to use and easily understood by drivers
- reasonably cheap to install and maintain
- secure and reliable

In addition, the system should:

- be flexible enough to allow changes in the future such as the adjusting of charges
- provide information for management and auditing purposes, such as parking utilisation data
- deter fraud and assist enforcement

The possible payment systems for consideration include pay-and-display, boom gate and parking meters.

The main advantage of boom gate control is that all motorists are forced to pay although they only pay for the actual time parked – they do not have to estimate their length of stay. Boom gate control systems require a rapid response for any malfunction and Council would not be in a position to provide this although this

could possibly be undertaken by a subcontractor. Such systems can also lead to congestion at entry and exit points. They are therefore more suited to private commercial car parks.

Parking meters represent outdated technology and are generally not installed anymore. Boom gate control and parking meters are therefore not considered appropriate.

The recommended payment system is via modern pay-and-display machines that accept credit cards, coins and notes, and possibly payment via mobile phone. Although this method can lead to people overpaying because they have to estimate their length of stay and pay up front, it is the simplest method to implement and maintain. It is also the most common system in Sydney and therefore most people would be familiar with its operation. A pay-and-display system is not self-enforcing, unlike other systems such as boom gates, and therefore an adequate level of enforcement is essential.

The typical number of pay-and-display units required for various situations<sup>4</sup> is given in Table 4.

Table 4 Required Number of Pay-and-display Units

Situation		Number of Units
Off-street	Up to 50 bays	1 per 20 bays
	50 to 100 bays	1 per 30 bays
	100 + bays	1 per 40 bays
On-street		1 per 10 bays

Implementation of paid parking is generally more efficient for off-street car parks than on-street parking. Furthermore, it is more efficient for larger off-street car parks than smaller car parks.

Council currently has five general duty rangers and five parking rangers. All rangers have a responsibility to monitor car parking although this is generally primarily the responsibility of the parking rangers. Most of the administration relating to car parking is undertaken by the rangers. Council's parking rangers now utilise licence plate recognition technology to monitor and enforce Council's car parks.

The implementation of the Stage 1 paid parking system may require Council to employ a full-time car parking manager and possibly a number of additional parking rangers. This would be in addition to existing administrative support.

## 2.6 Nearby Councils

In some cases paid parking has the potential to change shopping habits at the outer edges of a LGA where free parking is available in adjacent LGAs. It is noted that pay parking occurs in some areas of Willoughby, Ryde and Warringah but not in Hornsby. It is likely that that Hornsby Council would introduce pay parking within the Hornsby centre, a major sub-regional centre, in the next decade; however as of 2015, no paid parking is implemented within the LGA.

<sup>4</sup> Based on historical rule-of-thumb values for Sydney

In Willoughby Council, metered parking is provided in Chatswood, Artarmon and St Leonards. Chatswood has metered parking on five streets typically for \$5.50 per hour. Artarmon has meters on streets surrounding Royal North Shore Hospital, with rates \$1.50-\$4.50 per hour. There is an \$11 flat rate all-day car park near Gore Hill Freeway. St Leonards has off street car parks within its commercial core along Chandos Street, Atchison Street and Albany Street and rates are typically \$3.50 per hour during the day and \$1.20 per hour at night.

Ryde Council has metered parking within the North Ryde and Macquarie Park commercial core. Rates are typically \$2.40 per hour to \$2.60 per hour. There are \$11 flat rate all-day car parks available.

Warringah Council has recently installed a metered off-street car park at Manly Dam, Middle Creek Reserve and Jamieson Park. Warringah parking permit holders are able to park for free, however visitors are charged \$6 an hour or \$10 per day between Mon-Fri and \$26 per day on weekends.

Ku-ring-gai LGA does not accommodate a major sub-regional shopping centre of the size of Chatswood Chase/Westfield, Macquarie Centre or Hornsby Westfield. Ku-ring-gai's local centres do not generally compete directly with these centres because they offer more specialised shopping and local services. It is likely that most Ku-ring-gai residents make use of these major centres at various times and paid parking is unlikely to change this situation.

It is difficult, however, to provide definitive financial impacts of the introduction of parking in similar centres due to a lack of data. Councils may quote revenue generated from parking charges and parking fines. They may also quote capital costs, infringement processing costs and maintenance costs but Council administrative staff costs are rarely itemised. Councils often do 'before' studies containing revenue forecasts but rarely do similar 'after' studies.

## 2.7 Impact of Paid Parking

All of the local centres, with the possible exception of St Ives, experience high levels of all-day commuter parking in surrounding streets beyond the inner-core where time restrictions apply. The majority of this commuter parking occurs before 9am on weekdays, i.e. before business hours. Therefore, if paid parking was introduced, motorists conducting business in the local centres would be forced to either use the paid parking within the inner core, the limited free time-restricted on-street parking (if this has not also been made paid parking) or park some distance away beyond the extent of commuter parking. People would often need to park at least 300m from the core of the local centres to avoid parking charges and this is unlikely to occur if charges are set at reasonable levels.

In summary, the commuter parking, in combination with the time-restricted on-street parking within the local centres, would act as a buffer to prevent motorists using surrounding streets to avoid paying for parking.

As discussed in Section 2.3, the proposed level of parking charges is unlikely to be sufficiently high enough to bring about a major shift in transport behaviour. The charges may result in a small increase in walking and cycling, particularly for local residents. They would also result in a reduction of peak parking demand, typically between 11am – 2pm weekdays and 10am-1pm Saturdays, and a reduction in the average length of stay for each vehicle.

The proposed system does not include paid parking at the three main privately operated public car parks at Lindfield, Gordon and St Ives Centre. Council would need to consult with the owners of these car parks to either:

- arrange for implementation of paid parking to be consistent with rates charged at adjacent Council car parks
- introduce measures to ensure that, if these car parks remain free, they do not become oversaturated due to a shift from the paid car parks
- implement an agreement whereby Council rangers enforce time limit restrictions as per the system that currently occurs at Coles Lindfield<sup>5</sup>

Therefore, the recommended level of parking charges for Ku-ring-gai is unlikely to result in loss of business being a significant issue. Any impact on business would be difficult to quantify but Council should continually monitor this situation based on anecdotal information from traders, shoppers and any other available data. In the longer term, it may be the case that this issue is less evident as society moves towards user pay systems across a range of fields with paid parking common practice across Sydney.

Where paid parking has been implemented in similar situations across Australia, it has generally resulted in an increase in revenue generation for the responsible local authority. Historically, where parking demand and turnover is high, parking revenue generally covers capital and ongoing costs within a few years.

The introduction of paid parking would need to be supported by a comprehensive monitoring regime that would address:

- parking occupancy, turnover and compliance within local centres
- parking occupancy in areas surrounding local centres
- revenue generated from paid parking versus cost of installation, maintenance and operation

Modern pay parking equipment can provide good parking utilisation data reducing the need for labour-intensive parking occupancy and turnover surveys.

## 2.8 Usage of Parking Revenue

As stated in Section 2.1, surplus revenue generated by the installation of paid parking can be used by Council for any purpose. However, it is good policy to use the funds for legitimate purposes such as streetscape improvements, public domain works and transport improvements.

The Ku-ring-gai Contributions Plan 2010 covers Gordon, Lindfield, Pymble, Roseville, St Ives and Turramurra. It sets contribution rates for Section 94, Section 80A and Voluntary Planning Agreements. The Plan includes a range of categories and the following could be appropriate uses for paid parking revenue:

- Public domain and streetscape facilities (e.g. streetscape improvements, new or embellishment of existing urban/civic spaces, pedestrian through-block connections, open space improvements, water cycle management)

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<sup>5</sup> It is understood that reaching a suitable agreement can be difficult under current Department of Local Government guidelines

- Transport improvements (e.g. new bus interchanges, cycleways, kiss & ride zones, taxi ranks, bicycle parking, new bus stops/upgrade existing)
- Traffic signals, intersection modifications and road modifications (e.g. implement one way, widen laneways etc)
- New roads (with and without new on-street parking)
- Undergrounding of public car parks

Revenue generated by the installation of paid parking should be used to fund works already contained in the Ku-ring-gai Contributions Plan 2010. The Plan excludes Wahroonga and revenue generated from Wahroonga should be used for improvements in Wahroonga.

## 2.9 Financial Assessment

Three financial models have been developed to assess the likely spectrum of financial impacts of paid parking.

Detailed results of the models are presented in Section 4.3 and discussed below.

### 2.9.1 Key Assumptions

The following assumptions have been made to develop the financial models:

- all scenarios use pricing structure Option 1 from Table 2
- all scenarios have adopted Stage 1 only - major off-street car parks (approximately 1500 bays)
- varying parking utilisation rates were used to develop three scenarios
- the required number of pay-and-display units is based on Table 4 of report
- the cost per pay-and-display unit is \$20,000
- there would be no net change in revenue from parking infringements
- Council costs such as additional rangers, additional administration, full-time additional parking manager etc have been excluded
- GST has been excluded for simplicity

### 2.9.2 Results

The capital cost of installation for Stage 1 is estimated to be in the order of \$1.2 million with annual operating and maintenance costs of \$0.25 million. If Council needed to borrow the full amount of this initial capital cost, the annual repayment would be in the order of \$110,000 for a 20 year loan @ 6.1% p.a.

Total annual revenue is estimated to range from \$0.4 million for Scenario 1 to \$1.7 million for Scenario 3.

The results suggest that Scenario 1 would essentially be a revenue-neutral situation whilst Scenarios 2 and 3 would result in surplus revenue generation.

For reference, the following data was recorded between 9am-5pm for a typical weekday at the main Wahroonga car park (2 hour limit):

number of cars per bay / day	4	
average occupancy	70%	
average length of stay	0-1 hours	60%
	1-2 hours	23%
	2-3 hours	9%
	3+ hours	8%

For the Wahroonga data, the average cost per vehicle, using pricing structure Option 1, would be in the order of \$2. In reality, this figure would probably be lower once paid parking was introduced because there would be a price disincentive discouraging parking for longer than 2 or 3 hours. The values presented above are similar to the values used for the Scenario 2 financial model.

Therefore, assuming current parking conditions in Wahroonga are typical of other local centres, implementation of paid parking would generate a considerable amount of revenue over and above installation and ongoing operational costs.

The financial modelling suggests the payback period to Council would be within 5 years. Following this period, the introduction of paid parking is likely to result in a steady revenue stream to Council of between \$0.5 million and \$1.5 million per annum.

## 2.10 Consultation Strategy and Next Steps

The implementation of a paid parking system is often a highly contentious issue. Effective stakeholder involvement is therefore essential.

There is often a perception that paid parking is a revenue raising policy with no benefits for the community and businesses. Council would need to engage with stakeholders, including local residents, business owners, property owners, developers and other interested parties to highlight issues such as:

- local residents would benefit by increased availability of parking spaces
- the payment system would be relatively easy to use
- the parking charges would be relatively low for short stays
- businesses would benefit from increased parking turnover because there would be more shoppers per day
- the community would benefit through use of generated revenue to improve local centres

Council should develop a consultation strategy based on similar strategies used elsewhere. It is important that such a strategy covers the planning, implementation and operational phases of a paid parking system.

### 3 Summary

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The study has revealed that further investigation and discussion of the implementation of paid parking in Ku-ring-gai is warranted because it would:

- increase parking turnover, particularly in local centre areas where demand often exceeds supply, thereby increasing the availability of parking spaces
- generate revenue that could be used to fund local centre improvements or transport-related facilities

If Council decide to further pursue paid parking, more detailed investigations regarding the extent of the system, pricing structure, staging etc would be required. An extensive consultation phase would also need to occur before the introduction of paid parking.

Once operational, the system would need to be the subject of a comprehensive monitoring regime.



## 4 Supporting Information

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### 4.1 Previous Arup Studies

#### 4.1.1 Ku-ring-gai Town Centre Parking Management Plan (Feb 2008)

##### s3.6:

In the longer term as commercial centres grow, the introduction of pay parking often occurs for both on street parking e.g. ticket parking and parking metres and in off street public and shopping centre car parks where either ticket parking or paid car parking (usually with an initial 2 hour free parking period).

For Council controlled car parking, the introduction of paid car parking is normally only warranted to maintain appropriate turnover of parking spaces where there is significant evidence of abuse (e.g. overstay) of the signposted parking time limits.

For the major shopping centre car parks that are privately owned, the introduction of pay car parking is essentially a commercial decision to be made by the shopping centre owner/operator on the basis that any additional net revenue (income minus operating costs) which is raised from pay car parking would not be offset by any corresponding loss of trade from shoppers or restaurant patrons who may be encouraged to spend less time in the centre as a result of pay parking or even to shop or dine elsewhere where free parking may be available.

An additional constraint to the introduction of paid car parking in any major shopping centre car park is that development approval from the local Council is normally required together with ongoing annual licensing of the car park to operate as a paid car park.

For the rail commuter car parks which are located on SRA land, it is not currently RailCorp (*now TfNSW*) policy to charge rail commuters (or any others who may be using their car parks) for long stay car parking.

##### s6.4:

The Ku-ring-gai Town Centres have less intensive demand for car parking than in adjacent LGAs and elsewhere on the Lower North Shore e.g. Willoughby and North Sydney. Paid parking is probably not warranted at current vacancy rates in these centres. However, additional parking enforcement may be warranted in some centres.

#### 4.1.2 Wahroonga Traffic and Parking Study (Aug 2008)

##### s4.3.1.3 Introduction of Pay Parking:

The introduction of pay parking would increase parking availability due to higher turnover.

Various pay parking systems could be implemented, probably with a free parking component, e.g:



- free parking for first 1 or 2 hours
- free parking for Ku-ring-gai residents
- free parking if purchase made from local shops
- free parking outside peak times

Pay parking, may, however, have unwelcome side effects such as encouraging visitors to shop elsewhere, particularly if pay parking was introduced in isolation in Wahroonga only. Pay parking systems can usually only be introduced on a regional scale, such as the main town centres of Ku-ring-gai and Hornsby.

Pay parking would also need to be supported by measures to stop parking pressure shifting to surrounding streets. Pay parking is a costly system to implement and maintain, and in a small village such as Wahroonga, it would be unlikely to generate significant revenue.

Pay parking is therefore not recommended in the short term because other measures are more appropriate at this stage (refer to Section 4.4). This study confirms the Ku-ring-gai Traffic and Transport Policy which states “the use of on-street paid parking could be considered in future”.

### 4.1.3 Ku-ring-gai Integrated Transport Strategy (July 2011)

#### s10.2:

- Ensure parking policies are consistent with broader transport and land use strategies.
- Manage the amount and type of parking to influence overall levels of traffic demand.
- Provide an equitable balance of available parking supply to support different purposes of car trips including park and ride, all-day employee parking and short-term shopping parking.
- Provide sufficient parking to support local businesses.
- Provide additional parking only where a need can be clearly justified and demonstrated to be cost-effective.
- Determine parking rates for new developments on the basis of influencing overall traffic demand rather than providing for unrestrained levels of supply.
- Provide incentives for the use of high occupancy vehicles, including car pools, car share schemes and community buses.

#### s10.3:

The *Ku-ring-gai Development Control Plan (Town Centres) 2010* stipulates a series of minimum on-site parking rates for various type of land use. Rates for locations outside the town centres are stipulated in *Development Control Plan No.43 – Car Parking*.

Parking is an important tool for managing traffic demand and encouraging alternative modes of travel. The parking rates contained in the two relevant control plans should be reviewed with consideration of the following:

- presentation of on-site parking rates as *maximum* permissible rates rather than *minimum* rates
- a flexible approach to parking supply such as contributions to public transport improvements in lieu of providing required level of on-site parking
- different parking rates for different areas based on proximity to public transport
- reduction in parking rates where dual use can be demonstrated

Public parking at Ku-ring-gai Council-owned car parks and all on-street parking is free for users with the exception of the Culworth Avenue car park adjacent to Killara Station.

Parking charges can be levied to maximise the use of available parking spaces and to influence overall levels of traffic demand. It can also be used to reduce peak demand levels by encouraging activity to occur outside peak periods. The imposition of a parking charging system can also improve the level of enforcement of time limits.

Revenue generated from parking charges can be used to contribute to the supply and maintenance of parking facilities and to assist in the implementation of other actions associated with the provision of transport services.

Peak parking demand exceeds supply in most town centres in Ku-ring-gai. These centres could benefit from paid parking because it would increase parking turnover and increase the availability of spaces.

Council should investigate the implementation of paid parking at selected locations as part of a suite of actions relating to the provision of an integrated, equitable and cost-efficient approach to parking policy and broader transport planning.

## 4.2 References

City of Joondalup. 2007. Business Plan for the Introduction of Paid Parking in the Joondalup City Centre.

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Ku-ring-gai Council. 2008. Culworth Avenue Car Park at Killara – report to Council.

Metropolitan Transportation Commission. 2007. Parking Best Practices & Strategies For Supporting Transit Oriented Development In the San Francisco Bay Area. USA.

Todd Litman. 1998. Parking Management – Strategies, Evaluation and Planning. Victoria Policy Institute, Canada.

Todd Litman. 2008. Parking Pricing – Direct Charges for Using Parking Facilities. Victoria Policy Institute, Canada.

## 4.3 Financial Models

Detailed results of the financial models are presented on the following pages.

### Ku-ring-gai Paid Parking - Assumptions

Financial model is based on:

- Stage 1 only - major off-street car parks (approx. 1500 bays)
- varying parking utilisation rates to develop three scenarios
- required number of pay-and-display units based on Table 4 of report
- cost per pay-and-display unit of \$20,000 (this figure would probably be significantly less if purchased in bulk in a competitive tender)
- allowance for a proportion of parkers that do not pay and escape receiving an infringement notice

It has been assumed that:

- no net change in revenue from parking infringements, i.e. value to remain unchanged from current value (approx. \$700k p.a.) and therefore excluded from analysis

Financial model excludes the following:

- Council costs such as additional rangers, additional administration, full-time additional parking manager etc
- upfront planning costs for Council such as detailed investigation of extent of paid parking at each centre, tendering process, community consultation
- costs already incurred by Council in building and managing car parks
- GST has been excluded for simplicity

## Ku-ring-gai Paid Parking - Costs

Description	No.	Cost	Units	Sub-total
<b>Installation</b>				
Total pay and display units	48	\$20,000	per unit	\$960,000
New wiring, electricity cabling, telecommunications etc	7	\$15,000	per centre	\$105,000
New signs and changes to existing signs	7	\$25,000	per centre	\$175,000
Public information	1	\$20,000	total	\$20,000
Total				\$1,260,000
<b>Ongoing</b>				
Operation & Maintenance	48	\$5,000	per unit / p.a.	\$240,000

Pay and display units	Bays	No.
Roseville - Lord Street	58	3
Roseville - Larkin Lane	43	3
Lindfield - Chapman Lane	122	4
Lindfield - Woodford Lane	72	3
Gordon - Wade Lane	326	9
Pymble - Grandview Lane	52	3
Turramurra - Gilroy Lane	144	4
Turramurra - Kissing Point Rd	89	3
Turramurra - Ray St	118	3
Wahroonga - Redleaf Lane	175	5
St Ives - Village Green - at-grade	295	8
Sub-total	1494	48

**Ku-ring-gai Paid Parking - Revenue**

All scenarios based on the following pricing structure: Mon-Fri 9am-5pm, Sat 9am-4pm

0 - 1 hr	\$1.00
1 - 2 hr	\$2.00
2 - 3 hr	\$6.00
3 - 4 hr	\$9.00
4 - 5 hr	\$12.00
5+ hr	\$15.00

Location	Spaces	Scenario 1 - Low Utilisation					Scenario 2 - Medium Utilisation					Scenario 3 - High Utilisation				
		Average Occupancy	Turnover per day	Cars per day	Average cost per car	Annual Revenue	Average Occupancy	Turnover per day	Cars per day	Average cost per car	Annual Revenue	Average Occupancy	Turnover per day	Cars per day	Average cost per car	Annual Revenue
Roseville	101	50%	2.0	101	\$1.00	\$30,300	60%	2.5	152	\$1.50	\$68,175	70%	3.0	212	\$2.00	\$127,260
Lindfield	194	50%	2.0	194	\$1.00	\$58,200	60%	2.5	291	\$1.50	\$130,950	70%	3.0	407	\$2.00	\$244,440
Gordon	326	50%	2.0	326	\$1.00	\$97,800	60%	2.5	489	\$1.50	\$220,050	70%	3.0	685	\$2.00	\$410,760
Pymble	52	50%	2.0	52	\$1.00	\$15,600	60%	2.5	78	\$1.50	\$35,100	70%	3.0	109	\$2.00	\$65,520
Turramurra	351	50%	2.0	351	\$1.00	\$105,300	60%	2.5	527	\$1.50	\$236,925	70%	3.0	737	\$2.00	\$442,260
Wahroonga	175	50%	2.0	175	\$1.00	\$52,500	60%	2.5	263	\$1.50	\$118,125	70%	3.0	368	\$2.00	\$220,500
St Ives	295	50%	2.0	295	\$1.00	\$88,500	60%	2.5	443	\$1.50	\$199,125	70%	3.0	620	\$2.00	\$371,700
Total	1494					\$417,900					\$940,275					\$1,755,180

Notes:  
Assumes parking applies on 300 days per year

Ku-ring-gai Paid Parking - Benefit/Cost Summary

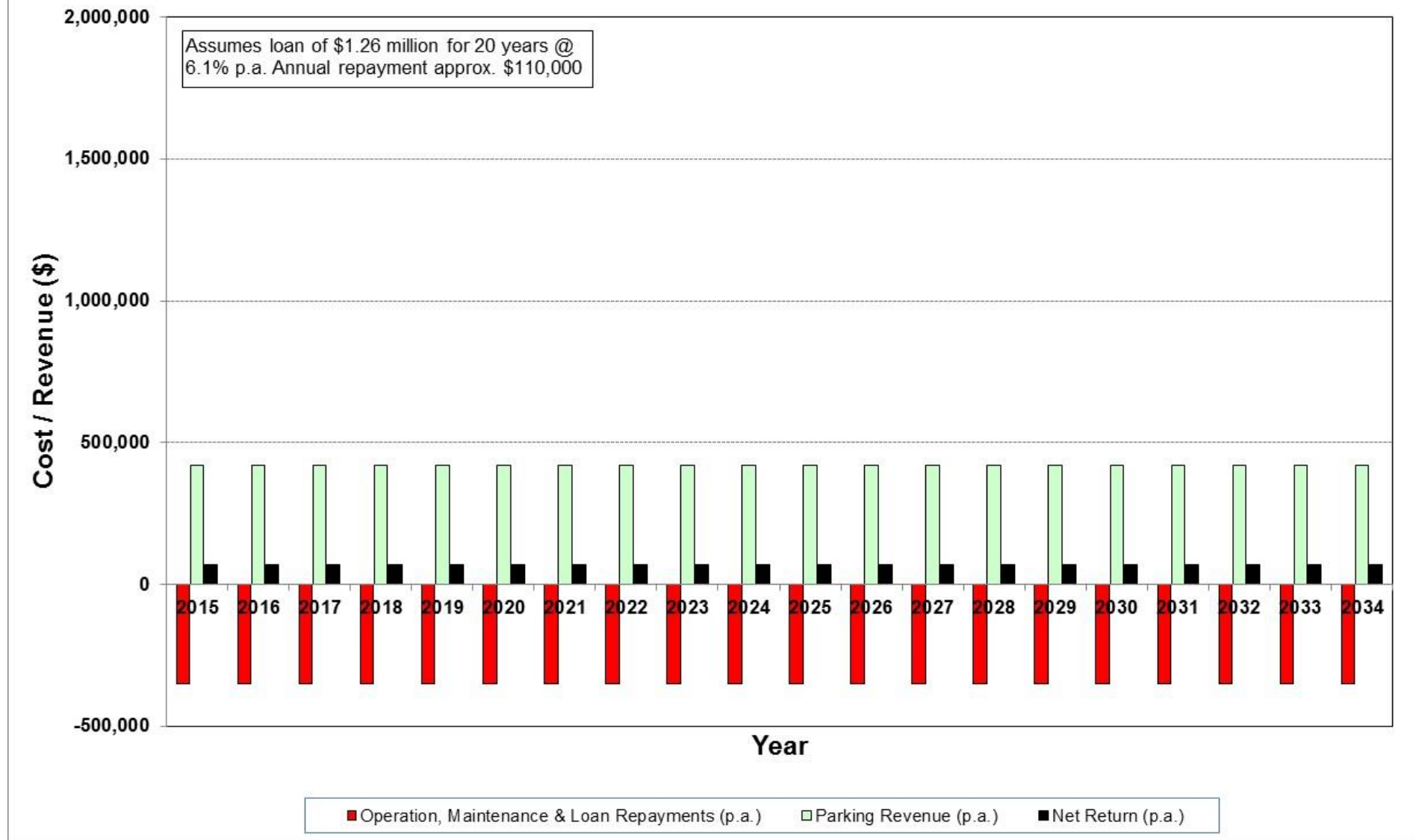
Year	Scenario 1 - Low Revenue							Scenario 2 - Medium Revenue							Scenario 3 - High Revenue						
	Costs				Revenue		Net Return	Costs				Revenue		Net Return	Costs				Revenue		Net Return
	Capital	Annual Maintenance & Operation	Loan Repayments	Total Annual	Parking Charges	Parking Fines	p.a.	Capital	Annual Maintenance & Operation	Loan Repayments	Total Annual	Parking Charges	Parking Fines	p.a.	Capital	Annual Maintenance & Operation	Loan Repayments	Total Annual	Parking Charges	Parking Fines	p.a.
2015	-\$1,260,000	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$1,260,000	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$1,260,000	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2016	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2017	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2018	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2019	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2020	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2021	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2022	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2023	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2024	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$0	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2025	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$1	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2026	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$2	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2027	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$3	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2028	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$4	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2029	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$5	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2030	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$6	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2031	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$7	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2032	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$8	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2033	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$9	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
2034	\$0	-\$240,000	-\$109,198	-\$349,198	\$417,900	\$0	\$68,702	\$10	-\$240,000	-\$109,198	-\$349,198	\$940,275	\$0	\$591,077	\$0	-\$240,000	-\$109,198	-\$349,198	\$1,755,180	\$0	\$1,405,982
Total	-\$1,260,000	-\$4,800,000	-\$2,183,960	-\$6,983,960	\$8,358,000	\$0	\$1,374,040	\$1,260,055	-\$4,800,000	-\$2,183,960	-\$6,983,960	\$18,805,500	\$0	\$11,821,540	\$1,260,000	-\$4,800,000	-\$2,183,960	-\$6,983,960	\$35,103,600	\$0	\$28,119,640
PV @ 7%				-\$2,542,563	\$4,427,239	\$0					-\$2,542,563	\$9,961,287	\$0					-\$2,542,563	\$18,594,402	\$0	
PV @ 4%				-\$3,261,678	\$5,679,397	\$0					-\$3,261,678	\$12,778,644	\$0					-\$3,261,678	\$23,853,469	\$0	
PV @ 10%				-\$2,043,255	\$3,557,818	\$0					-\$2,043,255	\$8,005,091	\$0					-\$2,043,255	\$14,942,837	\$0	

Benefit Cost Ratio (BCR) @ 7%	1.74
Benefit Cost Ratio (BCR) @ 4%	1.74
Benefit Cost Ratio (BCR) @ 10%	1.74
Payback Period @ 7%	8 years

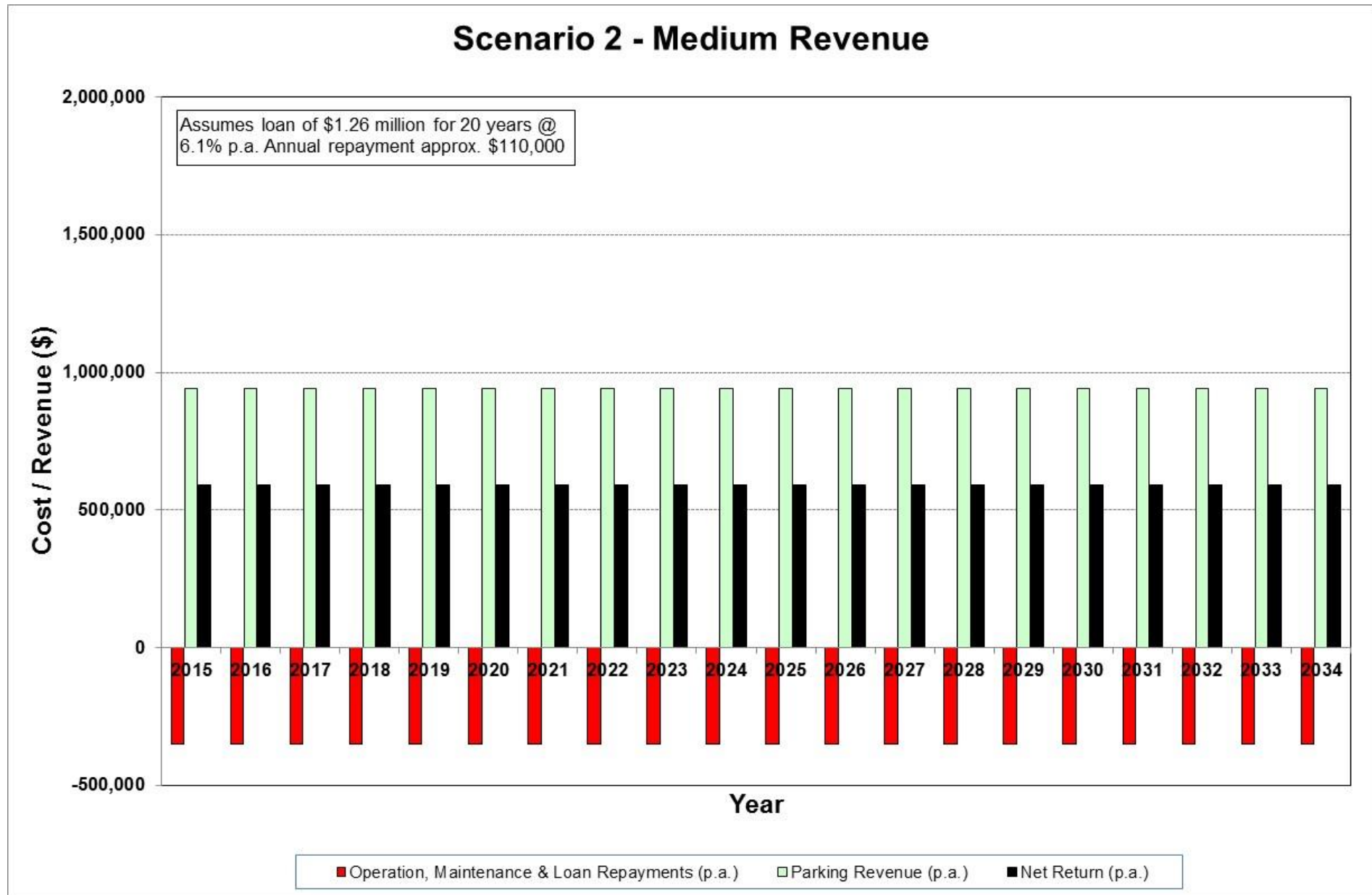
Benefit Cost Ratio (BCR) @ 7%	3.92
Benefit Cost Ratio (BCR) @ 4%	3.92
Benefit Cost Ratio (BCR) @ 10%	3.92
Payback Period @ 7%	<3 years

Benefit Cost Ratio (BCR) @ 7%	7.31
Benefit Cost Ratio (BCR) @ 4%	7.31
Benefit Cost Ratio (BCR) @ 10%	7.31
Payback Period @ 7%	<2 years

## Scenario 1 - Low Revenue

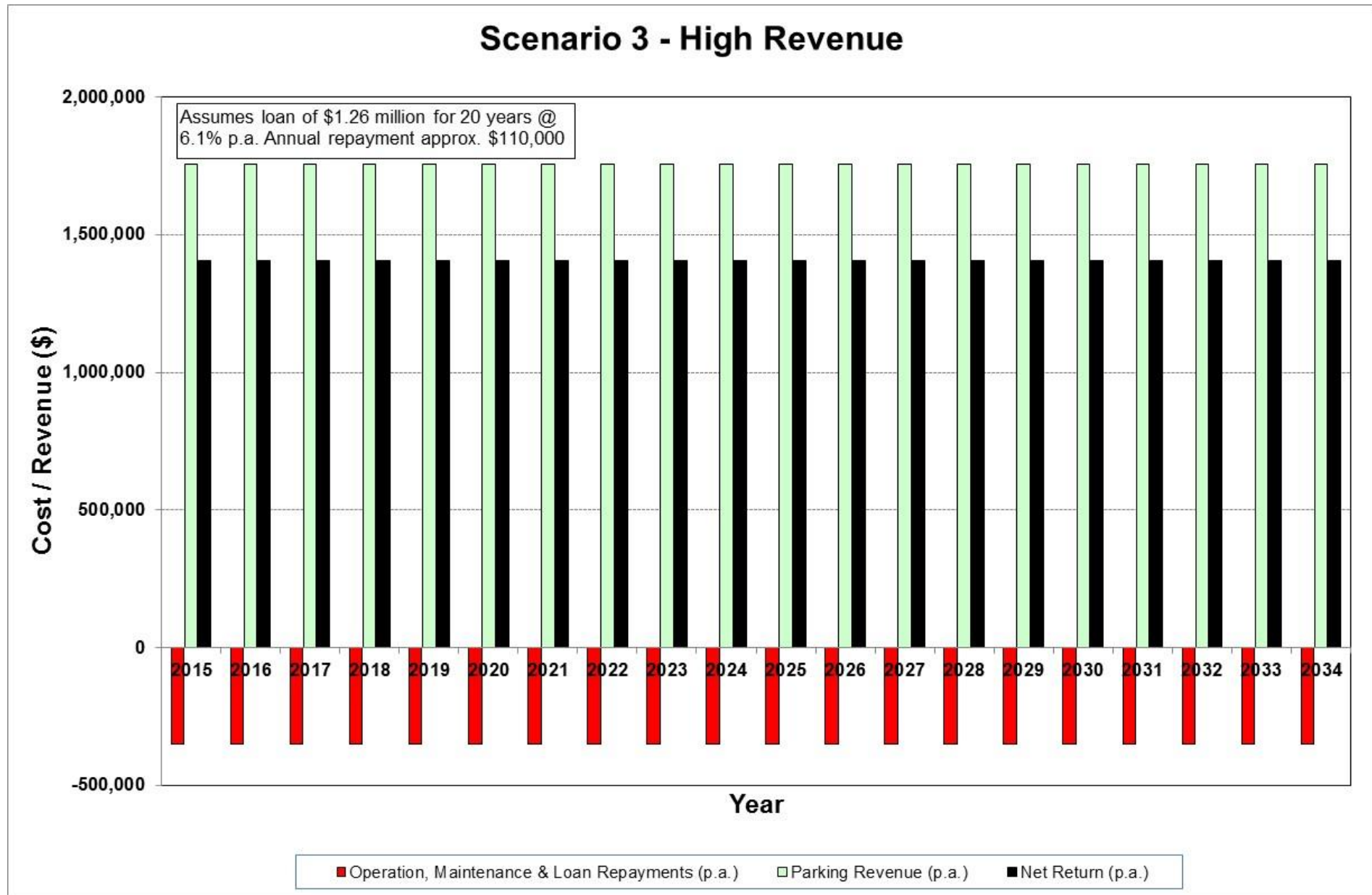


Note: Assumes loan of \$1.26 million for 20 years @ 6.1% p.a. Annual repayment approx. \$110,000



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