



SCOPING REPORT ON PARKING MANAGEMENT IN HORNSBY SHIRE



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Foreword

This report outlines the issues that need to be considered in developing the Shire's Car Parking Management Strategy. The report is an audit of the work undertaken by the Traffic and Road Safety Branch since 2006 and builds on the recommendations of the Shire's Integrated Land Use and Transport Strategy (ILUTS).

The objectives and scope of the ILUTS is to develop an integrated transport plan which addresses the Shire's current and planned transport system with the objective of relieving traffic pressure on the road network. The study framework of the ILUTS also included the development of a parking management strategy addressing identified car parking problems in the Shire.

We believe this report will inform Council and guide the development of an appropriate Car Parking Management Strategy for the Shire.

*Traffic & Road Safety Branch
May 2009*

The purpose of this Report is to provide a framework for developing an overall car parking management strategy for Hornsby Shire.

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 car parking management strategy for the Shire 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.

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.

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 short stay parking (up to two hours), to provide convenient access for town centre visitors. Parking located further away from town centres is generally available 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 usually caters for people visiting the town centre for between two and three 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 i.e. 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 town centres, arrive in the morning peak and park for eight hours or more;
- Visitors, shoppers and part-time employees, who drive to the town centres to visit local business or shop and require short-stay (up to three hours) parking.

Recent parking utilisation surveys undertaken in the major centres established that the demand for conveniently located public parking spaces (both on-street and off-street) is intensive. During week days, streets within 400m of major town centres or railway stations are generally fully occupied before 9:00 am either by vehicles of commuters or workers in adjacent commercial offices.

In the context of the Shire's Car Parking Management Strategy, options for addressing existing parking problems include the following:

- Whether on-street restricted parking areas (e.g. 2 hours zones) should be extended to increase turnover of parking spaces;
- Whether a fee should be imposed for parking;
- Whether Resident Parking Schemes should be introduced in certain areas of the Shire.

Any decision made by Council in respect of the above options vis-à-vis the types of parking and main groups of people who park in each centre may generate other issues. Based on existing parking conditions outlined in this Issues Paper, it is apparent that there are significant problems relating to parking in the Shire that need to be addressed by Council.

These problems appear to be created by rail and town centre commuters and could possibly be influenced by the lack of alternatives to private vehicle commuting and the relative isolation of where people live and work.

The introduction of pay parking in Hornsby Shire would be a major shift from current parking practices and community expectations. Such an approach needs to be carefully evaluated to avoid unintended consequences. Central Business District (CBD) interests have historically opposed pay parking because when there are no integrated parking management strategies to cater for essential requirements, charges can drive shoppers to other centres where parking is plentiful and free. On the other hand, if there is no regulation on parking demand and supply, business can suffer due to congestion arising from vehicles circulating when looking for vacant parking spaces.

The following actions or measures are recommended to advance the project:

1. Review on-street and off-street parking time limits to ensure optimum supply and durations and determine if pay parking would be a viable option of managing car parking demand in the Shire.
2. Engage an independent consultant to evaluate the economic viability of introducing pay parking in Hornsby, Epping and Pennant Hills or any other centres Council may wish to nominate.
3. Review existing parking management practices and develop relevant policies and strategies to guide car parking management activities in the Shire commencing with the following centres in order of priority:
 - Hornsby Town Centre including the environs of Waitara Station and Hornsby Hospital;
 - Epping Town Centre;
 - Pennant Hills Town Centre; and
 - Cherrybrook
4. If pay parking is considered suitable, develop a pricing structure for on and off-street parking which is economically viable and fosters good economic development in the best interest of all stakeholders,
5. Council actively support the improvement and use of non car options such as public transport, cycling, walking, motor cycles and car sharing in accordance with the ILUTS principles. This initiative would lead to a reduction in car parking demand and positive health and environmental outcomes. This will require, where conflict between users exist, Council prioritise the needs of non car options i.e. providing bus stops by removing timed parking within a shopping strip.

1. BACKGROUND

In 2002 Council engaged a consultant to undertake an Integrated Land Use and Transport Study for the Shire. The objectives and scope of the study were to develop an integrated transport plan which addresses the Shire's current and planned transport system with the objective of relieving traffic pressure on the road network. The study framework also included the development of a parking management strategy addressing identified car parking problems in the Shire.

The aim of a parking management strategy for the Shire 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 that economic viability of each centre is maintained. It was specifically considered that the overall parking management strategies for the Shire which must be integrated with public transport accessibility, land use and business sustainability of each centre should be developed within the following general policy principles:

- There should not be any increase in parking provision in most centres unless it is associated with new development.
- 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.
- Consideration should also be given to the parking needs of those who drive to railway stations after the morning peak period.
- Any reduction of long term parking spaces must be considered in conjunction with adequate alternative transport access (e.g. local bus and train service improvements; bicycle links and storage facilities).
- 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 in order to increase turnover).
- Effective enforcement is a priority and should be maintained.
- Pay parking could be introduced as a means of managing the use of existing provision after other options are exhausted
- Encourage shared use of off-street parking spaces at major centres where night time activities are promoted.
- Where applicable, Council should encourage reduced parking provisions for employee parking in major business developments.

The recommended parking strategy is considered to be important to the overall implementation and realisation of the ILUTS. Details of general parking issues and policy framework are contained in the '*Hornsby Shire Parking Strategy Review Working Paper*¹'.

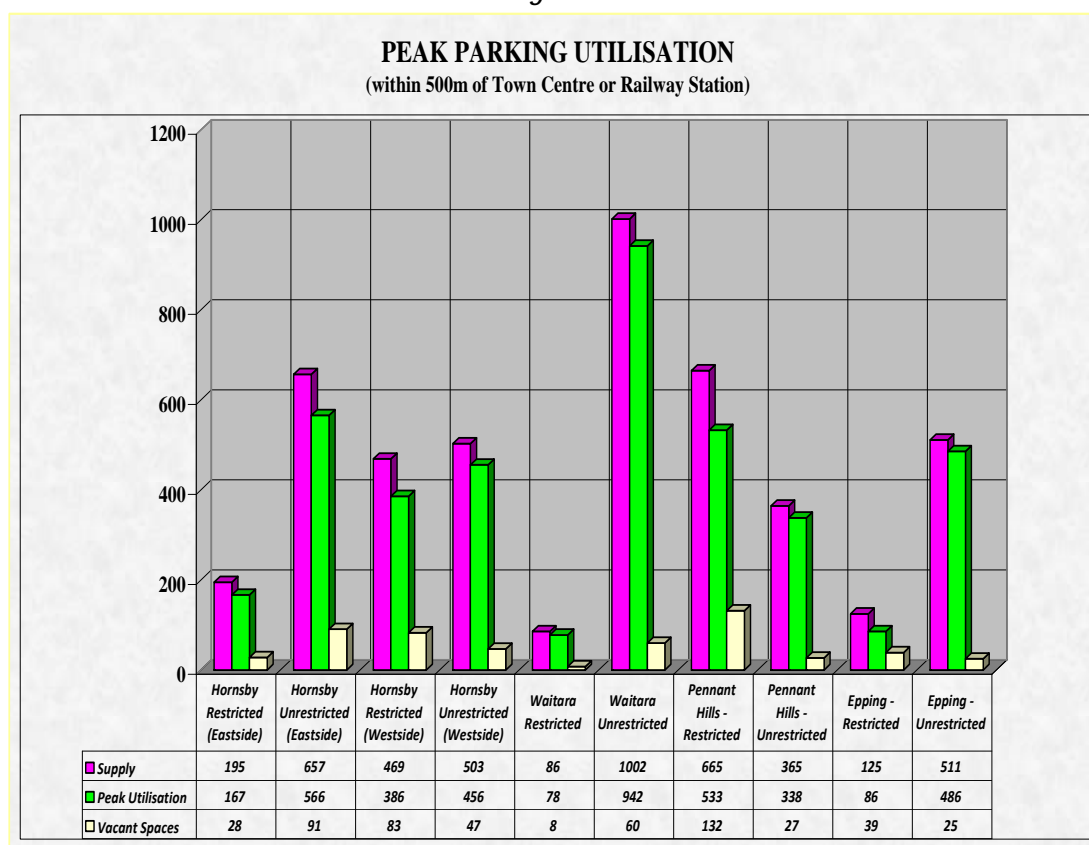
2. EXISTING PARKING SITUATION IN HORNSBY SHIRE

The centres discussed below have been selected as the more significant places of activity in the Shire. They have also been identified as places where parking pressures currently exist or are perceived to exist. Existing parking conditions for these centres are discussed in Section 2.1 - 2.14.

The existing parking supply and demand in Epping, Pennant Hills, Waitara and Hornsby are graphically illustrated in Figure 1 below.

¹ *This working paper is part of the overall Hornsby Integrated Land Use and Transport Study undertaken by PBAI Australia with Stepfair Traffic and Transport Planning Consultants, JBA Planning Consultants and Masson Wilson Twiney on behalf of Hornsby Shire Council.*

Figure 1



2.1 Beecroft

Several hundred restricted parking spaces are available in a number of off-street car parks in Beecroft. These parking areas range in size from less than ten spaces to over a hundred. Average utilisation of these parking areas is generally over 80 percent during shopping hours. In addition, unrestricted off-street commuter parking for approximately 160 vehicles is provided by RailCorp in separate car parks on either side of the rail line. The unrestricted rail commuter car parks are typically 100 percent utilised during weekdays.

Timed on-street parking restrictions apply to sections of Hannah Street and Wongala Crescent that are in close proximity to the shopping precinct. There are few on-street parking restrictions elsewhere in Beecroft. The highest concentration of on-street parking typically occurs within 400 metres of the railway station. Sections of Sutherland Road immediately adjacent to the station are highly utilised by commuters, with cars observed parked across kerbsides and footpaths. The quantity and utilisation of parking at Beecroft is an indication that the centre is a destination for people beyond the immediate local area.

2.2 Berowra

An off-street parking area with approximately 148 spaces is provided for commuters by RailCorp at Berowra Station. A study commissioned by the Department of Transport established that existing rail commuter parking demand in Berowra exceeds the available off-street spaces. This study also established that more than 21% of rail commuter vehicles parking in Berowra are from the Central Coast area.

On-street parking is prohibited or restricted along most of the Pacific Highway in the vicinity of the commercial centre. However, a number of unrestricted spaces are available

adjacent to the station along the eastern side of the Pacific Highway. These parking spaces are usually fully utilised on weekdays. About 100 spaces of 2 hour and 4 hour restricted parking are also available behind the shops on the western side of the Pacific Highway. Average utilisation of this parking area is generally less than 50 percent during business hours.

Council has recently been advised of a proposal by the state government to provide additional parking facilities for commuters at this location.

2.3 Carlingford

There are well over a thousand off-street parking spaces provided in Carlingford Court shopping Centre. With the exception of a small area with limited unrestricted on-street parking in Darwin and Milton Streets, there is little demand for on street parking around Carlingford Court. Council has installed extensive parking restrictions on local streets near Carlingford Court to manage on-street parking in the area.

2.4 Cheltenham

The only off-street parking in the area is provided at the railway station by RailCorp with space for 65 vehicles on the western side of the rail line and 15 vehicles on the eastern side. These car parks are generally 100 percent utilised during weekdays.

The demand for commuter parking at Cheltenham exceeds supply. This is evident by the number of parked vehicles on unrestricted streets within 500 meters of the station. Site observations indicate that there are few available on-street spaces within 400 meters of the station after 9:00 am.

2.5 Cherrybrook

On-street parking is generally not an issue in Cherrybrook. The highest concentrations are observed along Purchase Road and Hancock Drive in areas close to Cherrybrook Technology High School where parking demand exceeds the available off-street spaces provided at the school. The on-street parking demand observed in this area indicates a tendency for some senior students to drive to school. Concentrations of on-street parking elsewhere in Cherrybrook are very low except on Shepherds Drive near Cherrybrook Village Shopping Centre where over 350 off-street spaces are provided.

Approximately 300 spaces are also provided in three off-street car parks at Greenway Park. These car parks cater to specific demand created by the community centre and sporting facilities, and are reportedly being increasingly used by all day parkers to the detriment of park and community centre users.

2.6 Epping

There is no public off-street or commuter car park in the Hornsby area of Epping. An unrestricted on-street angle parking area with 84 spaces is provided by Council in Cambridge Street.

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. On-site observations indicate that almost all unrestricted on street spaces adjacent to Epping Station are occupied before 9:00 am either by commuters or workers in adjacent commercial offices.

In order to address the parking problems in Epping, Council recently developed a proposal which involves extension of the restricted parking area on the eastern side of Oxford Street to the north up to Essex Street. This proposal will provide approximately 14 additional spaces for short term (2 hour) parking mainly to cater for the needs of local businesses.

The magnitude of parking supply and demand around Epping Town Centre between 6:00 am - 6.00 pm on a weekday is presented in *Appendix A (Table A1 and A2)*.

2.7 Hornsby Town Centre

There are approximately 4,083 public off-street parking spaces within Hornsby Town Centre (i.e. 3,755 spaces are located on the eastern side of the railway station and 328 spaces are located on the western side of the railway station). About 90% (3,672) of these spaces are provided by Westfield. The Westfield car park offers three hours free parking. After the first three hours there is a fee charged for every hour exceeding the complimentary free period.

The remainder of the public off-street spaces are provided by Council in Burdett Street Car Park behind the library, William Street and Dural Street Car Parks and the RSL Community Car Park. Public off-street car parks provided by Council are time restricted. Peak utilisation in Dural Street and William Street car parks is generally in the order of 96% and it occurs between 10:00 am and 12:00 pm on week days. The Burdett Street car park often operates at capacity during the day possibly due to its proximity to the Town Centre.

There are approximately 440 unrestricted commuter parking spaces provided by RailCorp in three car parks adjacent to the station off George Street and High Street. These car parks are generally 100 percent utilised during weekdays.

Approximately 1,224 on-street parking spaces are provided within 500 metres of Hornsby Town Centre/railway station. About 844 spaces or 69% of the total on-street parking spaces are unrestricted parking spaces 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 ¼ hour, ½ hour or special spaces such as loading zones.

A significant number of available unrestricted on-street parking spaces that are within easy walking distance to the railway station are generally fully occupied as early as 8:30 am. This is an indication that these spaces are probably utilised by vehicles belonging to rail commuters or local employees. Recent parking surveys have established that there are generally very few available unrestricted spaces within 400m of Hornsby Town Centre/Railway Station during week days. Time-restricted on-street parking spaces are relatively less intensively used.

The magnitude of parking supply and demand around Hornsby Town Centre between 6:00 am - 6.00 pm on a weekday is presented in *Appendix B (Table B1 to B4)*.

2.8 Hornsby Hospital Area

There are approximately 527 all-day on-street parking spaces available near Hornsby Hospital including the angle parking spaces located in Lowe Road, Burdett Street, Jubilee Street and Derby Road. In addition, there are about 38 restricted (2 Hr) parking spaces in Palmerston Road.

On-site observations of on-street parking conditions in the vicinity of Hornsby Hospital on a weekday indicate a very intensive parking demand on most streets. A peak utilisation rate of about 93% for the restricted parking spaces occurs around 9:00 am presumably by outpatients attending early morning appointments. A peak utilisation of around 86% for unrestricted parking spaces occurs around 11:00 am.

The magnitude of parking supply and demand around Hornsby Hospital between 6:00 am - 6.00 pm on a weekday is presented in *Appendix C (Table C1 and C2)*.

2.9 Normanhurst

There is no public off-street parking provided in Normanhurst. Unrestricted public parking demand in Normanhurst is generally limited to on-street areas within a distance of 100 metres from the station.

2.10 Pennant Hills Town Centre

There are approximately 340 public off-street parking spaces provided by local commercial premises and Council mostly with two or three hour restrictions. Peak utilisation of these spaces is generally in the order of 98%.

There is no parking provided by RailCorp at Pennant Hills Station. 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. There are generally very few available unrestricted spaces within 400m of Pennant Hills Town Centre/Railway Station during week days.

Council has installed extensive parking restrictions on local streets to manage on-street parking in the area. Recent parking surveys have established that time-restricted on-street parking spaces that are within 100 metres of the town centre (e.g. Hillcrest Road, Ramsay Street and Yarrara Road and Fisher Avenue) are well utilised for parking. Streets with 3 Hour Parking restrictions that are located further away from the town centre (e.g. Weemala Road west of Hillcrest Road) are less intensively used.

The magnitude of parking supply and demand around Pennant Hills Town Centre between 6:00 am - 6.00 pm on a weekday is presented in *Appendix D (Table D1 and D2)*.

2.11 Thornleigh

A multi deck commuter car park with 302 spaces is provided by RailCorp at Thornleigh Station. This car park is generally 100 percent utilised during weekdays.

An unrestricted on-street angle parking area with 53 spaces is provided by Council in Railway Parade. This area is also well utilised probably by local employees and rail commuters.

On-street parking in Central Avenue is unrestricted. Parking along this street is intensive during business hours possibly due to the overflow demand from adjacent commercial and industrial premises.

2.12 Waitara

There is a commuter off-street car park with 80 spaces provided by RailCorp with access from Waitara Avenue (south) via Pacific Highway. There are no other public off-street car parks in Waitara. Demand for short term public parking in the area is generally met by on-street availability.

In addition to the commuter off-street car park provided by RailCorp, there are also about 203 unrestricted angle parking spaces provided by Council in Alexandria Parade. Nearly all these spaces are occupied by railway commuters during business hours. The high density developments in Orara precinct also appear to contribute to the excessive demand for parking in this area.

A high concentration of unrestricted on-street parking is also evident in the commercial area to the west of the station between the railway line and Pacific Highway. This parking is largely associated with the surrounding businesses.

On-street parking is also evident to the south of the Pacific Highway along Unwin Road and Yardley Avenue. This parking is largely associated with the schools in that area.

The magnitude of parking supply and demand around Waitara between 6:00 am - 6.00 pm on a weekday is presented in *Appendix E (Table E1 and E2)*.

2.13 Brooklyn

Brooklyn is an area of regional tourist significance. There is intensive demand during summer and holiday periods for parking by day trippers and longer stay visitors.

There is no formal off-street parking area provided by RailCorp at Brooklyn. During peak periods, most of the car parks in the area operate at capacity. A number of car parks in the area are noted to be used by vehicles staying overnight and/or for more than 10 hours presumably by residents of the River Settlements.

A study by Sinclair Knight Merz in November 1998 provided a comprehensive analysis of the parking conditions in Brooklyn. A range of recommendations for improving 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.

Details of parking control inventory and utilisation conditions in Brooklyn are contained in the *Brooklyn Traffic and Parking Management Study Report*².

Local residents have previously requested Council to consider providing a Ratepayer Parking Scheme in Brooklyn with the objective of penalising non local users. This matter was investigated and not supported by Council due to the adverse impacts of such a scheme on visitors and businesses to the area and the cost of managing the scheme.

Recent changes to parking restrictions undertaken in February 2007 appear to have provided an appropriate balance among the various user groups.

2.14 Berowra Waters

Berowra Waters is also an area of regional tourist significance. There is intensive demand during summer and holiday periods for parking by visitors and residents of the River Settlements.

Most of the parking at Berowra Waters occurs on crown land.

² *This report was prepared by Sinclair Knight Merz on behalf of Hornsby Council in 1998. The report reviews parking issues in Brooklyn and provides advice and recommendations on means to improve the current situation. Although the report was prepared about ten years ago, the issues discussed in this document are still relevant to current parking conditions in Brooklyn.*

A review of parking demand in Berowra Waters indicates that on busy days, parking is at saturation point. General observations established that:

- Residents of river settlements are parking and storing cars on-street and in public car parks. This is in addition to the designated (but not exclusively so) parking areas for river residents;
- Boat owners and users of the river generally park cars and trailers for longer periods on-street and in public car parks.

Consent has recently been given to the construction of additional facilities on the western side of Berowra Waters. This will service visitors (cars and trailers) to the area.

Additional actions would be costly to introduce and environmentally intrusive. Re-allocation of spaces will be at the expense of other user groups.

Details of parking control inventory and utilisation conditions in Berowra Waters are contained in the *Berowra Waters Plan of Management*³.

The Plan of Management for Berowra Waters recommended a number of measures to address car parking issues.

3. STATE GOVERNMENT POLICY INITIATIVE TO MANAGE PARKING

A policy initiative (Draft State Environmental Planning Policy No. 66 - Integration of Land Use and Transport) with implications for Council's approach to managing car parking demand was issued by the NSW Government in 2001. This policy provides a framework for State government agencies, councils and developers to integrate land use and transport planning at the regional and local levels.

The draft SEPP was reported to Council's meeting on 5 December, 2001, where it was recommended that Council make a submission supporting the intent of the Policy. Of particular relevance to car parking issues are the provisions relating to the making of LEPs, DCPs and Master plans and Precinct Plans. The provisions promote controls that minimise demand for travel and the use of cars, including a provision for parking standards that set maximum limits in order to discourage car use in areas with good public transport access.

The provisions of the draft SEPP are a reflection of broader sustainable development initiatives designed to encourage public transport usage by reducing the amenity of private car usage through the reduction of the availability of public car parking. Council's current planning studies and policy documents already encourage public transport usage through a variety of strategies, but also acknowledge the dependence of the Shire's population on private vehicles, owing to limited public transport services. Consequently, Council's current controls promote private and public car parking that meet demand and any increase in demand for car parking arising from development.

4. CURRENT COUNCIL CAR PARKING MANAGEMENT PRACTICES

There are currently no formal adopted Council policies to direct transport planning and car parking management in the Shire. Currently transport planning and car parking management activities in the Shire are either guided by regulatory requirements or informal practices.

³ *This report was prepared by Connell Wagner on behalf of Hornsby Shire Council and Department of Lands and Water Conservation in 1999. The report documents the findings a study that was commissioned to develop appropriate strategies that enhance and maintain the values of Berowra Waters. Although the report was prepared about ten years ago, the issues discussed in this document are still relevant to current parking conditions in Berowra Waters.*

The current informal Council practices relating to the car parking management issues outlined below in Sections 4.1 to 4.6 should be formalised to affirm Council's intent.

4.1 Permit Parking

Permit Parking Schemes (PPS) are intended to give priority parking to those who may be disadvantaged by others taking the limited parking spaces available.

Permit parking Schemes are intended to:

- Improve amenity for particular classes of road users who do not have sufficient off-street parking facilities or unrestricted on-street parking facilities available.
- Provide equitable allocation of on-street parking spaces for road users.
- Provide parking schemes to cope with extreme demands for parking that would otherwise be placed on the road system.
- Provide an appropriate mix of on-street parking spaces in residential streets and in streets close to commercial centres.
- Support regional transport objectives and strategies that have been framed with commuters in mind.
- Increase public transport usage by converting those unrestricted kerbside parking spaces in residential areas into restricted parking spaces such as permissive parking spaces or pay parking spaces where appropriate.

4.1.1 Types of Permit Parking Schemes

There are five classes of parking permits that can be issued by Council to exempt a permit holder from charge or time restriction while parked in a Permit Parking Scheme zone. The five classes of parking permits are:

<i>Business Parking Scheme:</i>	Used where business people have no off-street parking and have difficulty parking near their business premises.
<i>Commuter Parking Scheme:</i>	Used to attract commuters to walk or use public transport for part of their journey to work.
<i>Resident Parking Scheme:</i>	Used where residents have limited off-street parking and have difficulty parking near their residence.
<i>Residents Visitors Parking Scheme:</i>	Similar to Resident Parking Schemes, but used to allow a visitor to attend the residence.
<i>Special Event Parking Scheme:</i>	Used where parking from a major venue spills into a substantial adjoining area affecting residences or businesses

Out of the above Permit Parking Schemes, only Resident Parking Schemes have been considered in detail by Council. The guidelines and requirements for implementing Permit Parking Schemes are outlined in the RTA Manual for '*Permit Parking*' (available on the RTA website).

4.1.2 Resident Parking Schemes

Council has been requested from time to time to introduce resident parking schemes on local roads near railway stations. At the Council Informal Workshop of 24 August 2005, Council resolved -

"THAT the report being prepared in response to the Matter of Urgency agreed to at the Ordinary Meeting held on 10 August, 2005 dealing with Council's Policy on Parking Regulations also include options for a resident parking system which will ensure that those Hornsby ratepayers living in areas where off street parking is not available or limited, have reasonable and equitable opportunities for on street parking where those

opportunities would ordinarily be limited by geography, non local traffic, commuter parking etc. Examples of areas for consideration are Brooklyn and Berowra Waters."

The Executive Managers Report that was prepared on this matter informed Council that a preliminary investigation to implement a Resident Parking Scheme (RPS) was undertaken by a consultant. The consultants report on this matter recommended that " *Council should not proceed with further detail investigation of a Ratepayer Parking Scheme due to the cost of implementing the scheme and the limited benefit*". In considering this matter, Council adopted the Consultants recommendation and resolved that no further action be taken regarding the Ratepayer Parking Scheme in Brooklyn or Berowra Waters and that investigations continue regarding other demands on parking and selective imposition of time limits at Brooklyn as a means of managing parking demand.

Since the introduction of 4 hour parking restrictions in selected areas of Brooklyn and enforcement, there have been virtually no written complaints regarding lack of visitor parking.

4.1.3 Recommended Policy Framework

Since most of the residents of the Shire (with the exception of residents of the River Settlements) have access to off-street parking, areas within the Shire do not qualify for Resident Parking Schemes. It is therefore recommended that Council should acknowledge the RTA requirements and not support implementation of Resident Parking Schemes in areas of the Shire where residential premises are provided with off-street parking. In this regard, all future developments including medium and higher density developments must provide residents and visitor parking spaces in accordance with the Council's parking code.

4.2 Charging for Public Parking

Council has previously requested advice on feasibility and implications of off-street and on-street meter parking, including the application of a revenue stream derived from meters.

An issues paper on this matter was prepared and listed for discussion at a Council Workshop Meeting held on 30 October 2007 but was not formally considered at the time. The Issues Paper '*Parking Management in Hornsby Shire*'⁴ is available on request.

The pay parking strategy is considered an effective measure to control and manage on-street parking. This strategy, while generating revenues for Council 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. However, costs of implementation can exceed income in remote locations and vandalism/antisocial behaviour can result if not accepted in the community. There are generally no resident exemptions.

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.

⁴ *The Issues Paper on Parking Management in Hornsby Shire was prepared by the Traffic and Road Safety Branch in response to Council's request to prepare a Report on feasibility and implications of off-street and on-street meter parking, including the application of a revenue stream derived from meters.*

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 centres.

4.2.1 Recommended Policy Framework

It is recommended that Council determine its position regarding charging for public parking in the Shire. It is further recommended that if Council wishes to introduce paid parking, a consultant should be engaged to prepare a business case for each centre regarding the feasibility of charging users for parking.

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 impact of shifting use to locations where charges do not apply. The application of this principle (i.e. charging for parking) would vary in each centre depending on a number of factors such as:

- Financial viability of introducing paid parking in respective centres;
- Peak hour traffic and parking conditions;
- Impacts of all-day parking on retail and commercial activities;
- Impacts of future land use development potential;
- The parking needs of various user groups;
- Provision for commuter parking at railway stations;
- Equity and the 'User Pays' principle.

With respect to pay parking, it should be noted that the RTA requires the Parking Authority (in this case Hornsby Council) to have a formal parking policy and or local traffic management plan for the Shire or areas where it intends to implement a paid parking scheme. To ensure that Meter Parking Schemes are not seen to be introduced in an area solely for the purposes of raising revenue, Council would be required by the RTA to undertake a parking study to establish the justification for the proposal.

The study required by the RTA must be undertaken in the context of existing Council's parking policy and submitted to the Local Traffic Committee for its consideration and advice. The guidelines and requirements for implementing Pay Parking Schemes are outlined in the RTA Manual for '*Pay Parking*' (available on the RTA website).

4.3 Commuter Parking

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 Thornleigh Station were among those provided under the scheme. Although the intention of the scheme appeared plausible at the time, the ill effects were not anticipated, particularly those related to stations in a major commercial centre.

There are currently 8 train stations in the Shire with formal unrestricted commuter car parking locations provided by RailCorp with about 1,233 spaces. These locations were developed a long time ago when rail patronage and the number of travellers who drive their car to the station to 'park and ride' the train were low. With increasing demand for rail patronage, the demand for commuter parking at these stations has increased. While Council is not obliged by any regulation to provide long term parking for commuters at railway stations, it has recognised in the past that it is desirable to improve the amenity of adjacent local areas by providing unrestricted long term angle parking in streets adjacent to rail stations. Notwithstanding, Council had adopted the position that commuter parking is the responsibility of the state government.

There are currently 7 on-street angle parking areas with about 464 spaces that have been constructed and funded by Council over the years to predominantly cater for the long term parking needs of rail commuters. The railway stations and number of formal unrestricted off-street and on-street angle parking spaces that are predominantly used by rail commuters during week days are presented in Table 4.1 below. In addition to parking spaces presented in Table 4.1 below, commuters park on surrounding streets around many stations to the detriment of the local residential amenity. Recent parking utilisation surveys established that all off-street rail commuter parking areas and unrestricted on-street parking areas that are within 400m of a railway station operate at full capacity during week days.

Table 4.1
Commuter Parking Areas

Station	Off-Street Commuter Parking	Spaces Provided	
		CityRail	Council ⁵
Epping	Non	0	84
Cheltenham	Yes	80	0
Beecroft	Yes	170	46
Pennant Hills	Non	0	0
Thornleigh	Yes	302	53
Normanhurst	Non	0	0
Waitara	Yes	80	203 ⁶
Hornsby	Yes	444	78
Asquith	Non	0	0
Mt Colah	Non	0	0
Mt Ku-ring-gai	Non	0	0
Berowra	Yes	145	0
Cowan	Non	0	0
Hawkesbury	Yes	12	0
TOTAL		1233	464

At the Ordinary Meeting held on 8 April 2009, the following Notice of Motion (NOM2/09) regarding Commuter Parking was raised and adopted by Council:

THAT as a result of the State's cancellation of the North West Metro and North West Rail link projects, Council:

- Express its concern at the impact on the Epping, Hornsby and surrounding localities of the ongoing demand for commuter parking in the area;*
- Call on the State Government to develop a commuter management strategy that adequately addresses the commuter needs of north western Sydney residents, yet allows the Epping, Hornsby and surrounding localities to go about its day-to-day business.*
- Encourage the local community to express its support for Council's action by the signing of a petition in support of this resolution.*
- Request the support of local members (Epping, Castle Hill, Hawkesbury and Hornsby as well as Parramatta and Ryde) in the making of combined representations to the Minister for Transport.*
- Request the support of neighbouring Councils (The Hills, Parramatta, Ryde) in the matter.*

⁵ *These spaces only comprise of on-street angle parking spaces and exclude parallel parking spaces.*

⁶ *Does not include 80 unrestricted angle parking spaces provided in Waitara Ave north of Alexandria Pde.*

4.3.1 Recent NSW Government Initiatives for addressing Commuter Parking

In November 2006, New South Wales adopted a long term approach to the provision of transport services and infrastructure under the NSW State Plan.

As a lead agency, Ministry of Transport was made responsible for two key priorities designed to:

- Increase share of public transport trips to/from work in the CBD (on an average weekday) in the peak periods to 75%;
- Increase share of public transport trips to work (on an average weekday) made by Sydney residents to 25%;

In addition, related State Plan priorities such as Priority E3 Cleaner Air and Greenhouse gas reductions require a reduction in the number of Vehicle Kilometres Travelled (VKT). The provision of commuter car parks is seen as a key project in meeting these priorities by providing a more seamless integration between Public Transport and private transport options. In particular, the use of commuter car parks aims to make Public Transport a more attractive and viable alternative to driving a private car.

The shortage of car parking capacity limits the propensity of commuters to switch from private car to public transport. It also challenges the Ministry of Transport's goal to increase share of peak hour journeys on public transport and reduce road network congestion. This goal is critical to support growth in the Strategy Centres and corridors outlined in the NSW Metropolitan Strategy.

To order to achieve growth in the share of peak hour journeys on public transport, the NSW government in its Urban Transport Statement released in November 2006 outlined new and accelerated initiatives to address Sydney's present and future transport needs. One of these initiatives related to a \$45 million program to address the increasing demand on Sydney's roads by providing 3,000 'park and ride facilities at railway stations to make it easier to do part of a journey by public transport.

In order to expedite delivery of 3,000 new commuter car parking spaces that were specified in the Urban Transport Statement, the government recently announced a number of new initiatives designed to enhance the management and provision of commuter car parks at stations across suburban Sydney, the Central Coast, the Illawarra and the Blue Mountains. The initiatives include an extra \$56 million being put towards building more commuter car parks and introducing new reforms to speed up the delivery of commuter car parks by:

- By-passing council approval processes with the Transport Infrastructure Development Corporation (TIDC) responsible for designing, approving and delivering all projects;
- Amending local councils' authority to erect and change parking control signs on local roads in areas around new commuter car parks. This amended delegation will require the RTA to approve proposed new on-street parking restrictions to ensure there is real growth in parking spaces.
- Transferring responsibility of ownership, operation and maintenance of commuter car parks to RailCorp and therefore removing lengthy negotiations with councils.

In addition to 3,000 spaces which were initially contained in the Urban Transport Statement, RailCorp is in the process of creating 4,000 new car park spaces which will increase that number to 7,000 new commuter car parking spaces. The additional parking at Berowra (referred to in Section 2.2 above) is being provided under this program.

In order to address the shortage of commuter parking spaces at suburban stations in Sydney, the NSW government is also seeking long term alternatives to traditional procurement and funding mechanisms to support the investment that is required to meet the requirements of public transport users. In this regard, a study was recently conducted by Macquarie Group on behalf of the Ministry of Transport to provide the government in

particular the inter-agency Commuter Car Parking Project Control Group with independent advice on opportunities for private sector investment in commuter car parks. This study is the opinion of Macquarie Capital Advisers Limited and was developed to bring an alternative perspective to help the Ministry address commuter car park shortages. The study examined the feasibility of opportunities in meeting both government transport objectives and private investor criteria. Having regard to the limited scope to obtain direct funding from users and the broader commuter population, the study highlighted that Government should remain a critical component of funding commuter car parks. However, a new funding approach combined with a Build, Own, Operate, Transfer (BOOT) mechanism was suggested. The study also noted that selection of appropriate development sites needs to take into account a range of factors but it is critical to align Park and Ride with rail and bus objectives in the Metropolitan Strategy. Specifically, commuter car parking must support growth in the Strategic Centres and facilitate the higher patronage levels expected from major infrastructure developments such as the North West Metro.

4.3.2 Strategic framework of addressing Commuter Parking Demand

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 competes with feeder bus services, potentially making them unviable;
- It competes with short stay parking needs in commercial/retail centres;
- Commuter car parks occupy prime real estate land that could be used for residential, retail and commercial developments maximizing accessibility to nearby transport facilities.

4.3.3 Recommended Policy Framework

Major issues considered during development of a Parking Management Strategy for the Shire that was prepared as parts of the ILUTS included options for addressing the demand for commuter parking at railway stations. Having regard to the objectives of the ILUTS, provision of further all-day commuter parking facilities at major public transport terminals such as railway and bus stations should not be supported. 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. Notwithstanding, commuter parking is considered a state government responsibility.

The following measures are recommended for consideration by Council:

- No additional all-day commuter car parks should be provided by Council as this is a state government responsibility.
- 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 support options for improving bus service connections.
- 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. (Parking displaced to residential streets beyond the 500m radius of the station would need careful consideration).
- Consider the land use consequences if commuter parking is provided on prime real estate when developing town centre master plans.

4.4 Employee Parking

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.

Currently 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 upgrade 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 in commercial centres, particularly where public transport facilities are available is not sustainable as it contributes to the eventual collapse of the entire transport system. Providing full employee parking in centres is a significant contributor to peak hour traffic congestion.

A common objective of Council 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 introducing parking charges. The effectiveness of this policy would depend on how parking stock and parking charges can be controlled by Council. 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.

4.4.1 Recommended Policy Framework

Hornsby Town Centre, Thornleigh, Epping and Pennant Hills are the major employment centres in Hornsby Shire and as such attract relatively high numbers of peak hour commuters. As a general policy, Council should consider minimising employee parking in these 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, e.g. by introducing time restrictions.
- 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 that the respective spaces can be removed or converted to an alternate use when the agreed level of accessibility is attained.

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.

4.5 On Street Parking Control

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 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 unrestricted 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.

4.5.1 Recommended Policy Framework

It is recommended that the council parking strategy should favour short term use to sustain the viability of the centre by reducing all-day use by commuters or employees. This means in most centres, conversion of unrestricted spaces to time restricted control should be considered to increase on-street parking capacity. It is further recommended that Council should continue strictly enforcing time restrictions for parking along those streets within short walking distance of railway stations. Where there is a high demand for unrestricted on-street parking, it would be appropriate to apply time restrictions in at least some areas to accommodate short term parking needs of people arriving after 9:00 am.

4.6 RTA Guidelines on Parking Provisions

The RTA Guide to Traffic Generating 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 through out 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 take into account factors such as shared use, proximity to public transport and high density residential developments that occurred since.

The RTA Guide to Traffic Generating Developments is 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 Hornsby Town Centre as part of the ILUTS have indicated that the parking utilisation of existing available parking spaces is far below the current RTA Guide or Council DCP requirements.

4.6.1 Recommended Policy Framework

In view of the above discussion, it is recommended 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 Hornsby Town Centre from other centres. Based on interim analysis, suggested provision rates for Hornsby Town Centre are outlined in the *Hornsby Shire Parking Strategy Review Working Paper* prepared as part of the ILUTS. These rates could be further revised pending on the outcome of likely mode split effect of the ILUTS.

5. RECOMMENDED APPROACH AND FUTURE DIRECTION

5.1 General Recommendations

The following actions or measures are recommended to advance the development of a Car Parking Management Strategy for Hornsby Shire:

1. Review on-street and off-street parking time limits to ensure optimum supply and durations before determining whether pay parking would be a viable option of managing car parking demand in the Shire.
2. Engage an independent consultant to evaluate the economic viability of introducing pay parking in centres Council may wish to nominate.
3. Review existing parking management practices and develop relevant policies and strategies to guide car parking management activities in the Shire commencing with the following centres in order of priority:
 - Hornsby Town Centre including the environs of Waitara Station and Hornsby Hospital;
 - Epping Town Centre;
 - Pennant Hills; and
 - Cherrybrook
4. If pay parking is considered suitable, develop a pricing structure for on and off-street parking which is economically viable and fosters good economic development in the best interest of all stakeholders.
5. Council actively support the improvement and use of non car options such as public transport, cycling, walking, motor cycles and car sharing in accordance with the ILUTS principles. This initiative would lead to a reduction in car parking demand and positive health and environmental outcomes. This will require, where conflict between users exist, Council prioritise the needs of non car options i.e. providing bus stops by removing timed parking within a shopping strip.

5.2 Hornsby Town Centre

In order to ensure that adequate and sufficient parking to meet car parking demand is provided for residents, employees and visitors, a Car Parking Review Scoping Report for Hornsby Town Centre was recently prepared. The key issues identified in this report have been incorporated in the review of Hornsby Town Centre Car Parking Strategy that is scheduled to be completed in the second half of this year.

The review will involve a re-assessment of the current Hornsby Town Centre Car Parking Strategy including a review of relevant sections of the Car Parking Development Control Plan in order to recommend strategies suitable for accommodating additional car parking demand likely to be generated by additional development in the Town Centre over the next 10 to 15 years.

Council's Car Parking Development Control Plan and Section 94 Contribution Plan has identified Council owned development sites for construction of public car parking to meet additional car parking demand in the Town Centre. The Hornsby Town Centre Car Parking

review will consider these identified development car parking sites, the number of car parking spaces that can be accommodated and reassess development options which may permit mixed used developments and the construction of public car parks. The review will also consider appropriateness of the current car parking demand; recommend a work program for the construction of additional car parking spaces, investigate options to manage the use of public car parking spaces and inform the Town Centre Traffic Modelling processes on the traffic impact of additional car parking spaces required in Hornsby CBD.

The Hornsby Town Centre Car Parking Study also includes a review of Council's car parking contribution rate which is currently set at \$22,000 per parking space. The review will also determine strategic cost estimate for the provision of the projected additional car parking spaces in the identified council owned land, and the cost for the provision of the required car parking spaces divided by the total number of the projected car parking spaces.

The study will also review the constrained sites in the eastern and western precincts that would be unable to provide the total expected car parking demand on site.

The proposed Hornsby Town Centre Car Parking Strategy review is currently unfunded.

5.3 Brooklyn

It is not feasible to meet peak parking demand of visitors and residents of the River Settlements without compromising the village atmosphere and road network capacity of the area. In this regard, the need for additional car parking in Brooklyn should be considered in the context of the Shire's Integrated Land Use and Transport Strategy. This could be achieved by seeking alternatives to private car use.

Potential of paid parking has been investigated and not supported in either the town centre or Parsley Bay.

Since the introduction of 4 hour parking restrictions in selected areas of Brooklyn and enforcement, there have been virtually no written complaints regarding lack of visitor parking.

5.4 Berowra Waters

Given the regional significance and attractiveness of the area, it is not feasible to meet peak parking demand of visitors and residents of the River Settlements without compromising the environmental amenity and road network capacity of the area. In this regard, the need for additional car parking in Berowra Waters should be considered in the context of the Shire's Integrated Land Use and Transport Strategy. This could be achieved by considering suitable travel demand management measures and possibly charge users for parking.

Additional actions would be costly to introduce and environmentally intrusive. Re-allocation of spaces will be at the expense of other user groups. No change is recommended.

5.5 Epping

There is a concern that additional public transport facilities at Epping will increase the numbers of cars parking around Epping train station by people wishing to catch the train to areas which previously were not as well serviced by train.

The demand for additional parking that may be generated by train commuters is considered a state government responsibility. However, in order to ensure that adequate and

sufficient parking to meet car parking demand generated by visitors in the centre, Council will continue to monitor and where feasible extend timed parking restrictions. It is recommended that investigations be undertaken to identify a suitable site for off-street car parking possibly funded by paid parking, subject to a viable funding model.

5.6 Pennant Hills Town Centre

Parking problems experienced in Pennant Hills are mainly due to shortage of convenient short stay parking spaces within the retail centre. The following management strategies are recommended:

- Review and rationalise the existing on-street parking restrictions around the town centre.
- Review the current three hour time restrictions in the Fisher Avenue Council car park and consider reducing the time limit.
- Explore options for maximising the use of Fisher Avenue car park site with any future redevelopment.

5.7 Cherrybrook

Cherrybrook shopping village was identified as the service centre for the Cherrybrook precinct when it was planned over 25 years ago. Since then it has been subject to steady increases in activity as infill development increases the population to levels able to sustain locally based services. Until recently Cherrybrook residents have experienced the privilege of forward planning where roads, parks and other facilities have operated at reduced capacity. Now that the population and traffic are reaching the ultimate levels some residents are concerned that Cherrybrook is being over developed, however ongoing monitoring of the road and parking network has verified that they are operating within prescribed standards. Traffic flow on local roads is better than the accepted standard for the Sydney metropolitan area as is parking availability, even during the weekly peak periods.

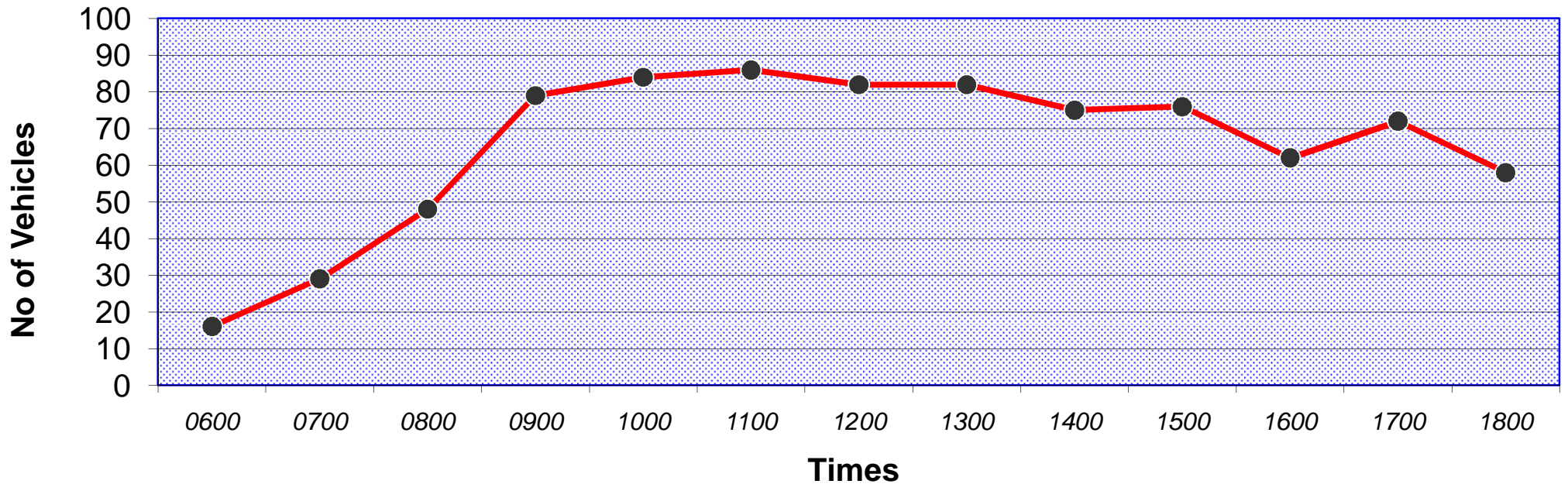
Council will continue to monitor level of parking activity and ensure development approvals and recreation/sports activities are managed to stagger traffic generating activities.

APPENDICES

**APPENDIX A - TABLE A1
EPPING TOWN CENTRE
RESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	125	16	29	48	79	84	86	82	82	75	76	62	72	58
<i>Total Number of Vacant Spaces</i>		109	96	77	46	41	39	43	43	50	49	63	53	67
<i>Total % of Capacity Used</i>		12.8%	23.2%	38.4%	63.2%	67.2%	68.8%	65.6%	65.6%	60.0%	60.8%	49.6%	57.6%	46.4%

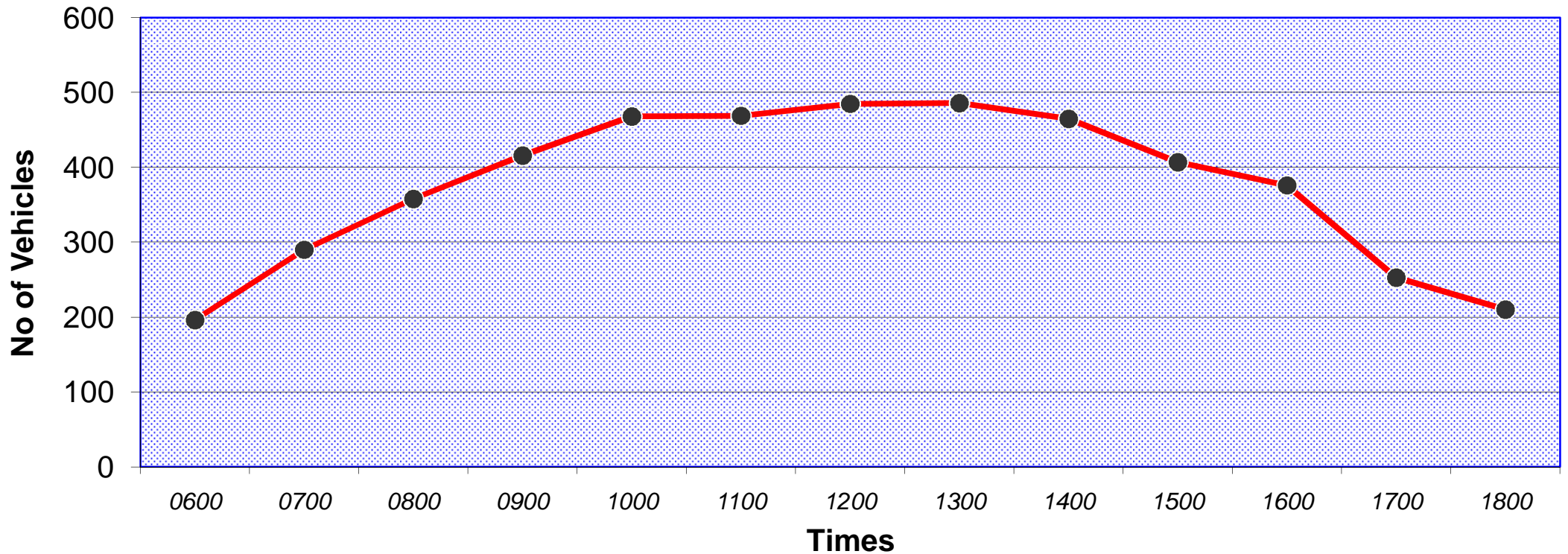
Epping Parking Demand



**APPENDIX A - TABLE A2
EPPING TOWN CENTRE
UNRESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	511	196	290	358	416	468	469	485	486	465	407	376	253	210
<i>Total Number of Vacant Spaces</i>		315	221	153	95	43	42	26	25	46	104	135	258	301
<i>Total % of Capacity Used</i>		38.4%	56.8%	70.1%	81.4%	91.6%	91.8%	94.9%	95.1%	91.0%	79.6%	73.6%	49.5%	41.1%

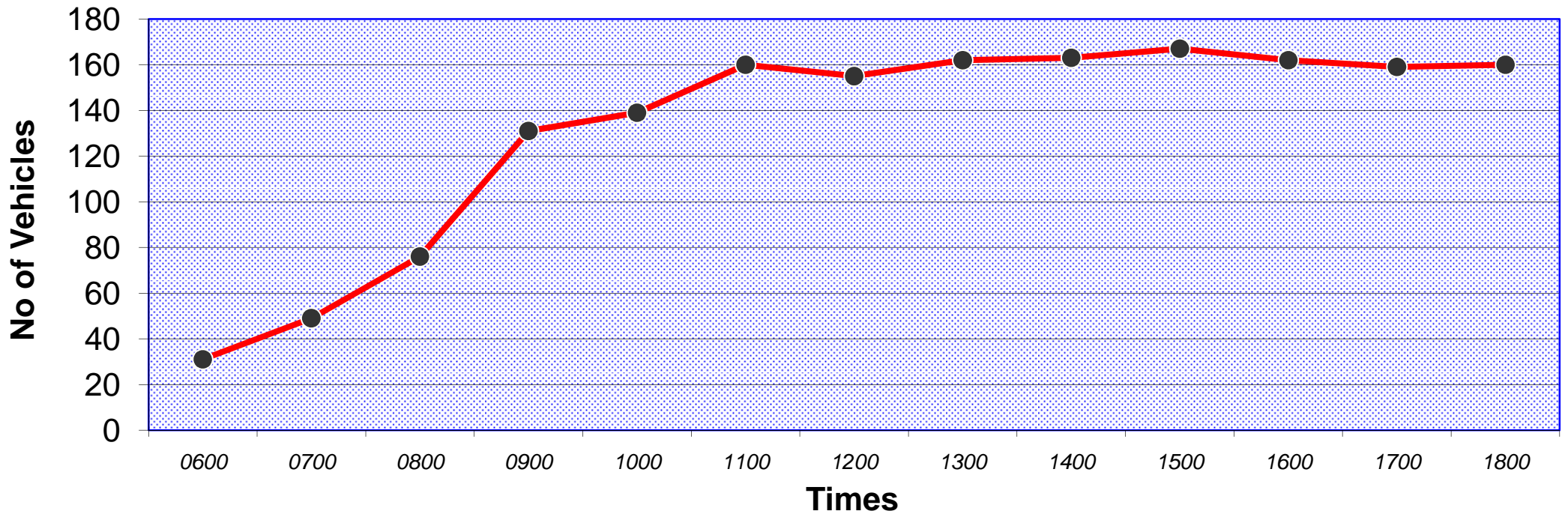
Epping Parking Demand



**APPENDIX B - TABLE B1
HORNSBY TOWN CENTRE (EASTSIDE)
RESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	195	31	49	76	131	139	160	155	162	163	167	162	159	160
<i>Total Number of Vacant Spaces</i>		164	146	119	64	56	35	40	33	32	28	33	36	35
<i>Total % of Capacity Used</i>		15.9%	25.1%	39.0%	67.2%	71.3%	82.1%	79.5%	83.1%	83.6%	85.6%	83.1%	81.5%	82.1%

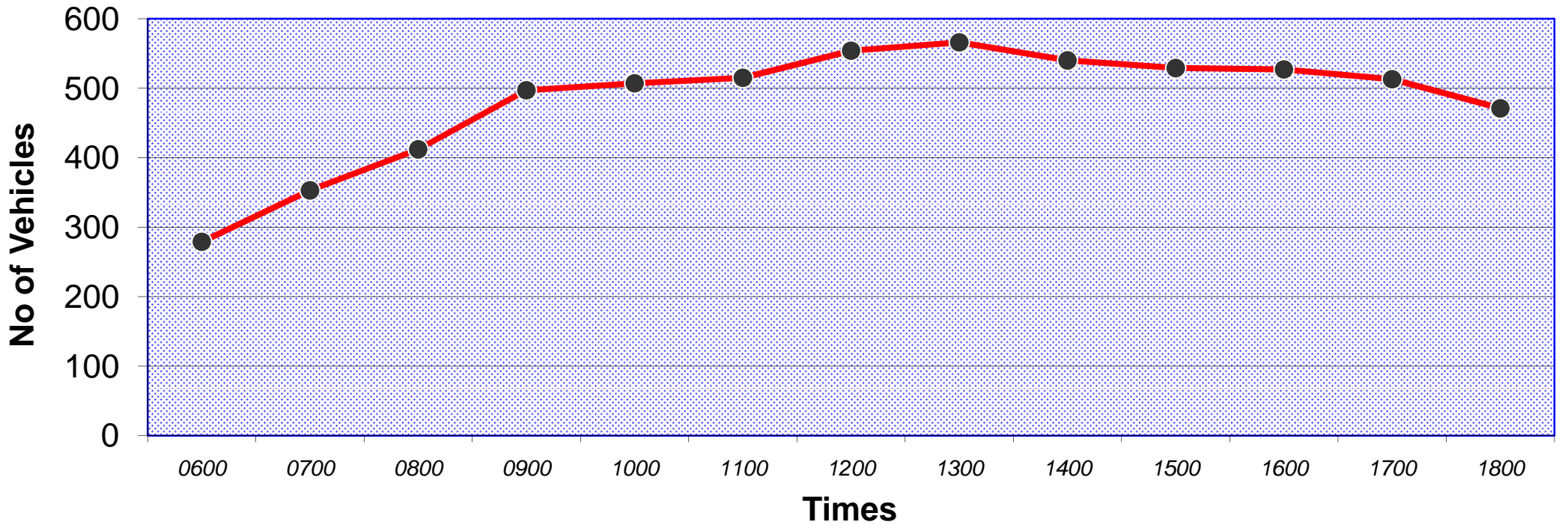
Hornsby CBD Parking Demand



**APPENDIX B - TABLE B2
HORNSBY TOWN CENTRE (EASTSIDE)
UNRESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	657	279	353	412	497	507	515	554	566	540	529	527	513	471
<i>Total Number of Vacant Spaces</i>		378	304	245	160	150	142	103	91	117	128	130	144	186
<i>Total % of Capacity Used</i>		42.5%	53.7%	62.7%	75.6%	77.2%	78.4%	84.3%	86.1%	82.2%	80.5%	80.2%	78.1%	71.7%

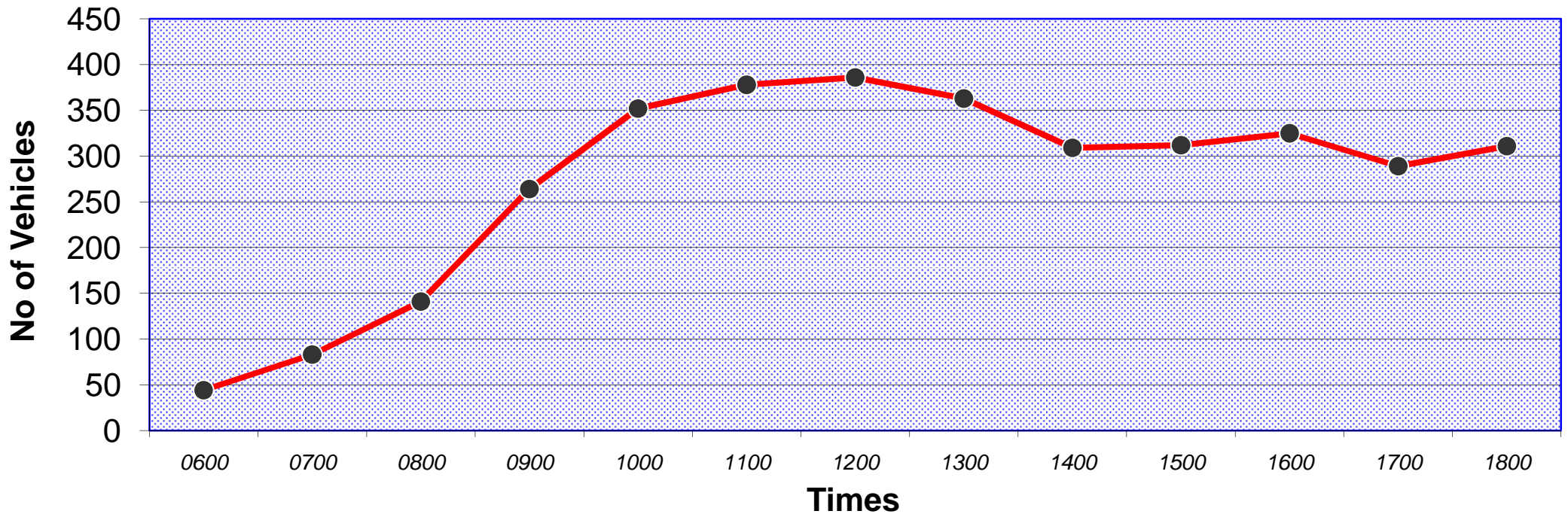
Hornsby CBD Parking Demand



**APPENDIX B - TABLE B3
HORNSBY TOWN CENTRE (WESTSIDE)
RESTRICTED PARKING**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	469	44	83	141	264	352	378	386	363	309	312	325	289	311
<i>Total Number of Vacant Spaces</i>		425	386	328	205	117	91	83	106	160	157	144	180	158
<i>Total % of Capacity Used</i>		9.4%	17.7%	30.1%	56.3%	75.1%	80.6%	82.3%	77.4%	65.9%	66.5%	69.3%	61.6%	66.3%

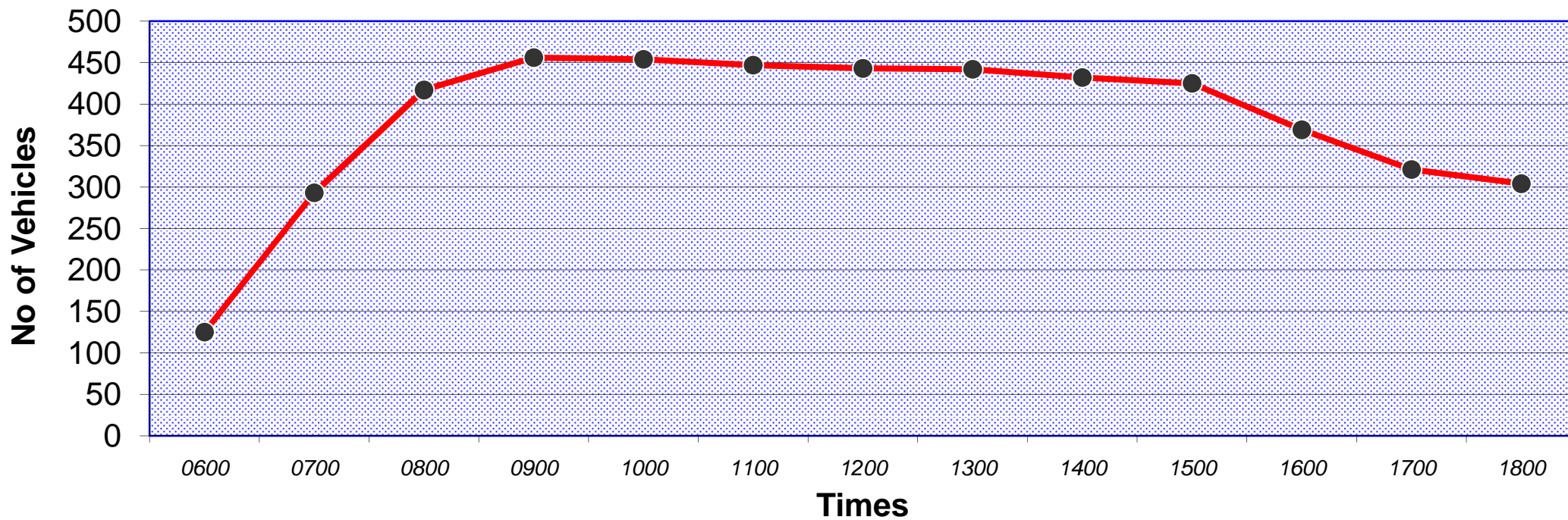
Hornsby CBD Parking Demand



**APPENDIX B - TABLE B4
HORNSBY TOWN CENTRE (WESTSIDE)
UNRESTRICTED PARKING**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	503	125	293	417	456	454	447	443	442	432	425	369	321	304
<i>Total Number of Vacant Spaces</i>		378	210	86	47	49	56	60	61	71	78	134	182	199
<i>Total % of Capacity Used</i>		24.9%	58.3%	82.9%	90.7%	90.3%	88.9%	88.1%	87.9%	85.9%	84.5%	73.4%	63.8%	60.4%

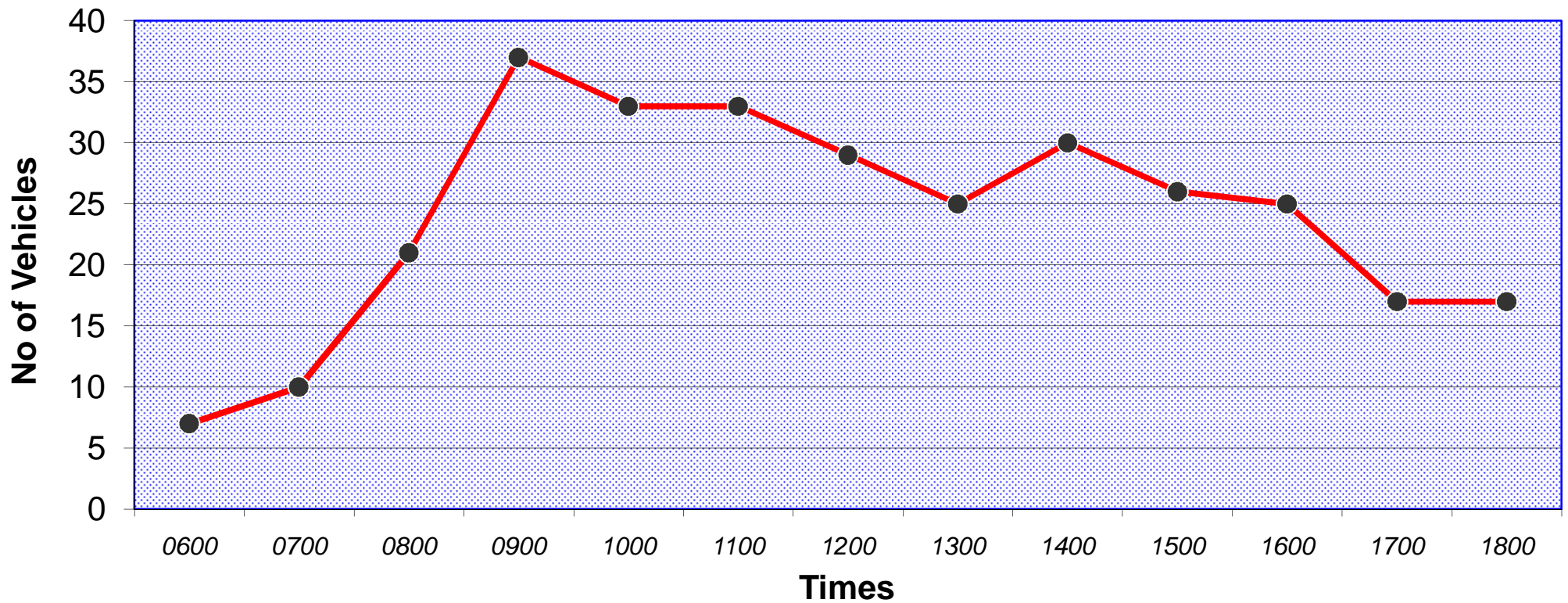
Hornsby CBD Parking Demand



**APPENDIX C - TABLE C1
HORNSBY HOSPITAL AREA
RESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	40	7	10	21	37	33	33	29	25	30	26	25	17	17
<i>Total Number of Vacant Spaces</i>		33	30	19	3	7	7	11	15	10	14	15	23	23
<i>Total % of Capacity Used</i>		17.5%	25.0%	52.5%	92.5%	82.5%	82.5%	72.5%	62.5%	75.0%	65.0%	62.5%	42.5%	42.5%

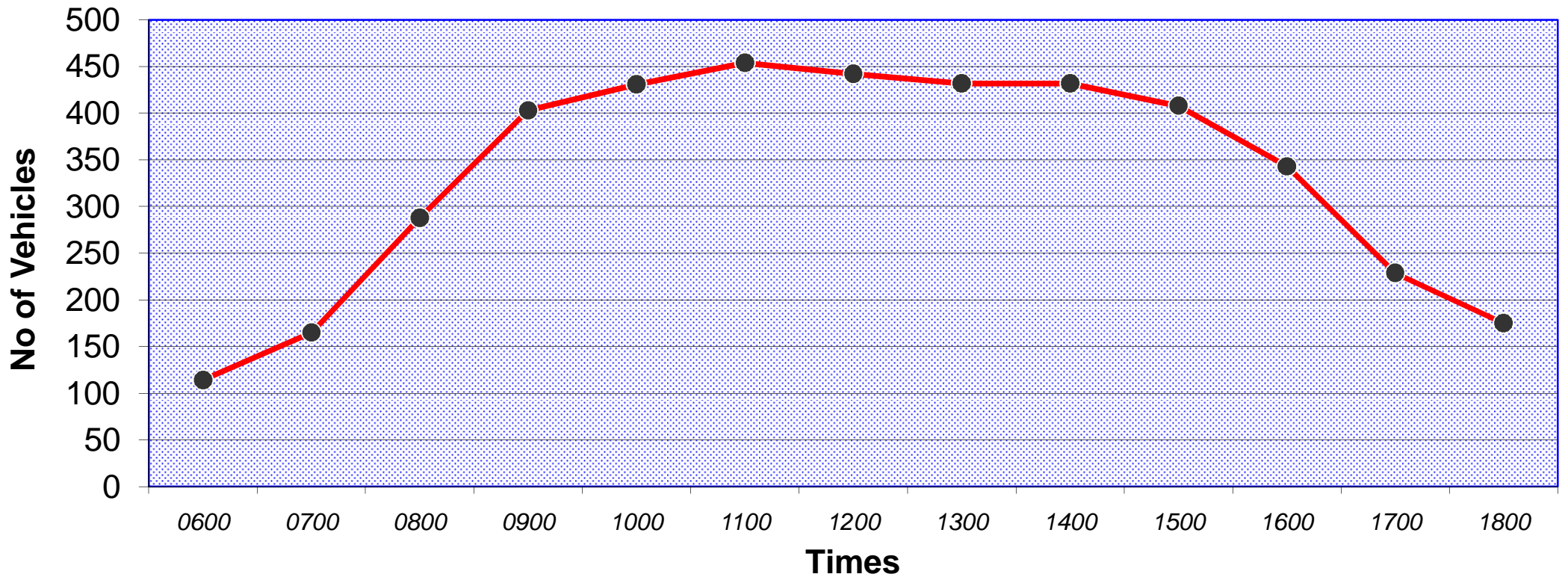
Hornsby Hospital - Parking Demand



**APPENDIX C - TABLE C2
HORNSBY HOSPITAL AREA
UNRESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	527	114	165	288	403	431	454	442	432	432	408	343	229	175
<i>Total Number of Vacant Spaces</i>		413	362	239	124	96	73	85	95	95	119	184	298	352
<i>Total % of Capacity Used</i>		21.6%	31.3%	54.6%	76.5%	81.8%	86.1%	83.9%	82.0%	82.0%	77.4%	65.1%	43.5%	33.2%

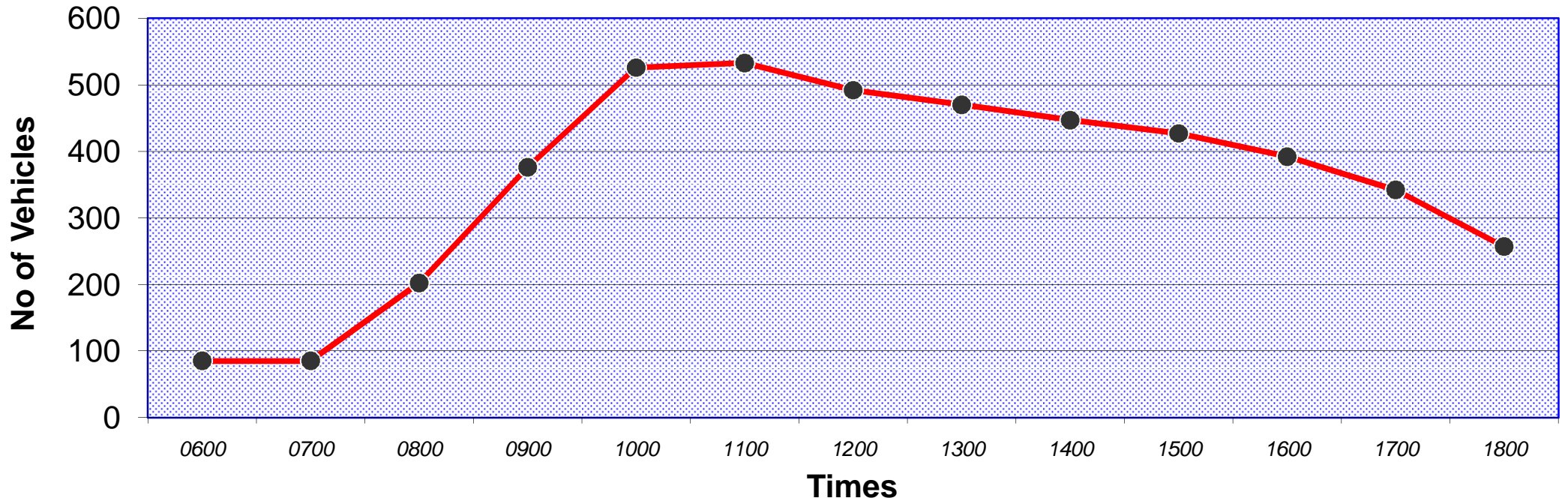
Hornsby Hospital - Unrestricted On Street Parking Demand



**APPENDIX D - TABLE D1
PENNANT HILLS TOWN CENTRE
RESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	665	85	85	202	376	526	533	492	470	447	427	392	342	257
<i>Total Number of Vacant Spaces</i>		580	580	463	289	139	132	173	195	218	238	273	323	408
<i>Total % of Capacity Used</i>		12.8%	12.8%	30.4%	56.5%	79.1%	80.2%	74.0%	70.7%	67.2%	64.2%	58.9%	51.4%	38.6%

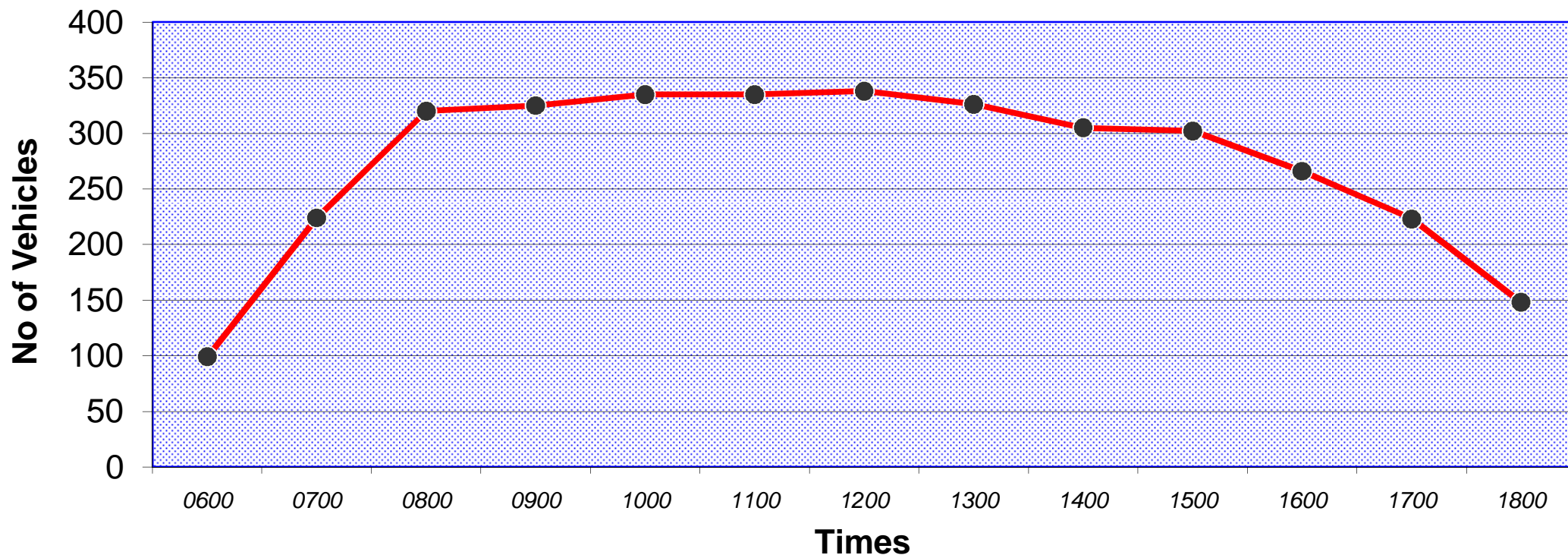
Pennant Hills Town Centre Parking Demand



**APPENDIX D - TABLE D2
PENNANT HILLS TOWN CENTRE
UNRESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
Total Vehicles Parked	365	99	224	320	325	335	335	338	326	305	302	266	223	148
Total Number of Vacant Spaces		266	141	45	40	30	30	27	39	60	63	99	142	217
Total % of Capacity Used		27.1%	61.4%	87.7%	89.0%	91.8%	91.8%	92.6%	89.3%	83.6%	82.7%	72.9%	61.1%	40.5%

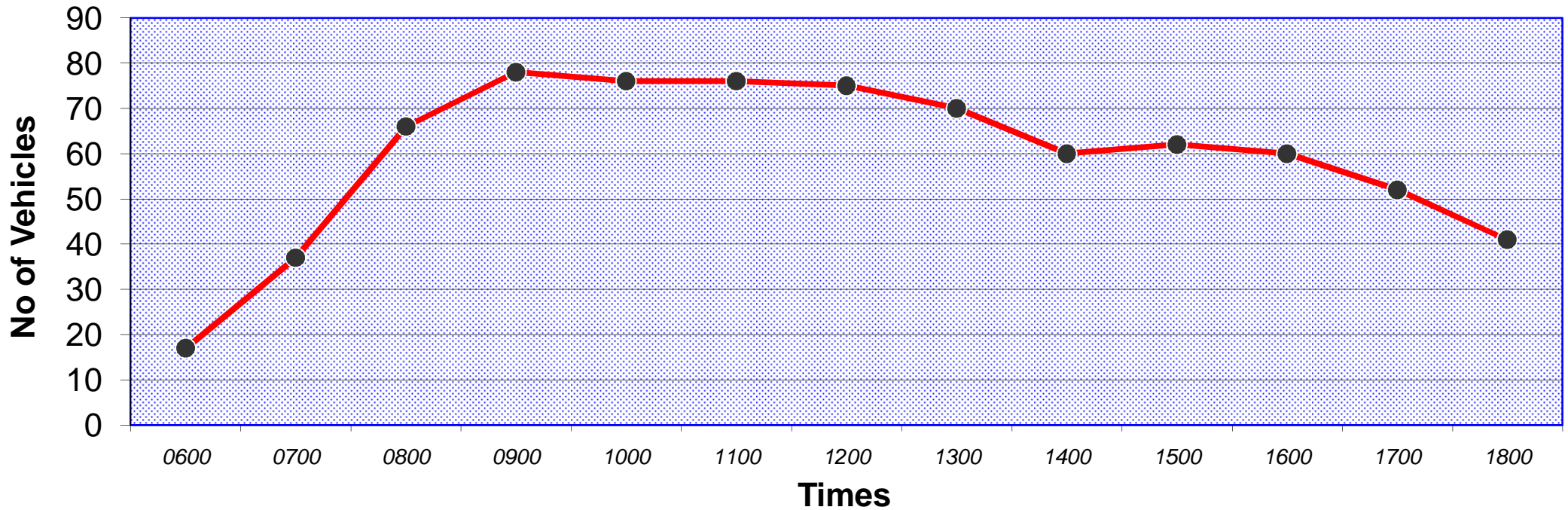
Pennant Hills Town Centre Parking Demand



**APPENDIX E - TABLE E1
WAITARA
RESTRICTED PARKING UTILISATION**

SUMMARY	Totla Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
Total Vehicles Parked	86	17	37	66	78	76	76	75	70	60	62	60	52	41
Total Number of Vacant Spaces		69	49	20	8	10	10	11	16	26	24	26	34	45
Total % of Capacity Used		19.8%	43.0%	76.7%	90.7%	88.4%	88.4%	87.2%	81.4%	69.8%	72.1%	69.8%	60.5%	47.7%

Waitara - Restricted Parking Demand



**APPENDIX E - TABLE E2
WAITARA
UNRESTRICTED PARKING UTILISATION**

SUMMARY	Total Spaces Surveyed	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800
<i>Total Vehicles Parked</i>	1002	346	596	799	929	940	942	933	921	927	858	821	706	615
<i>Total Number of Vacant Spaces</i>		656	406	203	73	62	60	69	81	75	144	181	296	387
<i>Total % of Capacity Used</i>		34.5%	59.5%	79.7%	92.7%	93.8%	94.0%	93.1%	91.9%	92.5%	85.6%	81.9%	70.5%	61.4%

