Hornsby Shire Council

Integrated Land Use and Transport Study

Hornsby Shire Parking Strategy Review Working Paper

October 2002

Traffic & Road Safety Branch

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1. Introduction

This working paper is part and partial of the overall Hornsby Integrated Land Use and Transport Study (ILUTS) currently being undertaken by PBAI Australia with Stepfair Traffic and Transport Planning Consultants, JBA Planning Consultants and Masson Wilson Twiney on behalf of Hornsby Shire Council. The main purpose of the ILUTS is to prepare an integrated strategy which will provide a framework for future land use and transport planning in the Shire, with a prime objective of reducing car use by facilitating and promoting other modes of transport.

In particular the ILUTS will seek to manage the demand for car travel, moving away from the 'predict and provide' approach. The integration of land use and transport services is a key component of the ILUTS. The ILUTS will make extensive recommendations for the improvement of public transport, increasing local accessibility to bus and rail services, and encouraging expanded use of alternatives to the car. In effecting a mode shift away from car use it is proposed that the ILUTS will create sufficient parking capacity within the limits of existing supply to meet future demand.

This working paper provides the background and a framework for developing an overall parking management strategy for Hornsby Shire. This paper will be reviewed and finalised as the ILUTS is completed. At this stage the proposals are necessarily focused on the short term.

Parking is a critical part of an integrated transport system. It has a significant influence on car use in that, if parking is not available at the destination, car use is minimised. The aim of a parking policy is to balance the supply of and demand for, parking spaces with the objective of minimising additional traffic generation through restraining car use, while ensuring the economic viability of each centre is maintained.

Major parking issues identified during the investigation process include:

- Parking needs of various user groups;
- Provision for commuter parking at railway stations;
- Parking management measures; and
- Impact of future developments.

This paper includes a review of the existing parking code, reflecting the management strategies developed for short and long stay parking at each of the centres.

The centres identified and discussed within this paper have been selected as the more significant places of activity within the Shire. They have also been identified by Council as places where parking pressures currently exist or are perceived to exist. These centres include:

- Hornsby town centre,

- Berowra shopping strip,
- Beecroft retail centre,
- Pennant Hills commercial centre,
- Carlingford (Hornsby),
- Epping (Hornsby),
- Thornleigh,
- Cheltenham Station,
- Waitara Station, and
- Brooklyn.

Within the Shire three types of parking have been identified:

- On-street parking - controlled and uncontrolled kerb side space. Generally on-street spaces close to shops and businesses are reserved for very short stay parking (up to two hours), providing highly convenient access, while on-street parking further away were identified for longer stay parking, including non restricted spaces, where commuters and employees park all day.
- Public off-street parking - parking available for public use, usually associated with retail outlets or provided by Council. Public off-street parking would usually be expected to cater for people visiting the centre for between two and four hours;
- Private off-street parking - parking provided for specific user groups, most commonly company employees or customers. Private off-street parking is not usually time restricted (except those for the user group's private clients), permitting all day parking, but is controlled by user groups. This category of parking includes parking provided at rail stations for the intended use of rail commuters.

There are three main groups of people who park in each centre:

- Rail travellers who access a station by car, including those travelling during the peak periods to work and in the inter-peak to access part-time work, colleges etc or travel for other purposes;
- Local employees who work in the centre, arrive in the morning peak and park for eight hours or more;
- Visitors, shoppers and part-time employees, who drive to the centre to visit local business or shop and require short-stay (up to four hours) parking.

In considering parking, it is necessary to understand planned transport infrastructure that will impact on travel within, to and from Hornsby Shire. The transport infrastructure improvements identified include:

- Transitways, particularly Rouse Hill to Parramatta;

- Parramatta Rail Link;
- North West Rail Link; and,
- Reorganisation and improvement of bus services following transport infrastructure improvements.

2. General Parking Issues and Policy Framework

2.1 Introduction

Since commercial centres are usually located in densely developed areas, issues relating to parking are a major consideration in most traffic and transport studies due to the impact of parking on access, traffic generation, local amenity, safety and serviceability.

Furthermore, commercial centres are often the areas where competition for parking is most intense, particularly if the centre is adjacent to a public transport node such as a rail station.

Most commercial centres in Australian cities have been designed or have evolved, in a way that favours vehicular access. Parking has often been included as an essential element in the development of a commercial centre and perceived as an essential criterion for economic success.

Parking policy framework within a sustainable land use and transport strategy should be based on a gradual decrease in availability of parking spaces corresponding to improvements in non car-based transport, and therefore supporting a mode shift away from car use.

It is recognised that it would be politically and economically infeasible to impose excessive restrictions on parking in the short term, however, while travel behaviour change will be gradual, it must be supported by efforts to control parking provision.

In the short and medium term a well conceived parking management policy is considered fundamental to ensure the efficient utilisation of parking space and reduce traffic congestion within the centre, as well as minimising the need for providing additional parking.

The ability of local governments to manipulate parking parameters to achieve transport objectives in commercial centres is sometimes limited due to a number of factors, including:

- Difficulty of assessing the real demand for parking without constant monitoring;
- Lack of control over changes to existing parking stock;
- Stakeholder pressure; and,
- The need to provide adequate short stay spaces to support the retail function of the centre.

A parking strategy therefore needs to be based on available resources with regard for local politics, formulated to achieve both short term and long term transport objectives.

This chapter describes general parking policy issues which confronts Hornsby Shire and provides a framework for strategy development, based on transport planning principles and sustainability.

The following issues apply to most centres identified for investigation with specific emphasis on Hornsby Town Centre (HTC), where impacts on commercial viability are most pertinent.

2.2 Demand Management

2.2.1 Issue Discussion

Demand for parking equates to desire of car use. While in our society we can not totally suppress the desire of car use without repercussions, we can, with appropriate demand management strategies, reduce the number of car trips which can be replaced with alternative travel modes.

To reduce parking demand, Council should look into options of reducing car use. The following are options Council can consider adopting to achieve their long term objectives:

- *Reducing parking opportunities for all-day parking at locations where public transport is readily available*.

  This can be undertaken in the short term by reducing the number of unrestricted on street spaces and in the longer term by reducing the number of on-site parking spaces for commuters and employees in future developments.

- *Encouraging alternative travel modes such as walking and cycling*.

  This is being achieved by Council through their current strategies to improve pedestrian and cycleway infrastructures at major centres. Council's current housing strategy to encourage medium and high density development close to railway stations and at major centres could also achieve the long term objective of reducing car trips and hence parking needs within the centre. Such strategy has been successfully implemented in municipalities such as Willoughby, North Sydney, Liverpool and Hurstville.

- *Increase short stay parking capacity*

  Short stay parking demand in any retail and commercial centre is essential for sustaining the viability of the centre. While employees and commuters do have the alternative public transport service, visitors to the centre for personal business and other essential services during the off peak periods could be dependant on the car if time is a constraint factor. We recognise that off-peak public transport services for many people may not be as convenient as desired. There is a merit for ensuring that demand for short parking stay is satisfied at commercial centres.

- *Charging for Public Parking.*

Many municipalities have recently introduced, or are in the process of introducing, on-street pay parking in local commercial centers. Regional centers such as Chatswood, North Sydney (including Milsons Point and St Leonards), Bondi Junction and Hurstville have already implemented pay parking. Smaller centers, such as Double Bay and Randwick, are being considered for pay parking by the relevant Councils.

The pay parking strategy is considered an effective measure to control and manage on-street parking. This strategy, while generating revenues for Council to fund other transport facilities, should be regarded as a viable measure to provide equitable use of available parking spaces so that priority can be given to short term use in order to support commercial activity.

The advantage of pay parking is that charges can eliminate other control measures. Progressive charging regimes increase the charge per hour with length of stay, thereby penalizing long stay parking while still permitting it to happen. Such charging regimes can be very effective in supporting local retailers.

The acceptability of pay parking can be increased if revenues are effectively ring fenced to pay for improvements to public transport and meet the cost of additional walk and cycle facilities.

While it may be argued that pay parking may have a detrimental effect on small businesses which do not provide on-site customer parking, this may be outweighed by the advantages of increased turnover of nearby spaces. With the recent changeover of parking enforcement responsibility from the police to the local government authorities, Council can take the initiative in enforcing parking restrictions.

While long term parking for commuters and employees at major centres should be discouraged for reasons of environmental sustainability, there is a need for short stay business parking, which may exceed the normal two-hour limit. Introducing pay parking for an extended time to cover this need would be appropriate and would support business sustainability at major centers.

Pay parking controls may include both on-street and off-street parking although an initial trial should be confined to on-street areas only. To select appropriate locations for initial introduction, consideration must be given to the effect of shifting use to locations where charges do not apply.

2.2.2 Recommended Strategy Framework;

It is recommended that Council should consider all above parking management options either in isolation or in combination of all options. The application of any of these options would vary in each centre, depending on a number of factors:

- Utilisation of existing parking provision at each centre
- Peak hour traffic conditions
- Impacts of all-day parking on retail and commercial activities

- Impacts of future land use development potential.

These factors will be examined at later chapters for each centre.

2.3 Employee Parking

2.3.1 Issue Discussion

Provision for employee parking is a major policy issue confronting Council. This issue hinders not only the ability of Council to provide for future parking demand but also the effect on traffic and environmental consequences of the transport network within the Shire. A general discussion on impacts of these issues and policy implications follows:

In the past, all commercial and industrial developments regardless of their locations are required to provide adequate parking for both employee and visitors. This practice has been the major cause of traffic congestion in Sydney, with constant up-grade of the road network capacity to accommodate the increasing traffic. This has been done at the expense of declining use of public transport, and consequent reduction in level of service. Continuing provision in future developments for employee parking at commercial centres, particularly where public transport facilities are available, will not be sustainable and will contribute to the eventual collapse of the entire transport system.

Available employee parking at centres is a significant factor in causing peak hour traffic congestion.

A common objective of local governments is to use parking policy to influence commuter (employee) mode split to increase utilisation of public transport. Such a policy includes reducing parking stock and/or increasing parking charges. The effectiveness of this policy depends on how parking stock and parking charges can be controlled by local governments.

An employee who is denied access to easy (inexpensive, conveniently located) parking, can either accept more difficult (more expensive, less conveniently located) parking, or change modes.

2.3.2 Recommended Strategy Framework

Hornsby Town Centre, Thornleigh and Epping are the major employment centres Hornsby Shire and as such attract relatively high numbers of peak hour commuters.

As a general policy, Council should consider minimising employee parking in commercial centres. Considerations for developing future strategies to limit employee parking could include:

- Limiting the available free on-street parking spaces within a radius of, for example, 500m of the boundary of the commercial / employment centre, either through meter parking schemes or time restrictions, or both.

- Limiting or prohibiting employee parking provision for any development where public transport facilities are available, e.g near railway stations.
- Incentives to be given to developers in terms of concession on floor space ratios if a transport or access plan is provided to limit the use of the private vehicles and achieve a target and sustainable mode split.
- Preferential parking provisions for carpools / car sharing and vanpools.

The best strategy to eliminate long stay on-street parking is to reduce the availability of unrestricted on-street spaces within easy walking distance of railway stations.

Recognising that it may be unacceptable to reduce parking provision in the short term but that any parking provided in the short term may compromise the ability to cause a longer term modal shift, options that allow the removal of parking in the longer term should be investigated. Temporary consents can be given, allowing parking to be provided and then removed when a specified level of accessibility is achieved.

In giving temporary consents, care must be taken to ensure the temporary complement of spaces can be removed or converted to an alternate use when the agreed level of accessibility is attained. Council must also be prepared to monitor and enforce the consents.

Another option may be the trading of parking spaces. Older buildings may have more than sufficient car parking provision for their needs. Council could facilitate a trade in parking spaces where unused spaces in older buildings are either set aside for use by a new development or the spaces are removed from the older buildings, with that number being provided in the new development. This approach may present either a complete or partial solution to deal with parking requirements of developments on constrained sites.

2.4 Rail Commuter Parking

2.4.1 Issue Discussion

Parking provision for commuters at major railway stations was a State Government initiative in the Eighties to promote the use of the railways. There have been a number of structured car parks built specifically for commuters at major railway stations. Hornsby Station and Pennant Hills Station were ones amongst those provided under the scheme. Although the intention of the scheme appeared plausible, the ill effects were not anticipated, particularly those related to stations in a major commercial centre.

The objectives of ILUTS do not support the provision of all-day commuter parking facilities at major public transport terminals such as railway and bus stations.

Rail commuter parking is considered to be detrimental to local communities because:

- It increases traffic flows and congestion on local and residential streets, particularly those adjacent to car parks at peak periods, with associated safety and amenity problems;
- It attracts commuters from other outer areas, particularly Central Coast;
- It provides parking opportunity for employees who would otherwise use public transport;
- It completes with feeder bus services, potentially making them unviable;
- It completes with short stay parking needs in commercial/retail centers; and,
- Commuter car parks occupy prime real estate land that could be used for residential, retail and commercial developments maximizing accessibility to nearby transport facilities.

Rail commuter car parks should be considered as an interim measure, to be replaced by feeder bus services when rail patronage reaches a critical mass.

2.4.2 Recommended Strategy Framework

In the context of the HTC and other major centres, the following are recommended for consideration by Council:

1. No additional all-day commuter car parks should be provided by Council.
2. Peak hour frequency improvements to connecting bus services to the Railway Station are strongly recommended. The ILUTS, in seeking to reduce car use throughout the Shire, will encourage the use of local buses to service the railway system and discourage of the use of the private car. The ILUTS will examine options to improve of service connections in the later part of the study.
3. Charge for commuter parking. If rail commuter car parking was charged for, the revenue received could be used to fund improvements of pedestrian and cyclist access, kiss-and-ride facilities, and most importantly, feeder bus services (e.g. through initial subsidy to operators). If the cost of supporting a high quality and frequent bus service could be off-set by the parking fee, more commuters may be drawn to using the bus.

   This strategy will require co-operation from the State Government.
4. The number of all day parking spaces within 500m of railway stations should be gradually reduced and made available only for short term use. Adequate enforcement must accompany the implementation. (Results of spilt over parking to residential streets beyond the 500m radius of the station would need careful consideration).

2.5 On Street Parking Control

2.5.1 Issue Discussion

On street parking control (mainly time restriction) is a major tool to increase the capacity of on street parking spaces for short term users. Time restriction control is only effective when adequate enforcement is available. The main issue related to on-street parking control is "how much control should be applied?"

On street parking spaces in a commercial centre should be reserved for short term use, emergency use, and loading/unloading vehicles in association with commercial and retail activities in the centre. In suburban centres, particularly smaller ones, "adequate" on street parking space capacity is one of the vital elements in sustaining the economic viability of the centre.

With the exception of large shopping centres, where visitors could spend a whole day (particularly weekends and public holidays) in different activities, past parking utilisation surveys[1] have shown that the maximum parking duration relating to normal day-to-day shopping and business use at a centre ranges between one to two hours, with small percentages exceeding two hours. The surveys also indicated that un-restricted parking spaces within walking distance in a centre are normally occupied by all-day users such as commuters and/or employees. An indication of whether there are adequate on-street spaces for commercial and retail uses is the percentage occupancy of the available spaces or its turnover rates. An occupancy rate exceeding 90% is considered at capacity and an average turn-over rate at twice that permitted by the time limit would require adjustment to its existing time restriction.

2.5.2 Recommended Strategy Framework

It is recommended that council parking strategy should favour short term use to sustain the viability of the centre in expense of all-day use by commuters or employees. This means at most centres, conversion of unrestricted spaces to time restricted control should be considered to increase on-street parking capacity.

It is recommended that Council should strictly enforce time restrictions for parking along those streets within short walking distance of railway stations. Where there is demand for on-street parking it would be appropriate to apply time restrictions in at least some areas to accommodate short term parking needs.

2.6 Resident Parking

2.6.1 Issue Discussion

Resident parking schemes (RPS) have been implemented by a number of inner city Councils to provide allocated on-street parking to residents who do not have access to off-street parking. Resident parking schemes restrict parking by non-residents (i.e. drivers from outside designated residential 'zones') whilst allowing residents

[1] Parking surveys undertaken by the author for Ku-ring-gai Parking Study in 2000.

within the designated 'zones' to park. Restrictions on non-residents may be full (i.e. no parking for any amount of time) but are usually partial time restrictions (i.e. 1 or 2 hour parking time limits). This prevents all-day parking by, for example, commuters.

Resident parking is now regulated under *Section 91CA* of the *Motor Traffic Regulations Act*, which allows residents with a vehicle permit to park in allocated spaces marked "Authorised Residents Vehicles Excepted". It allows Councils to issue resident parking permits in accordance with the RTA's Implementation Manual, which is currently being reviewed. Current RTA policy is to allow one parking permit to each dwelling unit which does not have, or have access to, off-street parking.

It has recently been interpreted by an RTA officer that the new RTA policy is to not allow any parking permits to be issued to residents who already have access to off-street parking provisions, irrespective of their capacity.

Currently there are no resident parking schemes operating in Hornsby Shire. Council has been requested from time to time to introduce resident parking schemes on local roads near railway stations, however, unless households do not have access to off-street parking, it would not be appropriate for Council to consider introducing resident parking permits.

Council's current policy is not to introduce resident parking in Hornsby Shire and future higher density developments must provide residents and visitor parking spaces in accordance with the Council's parking code.

2.6.2 Recommended Strategy Framework

It is recommended that Council should not introduce resident parking schemes in Hornsby Shire.

2.7 RTA Guidelines on Parking Provisions

2.7.1 Issue Discussion

The RTA Guide to Traffic Generated Developments relating to parking provision rates has been the main source of reference for developing Local Governments' parking codes throughout NSW. The RTA Guide on parking provisions was based on limited surveys conducted in the Seventies on a broad spectrum of land uses throughout metropolitan and country centres, when car usage particularly for Commercial premises was at the highest level. The surveys, conducted for each individual use in isolated cases, provided results of maximum demand and did not taken into account factors such as shared use, proximity to public transport and high density residential developments that occurred since.

The RTA is currently reviewing this 'Guide', which has been considered outdated and should only be used as a 'guide' rather than a requirement. Many local government authorities have recently updated their parking control and provision

requirements based on more recent surveys conducted or demand management policies.

Hornsby Council's existing DCP for car parking requirements for future developments is essentially based on provisions in the RTA Guide, with little or no modifications. It becomes evident to Council that future parking provisions based on the existing DCP for potential development sites within Hornsby Town Centre would take up enormous land space and would not be sustainable. Limited parking surveys conducted in the HTC for this working paper has indicated that the parking utilisation of existing available parking spaces is far below the current RTA Guide or Council DCP requirements.

2.7.2 Recommended Strategy Framework

In view of the above discussion, this study recommends that the existing parking provision rates be reviewed in line with Council's future parking demand management policies. It is also recommended that Council should consider different parking provision rates for developments within HTC from other centres.

Suggested provision rates for Hornsby Town Centre are recommended in *Chapter 6* based on interim analyses. These rates could be further revised pending on the outcome of likely mode split outcome from the ILUTS.

3. Parking Conditions at Selected Centres

3.1 General

This chapter provides an overview of existing parking conditions at various centres within Hornsby Shire. In the identified centres, parking surveys have been undertaken to provide an inventory of on-street, off-street private parking and off-street public parking spaces at each centre within 500m of the centre or railway station and an appreciation of utilisation during a typical weekday.

The following are the main issues discussed in this chapter:

- Short term parking for retail and business use,
- Rail commuter parking at rail stations, and
- Employee parking at commercial centres.

Further detailed utilisation surveys at a selection of locations will be undertaken at a later stage of the ILUTS in conjunction with the development of a transport model for the Shire.

3.2 Hornsby Town Centre

3.2.1 General

Hornsby Town Centre (HTC) has two distinct parts. To the east side of the railway line, the town is dominated by the recent Westfield development expansion and associated retail premises. There is a cinema complex and numerous cafes and restaurants. Pedestrian areas allow for easy access and alfresco dining.

To the west of the rail line, the town has a very different character. The area comprises numerous older buildings and is economically depressed. The Council office, courthouse, police station and TAFE are all located to the west of the railway along Pacific Highway. One of the strategies currently being considered to promote the western part of the town centre is the development of the night-time economy, focusing on restaurants and related outlets,

Hornsby is well connected by public transport, with rail services on both the Northern and North Shore Lines, a bus station and well served taxi rank.

The development of Hornsby town centre is considerably constrained by the current parking codes. In particular:

- Proposed development of constrained sites cannot proceed until car parking areas are identified where Council can provide space through Section 94 contributions. This places restrictions on the development of Council land, which has been temporarily reserved for car parking. A change to the

parking code requirement would reduce the Section 94 burden on both private business and Council.

- There is a desire to develop restaurant businesses along Pacific Highway, however, the parking code currently places onerous requirements with respect to car parking provision on any premises changing to a restaurant use. These requirements have stifled plans, frustrating businesses and Council who are seeking to rejuvenate this area of Hornsby town centre.

For the purpose of this working paper, the HTC is defined as shown in Figure 1 – Hornsby Town Centre of the Draft Development Control Plan, prepared by Council's Planning Branch in October 2000.

To assess both on-street and off street parking conditions within and in the vicinity of the HTC, parking surveys have been undertaken to provide an inventory of on-street, off-street private parking and off-street public parking spaces at each centre within 500m of the centre or railway station and an appreciation of utilisation during a typical weekday within the boundary of the defined HTC.

Further detailed parking generation surveys at car park locations will be undertaken at a later stage of the ILUTS in conjunction with the development of a transport model for the Shire.

3.2.2 On-Street Parking Supply and Utilisation

An inventory of on-street parking within 500m of Hornsby Station / commercial centre has been undertaken. The reason for including a wider area than the HTC is to illustrate the impact of on street parking on parking demand for the retail and commercial precincts of HTC.

The survey result indicates:

- There are approximately 1224 on-street parking spaces.
- 844, or 69%, of the total on-street parking spaces are unrestricted allowing all day parking.
- The 383 remaining spaces are restricted. Most are 1 hour parking spaces (208 spaces), 127 are 2 hour parking spaces and 48 are either ¼ hour, ½ hour or special spaces such as loading zones.
- Within the defined HTC boundary, there are approximately 226 on-street time restricted spaces (including Loading Zones), and 87 un- restricted spaces on following streets (for practical purposes, spaces on both sides of the street are included):
    - Ashley Street
    - Linda Street
    - Muriel Street, and
    - Leonard Street

Most of the unrestricted on-street parking spaces available within easy walking distance to the railway station appear to be nearly fully occupied as early as 8:30 am indicating that these vehicles probably belong to rail commuters or local employees. Very few unrestricted spaces were observed to be available within the 500m radius during the day. Time-restricted on-street spaces are less intensively used, and available spaces were observed during the day.

The general impression of the average occupancy of on-street parking is summarised as follows:

- 92% of the unrestricted spaces are occupied during the time of observation. Most unrestricted spaces appear to be occupied by all-day parkers.
- Most two hour parking spaces close to commercial premises in the centre are very intensively used, these include those on Florence Street, Hunter Street and Pacific Highway near the Council offices and adjacent to the TAFE college, with few spaces available during the day.
- Restricted spaces serving the retail strip along Pacific Highway are less intensively used and are believed to have a reasonably high turnover indicating that the existing controls are appropriate. This is also reflected by the low utilisation of off-street Council car parks in nearby side streets.
- Streets with industrial activities, such as Leonard Street, Hornsby Street and James Street are fully occupied by all day users, most of which are believed to be either local employee's vehicles or vehicles belonging to auto repair shops.
- A number of vehicles parked on streets where no time restrictions apply are believed to belong to residents of nearby apartments as evident by their presence in the evening. These are mainly on residential streets such as Linda Street and part of Muriel Street.
- While day time on-street parking appears well utilised, night time parking conditions indicate ample available on-street capacity to support additional night time activities such as restaurants and cafes, particularly on the West Precinct.

Parking control inventory and utilisation conditions are shown in *Table 3.1* following:

Table 3.1: On-Street Parking Conditions - HTC

Road/Street	Section	Control	No of Spaces	Observed Occupancy		Comment
				No	%	
East –West Direction						
Bridge Rd	Between Pacific Hwy and Railway Pde	NS	Nil			Just outside 500m from station
Bridge Rd	Between Hunter Street and Albert St	NR	39	26	67%	
Linda St	Between George St and Muriel St	NR	69	62	90%	Mostly residential
May Street	East of Muriel St	NR	36	32	90%	residential street
Burdett St	Between George St and Muriel St.	NS	Nil			
Burdett St	Between Muriel St and Sherbrook Rd.	NR	38	30	80%	Just outside 500m from Station
Florence St	Between Albert Ln and Muriel St.	2 P NR 1/2P 1/4P DP	13 6 10 6 2	35	95%	
Edgeworth David Av	Between pacific Hwy and Romsey St	NP	Nil			Major eastern access to Hornsby town centre
Leonard St	East of Pacific Hwy	NR	55	51	93%	Mostly industrial use
Coronation St	Between Pacific Hwy and Station St	1P	9	7	78%	
Dural St	Between Lisgar Rd and Pacific Hwy	1P	28	24	85%	
William St	Between Federick St and Pacific Hwy	LZ 1P	3 37	3 21	100% 57%	
Ashley St	West of Forbes St	NR	46	43	95%	
Ashley St	Between Forbes St and High St	1/2P NR 2P	5 5 5	3 4 5	60% 80% 100%	
Webb Av	West of Forbes	NR	36	32	90%	
North-South Direction						
Pacific Hwy	Between Bridge Rd and Coronation St	NR 1P 2P	30 8 31	29 4 29	97% 50% 94%	Within Commercial centre
Pacific Hwy	Between Coronation St and William St	LZ 1P	2 23	1 21	50% 91%	
Pacific Hwy	Between Edgeworth David Av and Pretoria St	1P	15	11	74%	East side only
Government Rd/Pound Rd	West of Pacific Hwy	1P	22	22	100%	Construction activities
High St	Between Pacific Hwy and Forbes St	1P 2P	2 5	2 5	100% 100%	
Forbes St	South of Ashley St	NR	33	33	100%	
Jersey St	South of Bridge Rd	NR	80	80	100%	

Road/Street	Section	Control	No of Spaces	Observed Occupancy		Comment
				No	%	
		1/4P 1P 2P <	1 50 27	1 34 18	100% 68% 67%	
George St	Between Bridge Rd and Pacific Hwy	NS/NP	0			Pacific Highway By-pass
Hunter Lane	Between George St and Burdett St	1/4P LZ	3 2	3 2	100%	Within mall area
Hunter Lane	North of Burdett St to George St	NR 1P	21 7	21 7	100% 57%	Industrial use
Hunter Steet	South of Bridge Rd	NR 1/4P 2P	56 2 46	56 2 36	100% 100% 78%	
Albert Lane	Whole length	NS	0			Narrow access road
Albert Street	Between Bridge Rd and Burdett St	NR	100	80	80%	Most vacant spaces towards Bridge Rd end
Albert Street	Between Florence St and Edgeworth David	LZ 1P	6 7	3 4	50% 57%	
Thomas Street	South of Edgeworth David	NR	45	39	87%	residential street
Muriel Street	Between Edgeworth David and Linda Street	NR 1/4P	92 3	89 2	92% 66%	
Hornsby St.	North of Pacific Hwy	NR	37	37	100%	Mostly occupied by vehicles associated with Industrial/Auto repair shops
James Street	North of Pacific Hwy	NR	20	20	100%	
Total On Street Spaces			**1224**	**1037**	**85%**	
Total Un-restricted Spaces			**841**	**770**	**92%**	
Total Restricted Spaces			**383**	**267**	**70%**	

Note: CP = Carpark; NR = No Restriction; TR = Time Restriction; NP = No Parking; 1P = 1 Hour Parking etc;
Lz = Loading Zone; DP = Disabled parking; NS = No Standing.

3.2.3 Off-Street Parking Supply and Utilisation

An inventory of off-street parking supply within the HTC precincts is shown in *Table 3.2* following:

Table 3.2 Off-Street Parking Supply – HTC

Precinct	Car Park Location	Off-Street Parking Supply (Spaces)			Observed Occupancy	
		Public	Private	Total	Public	Private
East Precinct	Westfield SC	3,672[4]	60	3,742	71%	70%
	Library Site	69[3]	24	93	95%	100%
	Hornsby Pub		20	20		25%
	18-20 George St		100	100		80%
	3-9 Hunter Street		80	80		n/a
	Premises along Hunter St between Burdette and Linda St		103	103		100%
	Premises along Goerge St between Burdette and Linda		98	98		95%
	Railway Station CP's North of pedestrian bridge		340	340		100%
	Railway Station CP's South of pedestrian bridge		56	56		100%
	2-10 Edgeworth David Ave		38	38		85%
	Hornsby professional Centre	14[1]	24	14	60%	100%
	228-234 pacific Hwy		18	18		10%
Total East		**3,755**	**961**	**4,844**	**72%**	**92%**
Total Vacant		**1,068**	**76**			
West Precinct*	City rail CP–High Street		48	48		100%
	RSL Community CP	120[3]	90	210	70%	55%
	New RSL CP	72[u]		72	61%	
	Council CP Dural Street	49[2]		49	72%	
	Council CP William St	87[3]		87	70%	
	Coronation Street		25**	25		120%
	Main Centre Pacific Hwy		69	69		90%
	Dural Street Premises		12	12		100%
	Ashley Ln Premises		4	4		100%
	Council Office		$6^2 + 6^1$	12		75%
Total West		**328**	**248**	**576**	**65%**	**80%**
Total Vacant		**113**	**51**			
Total HTC		**4,083**	**1,209**	**5,430**	**71%**	**90%**
Total Vacant		**1,181**	**127**			

Notes: *TAFE Car Parks (approximately 240 spaces paid parking) is not included within HTC;
**For public parking after 5pm.
Superscript denotes time restriction; u denotes unrestricted parking.

Public Off-Street Parking

Hornsby town centre is the main commercial and retail area in the Shire. The majority of public off-street car parking is provided by retailers, notably Westfield Shopping Town and Council. There are approximately 4,083 public parking spaces

within HTC, with 3,755 spaces provided by Westfield Shopping Town, and the remainder by Council and other community facilities.

The Westfield Shopping Town has two car parks: The Albert Street Car Park, with access points at Pacific Highway, Edgeworth David Avenue and Albert Street, and the Burdette Street Car Park, with access from Muriel Street and Burdette Street. The Westfield car park has a free parking limit of 4 hours during the week day business hours. Pay parking applies after the free parking threshold.

The Albert Street car park has six levels of parking, with the first four levels 90-95% occupied during the survey period between 11:30 am and 1:30 pm on a Friday, and the top two levels less than 50% occupied.

The Burdette Street car park has also six levels, with Level 1 and Level 1M almost fully occupied, and the remaining levels approximately 60% occupied. During the survey period, a minimum of approximately 1,059 vacant spaces were noted. This gives an overall occupancy rate of approximately 71%.

The level to level parking utilisation of Westfield car parks is shown in *Table 3.3* following:

Table 3.3: Vacant Parking Spaces at Westfield Car Parks between 10:30 am and 1:30 pm Friday

Burdette St CP		Vacant Spaces		Albert St CP		Vacant Spaces	
Level	**Space**	**10:30am**	**12:30pm**	**Level**	**Space**	**11:30am**	**1:30 pm**
3 /3M	363	125	121	4	747	578	550
2M	148	34	30	3M	602	188	168
2	233	70	64	2M	185	6	10
1M	247	25	26	2	133	6	15
1	224	20	20	M	225	5	4
B2/B1	268+65	55	46	1	306	6	5
Total	**1,544**	**329**	**307**	**Total**	**2,198**	**789**	**752**

Public off-street car parks provided by Council are time restricted. These include at ground car parks between Dural Street and William Street, and the car park at the corner of George and Burdette Streets. The other public off-street car parks are those provided by the RSL and Council Office car park. The Dural - William Street car parks are not fully utilised during the day, with an observed occupancy of approximately 66%. The George Street – Burdette Street car park is often fully occupied during the day due to its proximity to the railway station and the Westfield Shopping Town.

During the survey period, there is average of 1,181 vacant off-street public parking spaces within HTC – 1068 spaces in the East Precinct and 113 spaces in the West Precinct. Based on a full utilisation rate of 95% occupancy, we estimate that there are at least 900 surplus spaces within HTC during a normal work day.

Private Off-Street Parking

Hornsby station is a major station with services on both the North Shore and Northern Line passing through and terminating. As such the demand for commuter parking is expected to be intensive.

Off-street parking areas provided by CityRail have 396 spaces (340 spaces, north of pedestrian bridge; 56 spaces south of bridge on George Street).

A CityRail car park at the corner of Pacific Highway (railway overpass) and High Street, opposite the RSL Club, provides an additional 48 spaces for commuters. All off-street spaces provided by CityRail for rail commuters are fully occupied before 9 am.

Within Hornsby Town Centre, there are few designated employee parking areas that are administered by Council or any other public authority, except the Council offices and the TAFE College.

Parking within the TAFE college car parks, located on Pacific Highway and Jersey Street, is monetarily controlled. To avoid parking charges, many students apparently park on street, evident by the intensity of on-street parking along Pacific Highway and Jersey Street adjacent to the college. Our survey indicates that the TAFE car parks are only 70% occupied on the Survey Friday.

Apart from a small number of locations and vacant premises, almost all private parking spaces are fully occupied during the survey day. Many spaces are double parked indicating employee parking. Very few private spaces, apart from Commuter car parks, and RSL car parks are open for public parking. If they are, they are mainly for customer use associated with the owner premises.

Some employee parking is provided by the Westfield Shopping Town for centre employees. Almost 70% of the spaces designated for employees in the Red Level of the Burdette Street is occupied on the survey Friday. Observations also indicate significant numbers of cars and vans occupying car park spaces before 9 am. These are likely to be either employees or workers associated with the centre services. It is suspected that some employees of other businesses do park at the Westfield car park and move their vehicles once or twice during the day, as a four hour limit is applied to most spaces within the centre. (Westfield charges their employees for parking in the Staff parking area)

Anecdotal evidence also suggests that some local employees park at Council car parks with a three hour limit and risk being booked and others park in the CityRail car parks.

3.3 Off Street Parking Inventory at Other Selected Centres

An inventory survey of parking spaces at four of the identified centres was undertaken. The four locations selected all have public off-street car parking to serve local retailers. The location of car parks, number of spaces and time restrictions at each car park are shown in *Table 3.4* following.

Table 3.4: Public Off Street Parking at Retail Centres

Car Park Location	No of Spaces	Restriction	% Occupancy *	Comments
Berowra				
Shopping strip on Pacific Hwy	20	4 hour	80	
	20	2 hour	55	
	68	No restriction	100	
Total	**108**			
Beecroft				
Beecroft Arcade	66	2 hour	80	
Angle Parking OS near station	20	2 hour	70	
Council Car Park	15	2 hour	100	
	4	1 hour	75	
Module SC Car Park (Council)	83	3 hour	80	
Beecroft Village Car Park	15	3 hour	80	
(Council)	15	2 hour	85	
Total	**218**			
Pennant Hills				
Pennant Hills Market Place	55+22*	2 hour+Reserved*	95+100	Undercover
	102	2 hour	85	Open
PH Arcade (Council)	140	3 hour	90	
PH Medical Centre	12	2 hour	85	For visitors to medical centre only (Private)
Community Centre	36	3 hour	85	For patrons only
Liquor Store/Pub	75		50	(Private)
Total	**638**			
Carlingford				
Carlingford Court	1445	2 hour	75	Centre car park
Carlingford Commercial	17		90	
Westpac	6		50	For Westpac customers only (Private)
Total	**1,468**			

*% occupancy ratings were based on observation surveys during the period between 11 am and 3 pm on a Thursday.

Almost all public off street car parks, either provided by Council or private retail premises for public use, are time restricted, providing up to four hours free parking. Some car parks listed in *Table 3.4* can be classified as private off-street car parks as they are provided by individual business premises to serve their own customers.

Observations were made on a typical weekday to gain an understanding of parking occupancy at these retail centre car parks. Observed occupancy rates are expressed as a percentage of spaces occupied at the time of observation. The observation does not give the peak occupancy but gives an indication of average utilisation of the car parks between 11 am and 3 pm on a typical weekday.

3.4 Parking Conditions at Other Selected Centres

3.4.1 Epping (East)

Epping will be undergoing significant change over the next few years. The Parramatta Rail Link (PRL) will run through Epping and North West Rail Link services will also improve local accessibility. The station is being rebuilt to accommodate the PRL, which will also see a reorganisation of local bus services focused on the station. Increased local accessibility will demand a reassessment of parking availability and mode share.

Public Off-Street parking

There is no public off-street car parking in the Hornsby area of Epping providing general use for short stay parking.

Private Off-Street Parking

No commuter car park is provided by CityRail at Epping Station, however, long stay or 'all day' on-street angle parking is provided by Council in Cambridge Street on the south side of the station (81 spaces). These spaces tend to be taken up by commuters or employees of commercial premises nearby.

Council is planning some additional all day parking spaces for commuters in Cambridge Street north of the M2 bus underpass.

Commercial premises do provide off-street parking for their employees but it is believed that this does not meet the local demand, with staff parking on-street.

On-Street Parking

Use of on street parking adjacent to the commercial premises is intensive. Streets within the area bounded by the railway line, Pembroke Street, Norfolk Road and Somerset Street are unrestricted allowing all day parking. It has been observed that all unrestricted spaces on Cambridge Street are occupied before 9:00 am, probably by commuters. A significant proportion of unrestricted on-street spaces are probably also occupied by local employees or visitors associated with nearby commercial premises and schools.

On-site observations indicate that almost all unrestricted on street spaces, including those angle parking spaces and some parallel spaces on the east side of Cambridge Street are occupied before 9:00 am, either by commuters or workers in adjacent commercial offices.

By 9:30 am, almost 50% of the two-hour spaces closer to the station entrance on Cambridge Street were observed to be occupied. It is suspected that some of these short term spaces are used by workers in nearby premises.

Evidence of on-street parking intensity suggests that significant number of employees of local offices park their vehicles on-street. They probably compete for on-street parking spaces with rail commuters, although most rail commuters are believed to arrive at the station much earlier than the local office employees.

Since most commercial premises are within easy walking distances of the railway station, it is not considered appropriate that any further on-street parking provision for employees be provided, with a focus instead on encouraging public transport use particularly in conjunction with improved accessibility following the completion of stage 1 of the Parramatta-Chatswood Rail Link.

3.4.2 Cheltenham Station Area

Cheltenham is dominated by low density residential development. The local Cheltenham Girls High School remains a very popular school attracting pupils from a wide area. Given the character of the local area there are some bus services, particularly providing links to the west.

Public Off-Street Car Parks

Cheltenham station area is not a commercial centre and therefore has no public off-street car parks associated with retail and commercial activities. All off-street parking facilities are provided for rail patrons.

Private Off-Street Car Parks

Two commuter parking areas, with a total 80 off-street spaces including 5 spaces for disabled drivers, are provided by CityRail at Cheltenham Station. The car parks are located on the northern and southern sides of the railway line with access in Sutherland Road and The Crescent respectively. These car parks are fully occupied before 9:00 am on a work day.

On-Street Car Parking

The demand for commuter parking appears to exceed supply and is evident by the number of parked vehicles on unrestricted streets within 500m of the station.

Site observations indicate that there are few available on-street spaces within 400m of the station after 9:00 am. These observations suggest that there is a need to provide parking for those rail travellers who drive to the station after the peak.

Since the Station area is not located within a commercial centre, traffic impact due to commuter parking is not considered to be a major problem.

3.4.3 Beecroft

Beecroft does have a small commercial centre serving the immediate area and local suburbs, but is otherwise dominated by low density residential development. There are bus service connections to the west (Parramatta and Castle Hill).

Public Off-Street Car Parks

There are a number of off-street car parks in the commercial centre, with a total capacity of approximately 218 spaces, most of which are Council owned and have a time restriction of either two or three hours. As indicated in *Table 3.4*, the average observed occupancy of these off-street car parks during the day is approximately 80%.

Private Off-Street Car Parks

Two commuter parking areas are also provided by CityRail at Beecroft Station, with a total of 170 off-street spaces. The car parks are located on the northern and southern sides of the railway line with access in Sutherland Road and Wongala Crescent respectively. These car parks are fully occupied before 9:00am on a work day.

On-Street Parking

Short term on-street parking spaces are intensively used, particularly those adjacent to the retail areas, although there were always available spaces observed during weekdays along Wongala Crescent.

In addition, 26 unrestricted angle parking spaces are provided by Council on Wongala Crescent, which are believed to be occupied by commuters. On-street parking near the station is intensive. Few available unrestricted spaces were observed after 9:00 am. Similar to Cheltenham Station, there is a demand for long stay parking (over three hours) by those arriving by car and using the railway system after peak hours.

3.4.4 Pennant Hills

Pennant Hills has a commercial centre located adjacent to the station, providing day to day retail and a range of local services, such as a medical centre, a community centre and a gym. The station and commercial area is well served by bus services, again predominantly serving areas to the west of Pennant Hills. There is some commercial development along the Pennant Hills Road but otherwise the area consists of low density residential development.

Public Off-Street Car Parks

There are approximately 638 public off-street parking spaces provided by local commercial premises and Council, mostly with two or three hour restrictions. Off-street spaces were observed to be intensively occupied, with occupancy above 90% at most car parks. In terms of public off-street parking spaces per unit of commercial floor space, Pennant Hills centre has the lowest off-street parking provision rate among the five centres surveyed. (see *Table4.2*)

Private Off-Street Car Parks

There is no parking provided by CityRail at Pennant Hills Station. Some other private off-street parking is provided by local businesses.

On-Street Parking

Railway commuters and local employees appear to park along the streets adjacent to the station and the commercial centre, particularly along Yarrara Road, north of the station, Ramsay Road and other local streets without parking restrictions.

As Thornleigh Station is very close to Pennant Hills Station, it is suspected that there is some interaction between the two, particularly with regard to commuter parking.

On-street short-term, or time restricted spaces are even more intensively utilised, with an apparent shortage, particularly along Yarrara Road. It appears that there are ample unrestricted spaces within easy walking distance to the centre and station. These spaces are apparently occupied by commuters.

3.4.5 Thornleigh

Thornleigh has a small retail centre to the east of the Pennant Hills Road and a large commercial area to the west. The wider area consists largely of low density residential housing. The bus services at Thornleigh tend to focus on Hornsby CBD.

Public Off-Street Car Parks

Although Thornleigh has been classified as a local centre in terms of its retail function, its total commercial floor space of 46,856 m^2 is similar to Epping (east) and its retail floor space of almost 16,000m^2 is larger than Dural centre. Apart from Parkway Plaza, and the industrial complex along Central Avenue, there is no significant provision of off-street parking facilities in Thornleigh.

Private Off-Street Car Parks

A multi deck commuter car park (302 spaces) is provided by CityRail at Thornleigh Station. An unrestricted on-street angle parking area (53 spaces) is provided by Council in Railway Parade south east of the station. All commuter car parks and the all day parking areas close to the station were observed to be fully occupied during business hours, with few or no vacant spaces.

As there is no CityRail car park at nearby Pennant Hills Station, Thornleigh is a focal point for commuter parking. This station serves most of the Hills District, to which there is currently no rail link to the CityRail network, and is therefore expected to attract intensive commuter parking. Unless the Hills Railway link is implemented, the demand for commuter parking at Thornleigh is expected to grow.

Some local employees are thought to use the commuter car park provided by CityRail but the number is probably low because of its location on the western side of the railway line.

The policy decision is whether commuter parking is to be encouraged, with additional facilities being provided or discouraged with improvements to bus, walking and cycling facilities.

As Thornleigh industrial centre is within walking distance from the railway station, emphasis could be placed on achieving a mode shift towards rail.

On-Street Parking

On-street parking on Central Avenue is intensive, possible due to the presence of the RTA Motor Registry and local restaurants, and overflow demand from adjacent industrial premises.

There is some unrestricted parking in Railway Parade which is probably used by local employees and rail commuters.

3.4.6 Waitara

Waitara is very close to Hornsby CBD and within easy walking distance of the Westfield development. A number of high density residential developments have recently been completed in Waitara and further construction is ongoing. Bus connections to Waitara are relatively poor. Waitara Station is on the North Shore Line. There are a significant number of public and private schools in the locality.

Public Off-Street Car Parking

As there are no significant retail activities in Waitara apart from a few commercial premises there are no public off-street car parks and short term parking demand is met by on-street availability.

Private Off-Street Car Parking

There is a commuter car park with 80 spaces provided by CityRail with access from Waitara Avenue south of the station. Waitara Station serves a large catchment area east of the F3 Freeway and is likely to continue attracting commuters accessing the station by car unless local bus services can provide a similar or better service for those accessing the station. There is currently no local bus service to Waitara station apart from those along Pacific Highway. Most local services are focused on Hornsby station.

On-Street Parking

There are approximately 216 all-day parking spaces provided for rail commuters on Alexandria Parade (60 spaces on the northern side and 156 on the southern side), over 90% of which were observed to be occupied during a site visit. In addition there are about 20 spaces in Pattison Avenue.

On-site observations of on-street parking conditions in the vicinity of Waitara Station on a weekday indicate a very intensive parking demand on most streets. Apart from commuter parking demand, there is a great deal of construction activity on Orara Street and sporting activity in Waitara Park which compound the parking problem in the area. The parking levels in this area during the period of observation on a weekday afternoon (2-3 pm) is illustrated in *Table 3.5* following:

Table 3.5: Parking Conditions near Waitara Station

Street/Location	Occupancy	Comment
Alexandria Parade (between Romsey Street and Balmoral Street)	99%	Angle parking mainly occupied by commuters with occasional vacancy in the pm. There are occasional vacant spaces in the two hour parking area.
Alexandria Parade (between Balmoral Street and Myra Street)	70%	Some vacant spaces during observation period.
Romsey Street	80%	
Orara Street	100%	Mainly due to construction activities
Waitara Avenue	100%	Partly commuters and partly due to school activities
Park Avenue	100%	Mainly due to school sports and bowling club activities
Balmoral Street	60%	Mainly close to southern end
Myra Street	50%	Mainly residential

3.4.7 Berowra

Berowra is wholly contained to the west of the railway line and to the east of Berowra Heights and low density residential development dominates. Bus services are relatively poor.

Public Off-Street Car Parking

Berowra is a small retail centre, and there is adequate off-street (with on-street) parking spaces to cater for visitors to the centre.

Private Off-Street Car Parking

An off-street parking area with approximately 148 spaces is provided for commuters by CityRail at Berowra Station. This car park is always observed to be fully occupied on working days. It is believed that rail commuters also park along Pacific Highway and in the streets adjacent to the station. There appears to be significant demand for commuter parking at this station.

A study commissioned by the Department of Transport (now Transport NSW) established that existing rail commuter parking demand exceeds the available off-street spaces by 90 vehicles per day, and there has been an increase of 55-60 vehicles since 1993. The study also identified that 21% of rail commuter vehicles are from the Central Coast area.

This study recommended the provision of an additional 400 off-street spaces to cater for the long term (2011) demand associated with proposed additional rail services.

There does, however, appear to be a need to address the use of local parking by Central Coast residents. A more sustainable solution would be to encourage these rail travellers to catch the train from a station closer to home.

The proposed provision of additional commuter parking at Berowra Station has the following advantages:

- It relieves the pressure of commuter parking at Hornsby.
- It relieves the congestion on F3 south of the Berowra interchange.

On-Street Parking

On-street parking is available along Pacific Highway and in other streets close to the station. There appears to be sufficient parking to serve the overflow from the CityRail car park and the meet the needs of local employees and visitors to the centre.

3.4.8 Brooklyn

A study by Sinclair Knight Merz in November 1998 provides a comprehensive analysis of the parking conditions in Brooklyn. The findings of this study, which involved details of surveys of parking occupancy at various parking locations in Brooklyn are summarised as follows:

- There is competition for parking spaces in the centre between visitors/tourists to Brooklyn, residents in Brooklyn and the many residents from Hawkesbury River who generally have no parkingavailable and have to park their vehicles in Brooklyn.
- There is intensive demand, during summer and holiday periods for parking by day trippers and longer stay visitors.
- It was estimated that existing parking demand by residents and visitors was approximately 550 spaces in Brooklyn (360 for visitors and 189 for residents) and the available number stood at approximately 546.
- Most of the car parks were fully, or near fully, occupied during the survey period in January 1998 and a number of car parks had vehicles staying for more than 10 hours.
- In 1998, there was no time restriction on any of the parking spaces in Brooklyn nor was there a charge for parking.

A range of recommendations for improved parking provision were made in the report, these include:

- Construction of a new resident parking structure on Council owned land in Dangar Street;
- Provide resident parking bays close to public wharf;
- Provide additional spaces in reclaimed land near river area;

- Increase visitor parking in upper area of McKell Park;
- Improve car park on Parsley Bay;
- Further option for additional parking for visitors on the second storey of the car park in Parsley Bay; and,
- Introduce parking fees for residents and visitors.

Discussions with Council officers indicate that not all of the recommendations have since been implemented. Despite attempts to formalise some of the parking areas, the local parking conditions have not been significantly improved.

4. Relationship of Floor Space and Parking

4.1 Floor Space Inventory

4.1.1 Hornsby Town Centre

An inventory of gross floor areas for commercial and retail premises at various centres within Hornsby Shire was provided in a study conducted by Hirst Consulting Services in 1998. The inventory for Hornsby TC indicates that there are 63,745 m^2 of retail GFA and 61,664 m^2 of Office GFA. The total GFA included areas not presently defined within HTC for this review.

It is also noted that the retail floor area at the HTC has since been substantially increased due to expansion of the Westfield Shopping Centre. Based on inventory supplied by Council and site verification, the total retail and commercial gross floor space (GFA) in Hornsby Town Centre is now estimated to be approximately 119,180m^2. (Note that 100m2 GFA is approximately equivalent to 850m2 GLFA - Gross Lettable Floor Area.) The breakdown of the inventory is shown as follows:

Floor Area Category	**GFA**
Office	47,379 m^2
Retail	19,925 m^2
Other Commercial	19,752 m^2
Light Industries	7,504 m^2
Westfield Shopping Town	90,070 m^2
Total	**184,630 m^2 (156,935 m^2 GLFA)**

4.1.2 Other Selected Centres

The inventory of other selected centres undertaken by Hirst Consulting Services is summarised in *Table 4.1* following:

Table 4.1: Commercial Floor Area Inventory

Centre	Type*	Gross Floor Space (m^2)		
		Retail	Office	Total
Carlingford	D	31,155	3,269	34,566
Pennant Hills	D	12,195	44,644	63,134
Epping (Part)	D	2,362	44.074	46,490
Dural	D	11,354	1,046	14,728
Brooklyn	L	1,207	949	2,683
Berowra Ht	L	3,327	1,889	5,216
Berowra	L	1,774	2,748	5,012
Westleigh	L	3,529	343	4,307
Mt Colah	L	1,703	135	2,303
Asquith	L	6,322	1,138	7,890
Thornleigh	L	15,972	29,269	46,856
Beecroft	L	6,833	2,213	9,102
Cherrybrook	L	6,060	939	7,382
W. Pennant Hills	L	3,908	2,070	6,163

*SR = Sub-regional; D = District; L = Local. **Estimated GFA for retail in 2002.

It is noted that the retail floor area at the Hornsby town centre has since been substantially increased due to expansion of the Westfield Shopping Town. The total retail floor space in Hornsby Town Centre is now estimated to be approximately 119,180m^2.

4.2 Relationship between Floor Area and Off-street Parking

There is an average optimum relationship between commercial centre floor area and public off-street parking provision to ensure economic viability of the centre. This relationship is dependent on the turnover of the spaces provided.

For selected centres in Hornsby Shire, the ratios of public off-street parking provision to gross floor area of the commercial centres are shown in *Table 4.2* below:

Table 4.2: Floor Space and Public Off-Street Parking Provision

Centre	Gross Floor Area (m^2)	Parking Provision (spaces)	Space per 100m^2 GFA
Hornsby TC	180,630*	4,083	2.21
Carlingford	34,566	1,468	4.25
Pennant Hills	63,134	638	1.01
Beecroft	9,102	218	2.40
Berowra	5,012	108	2.16

*Not including floor areas of other non commercial buildings or retail premises – what does this mean?.

Based on experience in other commercial centres in Sydney, a provision of 2 to 3 spaces of public off-street parking per 100 m^2 retail and commercial floor space within activity centres is considered adequate to sustain the commercial viability of a

centre, given the normal provisions of on-street parking adjacent to retail and commercial premises and private off-street car parking previously provided in accordance with Council requirement.

As can be seen in *Table 4.2*, all of the centres, (except Pennant Hills centre), provide more than two (2) public off-street parking spaces per 100 m^2 of commercial / retail floor area, and this is considered adequate provided appropriate parking management measures to maintain turnover rates apply.

The Council's current DCP provision of 1 parking space per 20-22 m^2 gross lettable floor area (GLFA) for retail areas and 1 parking space per 40 m^2 GLFA for commercial and office development do not apply to main street ribbon developments that were established before the introduction of the DCP. This can be seen that the levels of shopping centre provisions are usually much higher.

Pennant Hills centre has a low parking space per 100 m^2 GFA ratio due to the high commercial and office component of the centre (44,640 m^2) and the public off-street parking spaces recorded above does not include those provided for office use (that is private off-street parking).

Table 4.3 following, extracted from past studies, shows the levels of off-street parking provision at various centres, and comments on their adequacy as a result of those studies.

Table 4.3: Public Off-Street Parking at Centres outside Hornsby Shire

Centre	Floor Space (x 100m^2) (GFA)	Off-Street Restricted Parking Spaces (Pr)	Ratio (PR / GFA)	Adequacy
Lane Cove	284.60	574	2.01	Adequate
Double Bay	480.00	942	1.96	Marginal
Edgecliff Centre	190.70	515	2.70	Adequate
Riverwood Centre	165.83	490	2.96	Adequate
Hurstville	1835.04	4,299	2.34	Adequate
Wahroonga	94.0	179	1.89	Marginal
Turramurra	233.0	461	1.97	Marginal
Gordon *	896.0	1,038	1.16	Inadequate
St Ives	264.9	1,053	3.97	Adequate

*This centre has a large amount of private off-street parking spaces not included in table.
Source: GHD "Woollahra Traffic and Transport Study – 1999" ; GHD "Ku-Ring-Gai Parking Study - 2000"

4.3 Existing Parking Utilisation within HTC

In terms of parking provision based on existing DCP requirement, HTC actually has sufficient parking spaces.

HTC has 109,995m^2 retail GFA, which is approximately 93,500m^2 GLFA; 67,131 m^2 commercial GFA or 57,061 m^2 GLFA, and 7,504 m^2 GFA or 6,380 m^2 GLFA of Light industries. In accordance with Council's current Parking DCP for HTC, the total parking provision requirement would be 5,645 spaces.

Within the HTC boundary, there are 5,430 off street parking spaces (including both private and public parking spaces), plus 226 on-street parking spaces, totalling 5,656 spaces, which actually meets the code requirement.

However, based on survey undertaken during the peak parking period of a typical Friday, there are effectively 900 surplus retail spaces and 50 or so vacant private spaces within the HTC. This indicates that the average effective parking requirement rate in HTC should be 3.05 spaces per 100 m^2 GLFA or 1 space per 33 m^2 GLFA for all uses. To split them into retail and commercial rates, 1 space per 29 m^2 for retail GLFA and 1 space per 48 m^2 for commercial GLFA would be adequate. This does not take into account 30% vacant on street spaces (time restricted) within walking distance to the HTC railway station.

The utilisation of existing parking spaces in HTC indicates that parking provision rates for future development could be reduced without affecting the commercial viability of the centre. The determination of provision rates for future commercial developments would depend on the target mode splits to be achieved as a result of the ILUTS.

5. Floor Space Projection and Parking Needs

5.1 Hornsby Town Centre

5.1.1 Projection by Hirst Consulting Services

Floor space projections were made for various centres within Hornsby Shire in a study conducted by Hirst Consulting Services in 1998[2] The projection for Hornsby Town Centre by Hirst Consulting was made prior to the Westfield Centre expansion, and the 2006 projected floor space did not include the present floor space provided by the Westfield Centre. *Table 5.1* summarises a revised retail and commercial floor projections made for HTC, which has included the existing floor area expansion by Westfield.

Table 5.1: Gross Floor Area Projection in Hornsby Town Centre

	2002	2006	2011	2016
Retail	109,995	119,180	119,180	119,180
Commercial	67,131	72,000	79,000	87,000
Other	7,504	21,803	21,803	21,803
Total	**184,630***	**212,983**	**219,983**	**227,983**

* Figure taken from surveys for this review.

Table 5.1 indicates that there would be minimal increase in total floor space in the Hornsby Town Centre over the next five years. Based on observed parking conditions, the existing parking provisions within the town centre would be adequate to maintain the viability of the centre, provided sufficient short spaces are available for business use.

5.1.2 Potential Development Sites Identified in Draft DCP

The draft DCP identifies a number of sites within the East Precinct as long term potential development sites. Access to these sites is in some instances, constrained by the existing road system and the objective of minimising traffic within the precinct. *Table 5.2* following shows these development sites and their potential GFA.

Table 5.2: Potential Development Sites

Site	Location	Gross Floor Area m^2	
		Retail	Commercial
A	Southern side of Florence St. between Hunter Lane and George St.	1,200	420
B	Northern side of Florence St. between Hunter Lane and George St.	2,800	2,140

[2] Hirst Consulting Services Pty Ltd "Hornsby Shire Employment Review Draft Report, August 1998"

Site	Location	Gross Floor Area m^2	
		Retail	Commercial
C	Southern side of Burdette St (Library site)	2,000	13,300
D	Southern side of Burdette St between Hunter Lane and Hunter St.	2,700	6,900
E	Northern side of Florence St between Hunter Lane and Hunter St.	2,700	6,900
F	Southern side of Florence St between Albert Lane and Hunter St.	2,000	5,800
G	Southern side between Albert St and Albert Lane	1,600	7,400
H	Northern side of Florence St between Albert Lane and Albert St	na	na
Total		**15,000**	**42,860**

Based on the current Car Parking DCP for the HTC, the potential development site would require 1,750 parking spaces. However, based on current demand rates, the future parking demand for these potential sites would reduce to 1,410 spaces. As we have indicated there are some 900 surplus public parking spaces in the HTC now. This will reduce the future parking needs for the potential sites to about 510 spaces. Further reduction of future provision may be possible if following assumptions can be made:

1. More short term on-street parking can be made available within walking distance to the sites
2. Reduction of Commercial parking provision rates by reducing the provision for employee parking. Current RTA rate of 1/40m^2 provides for employee parking with mode split for cars of 0.62 and a mean car occupancy of 1.19, i.e. 52% car drivers. If we could show in the ILUTS that the current onsite employee parking requirement can be reduced by 50%, the current parking provision rate could be reduced to 1/80m^2.
3. Reduction in retail parking provision rate if future developments aim at market potential of local population increase within HTC.
4. Reduction in parking provisions for commuters.
5. Other Parking Management Strategy to increase effective parking capacity within the centre.

5.1.3 Short Term Development Potential on the Western Precinct

The Council's Planning report PLN405/00 recognises that the HTC is disadvantaged in the constrained nature of its commercial and retail core. Development in the Western Precinct is limited by scale of adjoining residential and heritage buildings. The report has pointed out, however, that it is essential that HTC retain a commercial function to provide employment opportunities and to support current retail functions through a provision of a diverse and balanced range of land uses, essential to the creation of a sustainable and vibrant centre.

While the Eastern Precinct has been identified as the core of major commercial and retail developments, the Western Precinct is seen to retain its village character. The Draft DCP recognises the heritage value of the Western Precinct and promotes building designs which are consistent with and enhances the old town centre character and amenity of the precinct. Thus the maximum building heights are limited to four stories or less, and appropriate streetscape and pedestrian facilities are encouraged.

One of the few appropriate development or redevelopment potential in this area would be entertainment facilities such as restaurants and outdoor cafes etc. There in fact, have been applications for development consent for restaurants and cinemas in this precinct. Restaurants normally do not demand for extra parking spaces during the day as very few of their patrons during the day specifically drive to the HTC for lunch. They would probably be in the centre associated with other activities, such as shopping and/or personal business, or they are simply employees of the centre. Parking demand for restaurant patrons would peak in the evening, particularly at week end nights. In the Western precinct, ample parking is available at night, particularly in Council car parks and Cityrail commuter car parks.

There is no indication that there will be any substantial commercial/retail development opportunities in the Western Precinct other than mentioned above in the foreseeable future.

5.2 Other Centres

Similar floor space projections provided in the Hirst report for other centres in Hornsby are shown in *Table 5.3* following. Apart from Thornleigh and Dural centre, where some increases of floor space are likely, floor areas of other centres are expected to remain at more or less the same level in the foreseeable future.

Comments on whether current levels of parking provision would sustain future development are also made as shown in *Table 5.3*.

Table 5.3: Projected Floor Areas of Other Centres

Centre	2001	Potential	Comment on Parking Provisions
Carlingford	35,510	35,510	Current level adequate.
Pennant Hills	68,479	68,990	Current level inadequate. Need to increase short term parking.
Thornleigh	49,772	61,772	Current parking provision unlikely to be adequate to meet future requirements. Need to increase parking provision or effect modal shift away from the car.
Epping	46,536	47,462	No increase required.
Dural SC	14,728	18,008	Future increase in floors pace may require additional parking.

			Opportunities to effect a modal shift way from the car should be investigated.

6. Review of Hornsby Car Parking DCP

6.1 Main Issues

Main issues related to the review of the DCP include:

- Setting appropriate parking supply rates for different land uses;
- Locations where parking should be provided or is preferred (e.g., underground, at rear of premises or the front of premises);
- Contribution rates for required parking spaces not provided on site.

While this working paper examines the deficiencies of the existing code and provides comments and recommendations for future parking provision rates for new developments, issues related to parking contribution rates under Section 94 will be dealt with in more detail in the ILUTS.

6.2 Parking Provision Requirement

6.2.1 Dwelling Houses

Current DCP provisions for dwelling houses, whether detached or attached and including multi-unit housing of low, medium and medium/high density, are classified into two categories: those exceeding 100m^2 and those under, which determines whether 1 or 2 off-street spaces per dwelling should be provided.

For high-density housing an average of 1.5 spaces per dwelling is applicable.

Visitor parking provision is set at 1 space per five dwellings for multi-unit dwellings.

Comments:

- Dwelling categories should be defined;
- Dwelling size should be defined in terms of bedrooms as well as floor areas; and,
- Provision of parking spaces should take into account locations of dwellings to be erected.

Generally past studies have indicated that unless adequate off-street spaces are provided for visitors and occupants, demand for on-street parking will increase with an increase in the density of residential developments.

Unless developments are very close to public transport facilities, and are generally for short term rentals, occupants of multi-unit developments in Hornsby, unlike those

in the inner Sydney, do generally own at least one vehicle per dwelling, even though they do not use them for commuting to work or short distance travel. It would be appropriate to provide adequate off-street parking for these developments whether these are integral to individual developments or in communal car parks. Residents vehicles not used for commuting do not contribute to peak hour traffic problems.

With adequate off-street parking, Council can impose time restrictions on on-street parking spaces and reserve them for short term use, particularly at locations close to commercial centres.

Recommendations

Detached and attached houses (including dual occupancies) should be classified as medium and large:

- Medium: at least 2 bedrooms not exceeding 125m^2 internal floor area
- Large: at least 3 bedrooms or exceeding 125m^2 internal floor area.

Parking Requirement: Under cover spaces: medium - 1 space; large - 2 spaces

Multi-unit housing (low, medium and high density) should be classified as:

- Small: studios or single bedroom units, not exceeding 80m^2
- Medium: 2 bedroom units, not exceeding 120m^2 internal floor area
- Large: 2/3 - 4 bedroom units with/without study, exceeding 120m^2 internal floor area
- SEPP 5 – see official definition

Recommended off-street parking provision is shown in *Table 6.1* following:

Table 6.1: Recommended Provision For Residential Units

Category	Average Parking Provision (Spaces per Unit)		
	Within 200m of RS*	Between 200m & 500m	Over 500m
Small	0.5	0.75	1.0
Medium	1.0	1.0	1.25
Large	1.0	1.0	1.5
Visitor/Services	Min 1 + 1 per 4 units	Min 1 + 1 per 4 units	Min 1 + 1 per 4 units
SEPP 5	0.5	0.5	1.0
Visitor/services	Min 1 + 1 per 4 units	Min 1 + 1 per 4 units	Min 1 + 1 per 4 units

* Railway Station

6.2.2 Retail Developments

Current requirements for retail development are classified into different business zones, industrial zones, car tyre outlets, showrooms and bulky goods. The requirements are shown in *Table 6.2* following:

Table 6.2: Existing Retail Parking Requirement

Retail Business Category	No of Spaces
Business A, B and E zones	1 per 20m^2 GLFA
Business C and D zones	1 per 17m^2 GLFA
Business F and G zones	1 per 22.7m^2 GLFA
Industrial A and B zones	1 per 20m^2 GLFA
Car Tyre Outlets	1 per 35m^2 GLFA + 3 per work bay
Indoor Show Rooms	1 per 50m^2 GLFA
Bulky Goods	1 per 50m^2 GLFA, including provision for cars with trailers

Comments:

- Business zones are not defined in the Car Parking DCP document, and need to be defined with appropriate maps showing the boundary of business zones.
- No provision is included for minor additions to existing shops or the conversion of existing premises to retail shops.
- No provision is included for retail shops located within 400m radius of a railway station. This should be considered within the definition of business zones.
- No allowances are made for retail development within an existing shopping centre.
- No concessions are made for development over 10,000m^2 GLFA.

Recommendations:

Based on current parking utilization within HTC, it is recommended that all retail development component within the HTC should adopt a car parking provision rate not more than 1 space per 29 m^2 GFA (further review would be required pending on the outcome of ILUTS), less if a traffic study can demonstrate:

- Share use of existing parking space is available
- A better use of public transport system
- Provision of facilities for alternate transport modes.

Parking Provision rate for development outside HTC is to be reviewed in ILUTS.

6.2.3 Commercial Developments

Table 6.3 shows the existing parking provision required for commercial development. These provisions are similar to provisions required by other municipalities in outer Sydney suburban centres. However, the provision for office premises at 1 space per 40 m2 GLFA is more stringent than the requirement by the neighbouring Ku-ring-gai Council (1 space per 33 m2 GFA + 1 space for resident manager) since 40 GLFA is approximately 48 m2 GFA.

Table 6.3: Existing Parking Requirements for Commercial Premises

Development Type	Required Provision
Office or Business Premises	1 per 40 m2 GLFA
Motor Show Rooms	1 per 130m2 GLFA, plus 6 per service work bay
Marinas	0.6 per berth
Motels, Tourist Facilities	1 per unit, plus 1 per 2 employees
Caravan Parks	1 per van, cabin or tent site
Service Stations	6 per work bay
Convenient Stores	1 per 20 m2 GLFA
Outdoor Display and Sales	1 per 130 m2 GLFA

Comments:

The provisions in the above table are generally similar to requirements by other nearby Councils and require no major change. However, in order to maintain consistency, parking requirements for business offices should also be classified in accordance with their zonal locations, similar to those provided for retail developments.

Recommendations:

The following considerations are recommended

- The existing provision as shown in *Table 6.3* should generally remain except provision for offices and business premises.
- Parking provision for offices and business premises should also be classified in accordance with their zonal locations as provisions for retail developments if applicable.

  Based on current parking utilization in HTC, a short term parking provision rate of 1 space per 48 m^2 GFA should apply to all future office and commercial developments (further review would be required pending on the outcome of ILUTS), less if traffic study can demonstrate:

  1. A better use of public transport system for employees;
  2. Premises do not generate external parking demand.
- Convenience stores should be classified under the retail category. Convenient Stores within the HTC or attached to High Density residential developments should not need to provide any off-street parking spaces as they cater for local residents.
- Most car yards and motor show rooms are located on major arterial roads, adequate off street parking should be provided to minimize on street parking. Based on experience in other studies, a minimum of 6 visitor spaces plus spaces for staff should be provided regardless of site area.

6.2.4 *Industrial Development*

Generally, parking provision for industrial premises is set at 1 space per 100m^2 GLFA, with office component at 1 space per 40 m^2. Vehicle body repair workshops and repair stations are classified under industrial and require a provision of 1 per 100m^2 GLFA plus 1 per employee and 3 vehicles per work bay. This is at odds with the requirement for service stations of 6 spaces per work bay, under the classification of commercial.

Although service stations generally do not include vehicle repair or body work, service stations could require as much parking as repair workshops. Past studies indicate that service stations can generate more short stay demand due to the integral retail component.

6.2.5 *Restaurants and Reception Centres*

Current Council parking provision requirement for restaurants exceeding 100 m^2 is 1 space per 7 m^2 GLFA. This requirement is taken from the RTA Guide to Traffic Generating Developments (1 per 3 seats or 15 per 100 m^2 GFA), and is outdated and not applicable to Town Centres where ample parking is available in the evening when peak parking demand occurs for restaurants. A review of provision by metropolitan Councils indicates variable rates as shown in *Table 6.4* following:

Table 6.4: Parking Requirement for Restaurants

Council	Requirement (Spaces per GLFA)
Willougby – Chatswood TC	1 space per 75 m^2.
Waverley	1 per first 18 seats and 1 per 6 seats thereafter.
South Sydney	1 per 50 m^2 (First 100 m^2) and 1 per 18 m^2 thereafter
Bankstown TC	<100 m^2 no requirement; 1 per 7 m^2 thereafter.
Campbelltown District Centre	1 per 25 m^2.
Wyong Commercial Zone	1 per 30 m^2.
Canterbury	1 per 40 m^2 for first 120 m^2. Premises >102 m^2 will be considered on merit.

Many Councils have recently reviewed parking provision rates for restaurants in Commercial districts and town centres because of availability of share parking use.

Recommendation:

It is recommended that change of use of existing retail premises to restaurants and cafes with less than 100 m^2 GLFA be exempted from parking provisions within HTC, and those with GLFA exceeding 100 m^2 will be considered on merit, depending whether share use is available. Otherwise, 1 space per 7 m^2 would then apply to GLFA exceeding 100 m^2 if the development is located far away from any existing car parks or available on street parking. Section 94 could apply to those where site is constrained.

6.2.6 Other Developments

Provisions for other land uses are generally compatible with RTA guidelines or similar to those provided by neighbouring Councils.

6.3 Location of Car Parks

The DCP should also specify the locations of car parking facilities for each type of development. In terms of urban design quality it is preferable that all car parking facilities should either be underground or hidden from the front face of any buildings. This requirement should include all commercial and industrial developments as well as multi-unit and/or high rise residential developments.

Should Council wish to give temporary consents, that is, allow a greater amount of parking in the short term to be removed when public transport improvements are achieved, then parking must be designed in such a way that it can be removed or converted to an alternate use. Basement parking is expensive to construct and cannot be removed or easily converted. The permanent parking component can be located in basement parking while the temporary component should be located in surface areas. The merit of temporary consents for parking will be considered within the ILUTS.

6.4 Other Elements

The DCP document prescribes measures for environmental design of car parks but gives insufficient details of physical design requirements.

Other design elements such as land sensitivity, soil and water management aspect and acoustics are included in the DCP, apparently as later amendments to the original documents.

Section 94 contributions are mentioned in the amendment section of part 1 but no details are given in later chapters of the document.

It is recommended that physical design elements should be included in the DCP, either in sufficient detail for developers to follow or as a reference to other documents such as RTA guidelines or Australian design code.

Section 94 requirements for car parking provision should be detailed in the DCP. Recommendations for Section 94 contribution rates for each of the centres examined would be provided in the ILUTS.

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7. Parking Strategy Recommendations

7.1 General Principles

This section provides strategy recommendations for various centres in Hornsby Shire as a basis for discussion with Council. The recommendations for HTC will be tested when the transport model has been developed later in the ILUTS.

In general, the overall parking management strategies, which must be integrated with public transport accessibility, land use and business sustainability of each centre, should be developed with the following general policy principles, which are based on the strategy framework described in *Chapter 2*:

1. There should not be any increase in parking provision in most centres unless it is associated with new development.
2. Commuter parking should not be expanded except where demand substantially exceeds off-street supply and on-street parking is detrimental to the safety and environmental amenity of the local community and all other alternatives, that is increasing the accessibility of the station by non-car modes, have been exhausted.
3. Consideration should be given to the parking needs of those who drive to railway stations after the morning peak period.
4. Pay parking could be introduced as a means of managing the use of existing provision.
5. Any reduction of long term parking spaces must be considered in conjunction with adequate alternative transport access (e.g local bus service improvements; North West Rail Link, bicycle links and storage facilities).
6. Any apparent parking shortage should be reviewed with an objective to increase effective utilisation of existing spaces (e.g. by converting all day parking spaces for short term use).
7. Effective enforcement is a priority (this can now be effectively carried out by Council since the enforcement responsibility has been transferred from the Police)
8. Encourage shared use of off-street parking spaces at major centres where night time activities are promoted.
9. Where applicable, Council should encourage reduced parking provisions for employee parking in major business developments.

7.2 Strategy Recommendations

The general recommendations apply to all centres, however, each individual centre has its parking characteristics and requires a specific management strategy. The following is a summary of recommendations for various centres under discussion.

7.2.1 Hornsby CBD

Preliminary analyses shown in previous chapters indicate that there should not be any new parking provisions in the short term for the HTC and that existing controls of short term parking spaces should be reviewed to increase turnover, particularly on the east side of the town.

The following detailed management options are recommended for consideration by Council. However, further review may be necessary pending on the results of the ILUTS:

1. The following existing unrestricted parking spaces could be considered for progressive conversion to four hour parking:
   - Jersey Street,
   - Bridge Road (between Hunter St and Albert St),
   - Hunter Street,
   - May Street,
   - Florence Street,
   - Albert Street,
   - Ashley Street,
   - Webb Street, and
   - Forbes Street.
2. The following existing unrestricted parking spaces should be considered for progressive conversion to three hour parking:
   - Linda Street,
   - Muriel Street, and
   - Thomas Street.
3. The following streets with unrestricted parking are mainly occupied by vehicles associated with auto repair shops and other light industries and should be time restricted, however Council may use discretion out of consideration for local business. Some form of permit may be issued to allow continued business use of these spaces.
   - Hunter Lane,

- Leonard Street,
- Hornsby Street, and
- James Street.

4. Introduce pay parking during business hours, initially at the Council car park at the corner of Burdette Street and George Street, allowing for one hour of free parking. This could be extended to other Council car parks at a later stage.
5. Introduce pay parking for on-street spaces, initially on streets with the highest occupancy rates. Given the disparity between east and west areas of the town centre, Council may wish to introduce pay parking on the east while maintaining free, albeit short stay, parking on the western side. Initially the following streets can be selected for trial:
   - George Street (existing 1 hour spaces),
   - Linda Street (allowing for free period),
   - Hunter Street,
   - Albert Street, and
   - Florence Street.
6. Extend the pay parking scheme to cover all on-street spaces within 400m of the station if initial trials are successful.
7. Future developments within the CBD must provide sufficient off-street parking in accordance with revised code requirements.
8. Existing Council car parks should be retained for future expansion for the purpose of Section 94 contributions. However, this recommendation does not preclude the use of air space of these car parks for future developments. The ILUTS will seek to identify measures to effect a modal shift, negating the need for additional off-street car parking in Hornsby town centre.
9. No new car parking spaces should be provided for rail and local commuters, unless Council could consider charging for existing spaces. This will require careful consideration and should be tested with the Transport Model to be developed as part of the ILUTS.

7.2.2 Pennant Hills

Apparent shortage of parking is mainly due to shortage of convenient short stay parking spaces to serve the retail centre and station. The following management strategies are recommended:

1. Convert all unrestricted spaces along Yarrara Road between Steven Street and Pennant Hills Road into 2 hour parking.
2. Reduce the current three hour limit to two hours in all Council car parks.

3. Extend parking controls to side streets bounded by Steven Street, Bellamy Street, Boundary Road and Yarrara Road, allowing for some four hour spaces.

Pay parking could be considered as a long term strategy.

7.2.3 Beecroft

There are sufficient short stay spaces for retail parking. No additional provision will be required in the short term. In the long term, the following measures are recommended:

1. Extend parking control to cover all unrestricted spaces on:
    - Wongala Crescent between Copland Road and Chapman Street;
    - Chapman Ave between Sutherland Road and York Street;
    - Hannah Street between Wongala Crescent and York Street;
    - Copeland Road between York Street and Copeland Road East including Copeland Road East; and,
    - Malton Road.
2. Consider introducing pay parking.

7.2.4 Thornleigh

The following short term recommendations apply to Thornleigh centre:

1. All unrestricted spaces along Railway Parade should be converted to four hour parking, allowing parking for railway users arriving by car after the morning peak period.
2. All spaces along Bellevue Street, Station Street and Thornleigh Street west of Paling Street should be restricted to two hour parking.

7.2.5 Epping East

Commuter parking is the main issue in Epping East area. It is recommended that pay parking be introduced to all existing unrestricted spaces of following streets, allowing for free short stay parking:

1. Cambridge Street,
2. Oxford Street,
3. Chester Street,
4. Essex Street north of Pembroke Street,
5. Pembroke Street,
6. Surrey Street between Cambridge and Oxford Streets.

The following streets should be restricted to two hour parking:

1. Forest Grove,

2. Maida Street,
3. Smith Street,
4. Essex Street, south of Pembroke Street.

7.2.6 Waitara Station Area

Rail commuter parking is a major issue. Pay parking is suggested as a control strategy.

The following streets are recommended for long-stay pay parking:

1. Alexandria Parade,
2. Romsey Street,
3. Orara Street.

The following streets are recommended for four hour parking control

1. Waitara Avenue,
2. Park Street,
3. Balmoral Street, south of Park Lane.

In addition the ILUTS will look to make recommendations to improve the accessibility of Waitara Station by alternatives to the car.