



Engineering the Future

WOOLLAHRA MUNICIPAL COUNCIL

CHRISTISON PARK FLOODLIGHTING

TRAFFIC & PARKING STUDY

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CONTENTS

	Page
1 INTRODUCTION	1
2 EXISTING SITUATION.....	1
2.1 Description of Site.....	1
2.2 Park Usage	1
2.3 Parking Survey.....	2
2.4 Traffic Survey.....	2
2.5 Intersection Performance.....	2
3 PROPOSED SITUATION	3
3.1 Proposed Usage	3
3.2 Estimated Parking Demand	3
3.3 Estimated Traffic Demand	4
3.4 Intersection Performance.....	4
4 CONCLUSION.....	4

FIGURES

- 1 Parking Survey Area
- 2 Traffic Count

APPENDICES

- A Parking Survey

1 INTRODUCTION

Woollahra Municipal Council has commissioned Cardno to prepare this report which examines the traffic and parking impact of the proposed upgrading of floodlighting of the four sports fields at Christison Park, Vacluse.

The issues addressed by this report are:

- existing on street parking capacity and parking occupancy during weekday night
- existing traffic conditions in surrounding streets
- mode split of court users
- impact of the proposed use on the on street parking and traffic in surrounding streets

Parking occupancy surveys and a traffic count on a weekday night has been carried out.

2 EXISTING SITUATION

2.1 Description of Site

Christison Park is located on the eastern side of Old South Head Road, north of the Old South Head Road/New South Head Road intersection, Vacluse. Both these roads are classified as state roads south of the intersection. whilst north of the intersection, Old South Head Road is classified as a regional road.

A single floodlight located on the western boundary of the park currently provides lighting to only one field.

2.2 Park Usage

The park is used by the general public for such activities as walking their dogs, jogging and general recreational activities. A number of schools, university and sports clubs use the field for competition and training. There are three synthetic cricket pitches used for junior cricket competition during the summer season. There is also a bitumen basketball court on the north east section of the park. Official use of the park is listed below;

Day	Usage
Monday	3:30pm-5:00pm 3 fields Scots College (Rugby / soccer) 7:00pm-9:00pm 1 field UTS Soccer
Tuesday	2:00pm-2:45pm 3:30pm-5pm 3 fields Scots College (Rugby / soccer) 7:00pm-8:30pm 1 field Macabi Soccer
Wednesday	5:00pm-7:00pm 1 field Macabi Soccer
Thursday	2:00pm-2:45pm 3:30pm-5pm 3 fields Scots College (Rugby / soccer) 7:00pm-8:30pm 1 field Macabi Soccer
Friday	No usage
Saturday	8:30-11:30am 3 fields Scots College (Rugby / soccer) 8:00am-noon 1 field Girls hockey (ave. every second week) 12:00-4:00pm 1 field Cranbrook (Rugby / soccer)
Sunday	9:00am-1:00pm 2 fields Macabi soccer

Existing Usage of Christison Park

2.3 Parking Survey

An inventory of on street parking was carried out on Thursday 28th April 2005 in close proximity to Christison Park, which indicated that 175 parking spaces are within short walking distance. The extent of the area is indicated in **Figure 1**.

Parking occupancy surveys were carried out on the same day between the hours of 5pm and 8pm. The survey was carried out at 30-minute intervals. These times were chosen as they respond to the peak usage times of the proposed floodlit sports fields.

The survey included the following on road sections:

- Old South Head Road between New South Head Road and Macquarie Road
- Macquarie Road between Kings Road and Old South Head Road
- Village High Road between Kings Road and Old South Head Road
- Young Street between Old South Head Road and Clarke Street
- Clarke Street between Young Street and Jensen Avenue
- Jensen Street between Clarke Street and Marine Street

The surveys indicate that the highest parking occupancy occurred between 5:00pm and 5:30pm where 40% of spaces were occupied. Between 6pm and 8pm the occupancy was consistently between 33% and 35% indicating that there is considerable spare parking capacity in the roads surrounding Christison Park.

A user survey was also carried out on the same night to determine who uses the fields and their mode of transport.

Only one team was training, a primary school aged Macabi soccer team. There were a total of 10 children, one coach and one parent. They occupied a total of 4 parking spaces on Old South Head Road adjacent to the fields. 2 of these cars were there for the duration of the training session, whilst two others arrived to pick up the children. They left the fields just before 6pm.

A full detail of the parking and user survey is included in **Appendix A**.

2.4 Traffic Survey

A traffic count was carried out at the Old South Head Road/New South Head Road roundabout on Thursday April 28th 2005, between 6:30pm and 7:30pm. This time was chosen as it corresponds to the peak time for traffic movements that would result resulting from the floodlighting proposal.

2.5 Intersection Performance

The performance of the Old South Head Road/New South Head Road roundabout has been analysed using INTANAL, an intersection analysis program based on traffic counts as detailed in **Figure 2**. The analysis indicates that the intersection is operating at a good Level of Service in the PM weeknight peak.

Intersection	PM Peak 630pm-730pm	
	LoS	Ave. Del.
Old South Head Road/New South Head Road	A	8 sec

Existing Intersection Performance

3 PROPOSED SITUATION

3.1 Proposed Usage

The proposal for floodlighting across all four fields will potentially make available all fields for night use. Typical night use may include yet not limited to:

Day	Usage
Monday	1-2 fields 7:00pm-8:30/9:00pm 4 teams
Tuesday	4 fields 7:00pm-8:30/9:00pm 8 teams
Wednesday	1-2 fields 7:00pm-8:30/9:00pm 4 teams
Thursday	4 fields 7:00pm-8:30/9:00pm 8 teams
Friday	Nil
Saturday	Nil
Sunday	Nil

Proposed Usage of Christison Park

As evident from the parking survey, Christison Park is used by recreational walkers, people walking their dogs and other social sporting activities and would continue to be under the proposal.

3.2 Estimated Parking Demand

In order to determine whether the surrounding road network can cater for the parking demand of the proposal a worst case scenario has been tested. The worse case scenario would occur when 8 adult soccer teams training with 11 players and one coach per team on a weekday night were present between 6:30pm and 8:30pm. It is likely that some players will car pool resulting in say 1.2 players per car. It has assumed that no players arrive by public transport.

Parking demand = [11 (players) + 1 (coach)]/ 1.2 (car occupancy) x 8 teams = 80 spaces

As observed during the parking survey, the current parking demand of the sports fields under the current conditions is negligible from 6:30 pm onwards.

Time Period	Parking generated by proposal	Existing unoccupied spaces in study area at 6:30pm to 7:00pm	Excess Supply over demand
Thursday night	80	114	34

Parking Demand of Proposal

As can be seen from the above table, the estimated parking generation of the floodlit fields can be accommodated by the surrounding on street parking on a Thursday night although the parking occupancy on surrounding streets will increase considerably from 35% to 81%.

3.3 Estimated Traffic Demand

In estimating the peak traffic generation of the park with the proposed floodlights a worst case scenario has been tested.

The worst case scenario in regards to traffic would occur when all four fields are utilised by teenage/primary aged soccer teams and each field has 2 teams training with a maximum of 11 participants per team in attendance. In addition it is assumed that 2 officials/parents per team are present for the duration of the training (as observed during the parking survey). This case is worse for traffic than adult aged participants as they result in additional trips in the peak hour as parents drop their children off resulting in a trip to and from the venue in the peak hour. With adults there is only a trip to the venue in the peak hour as they park for the duration of the training.

The method of transport to the sporting fields on a weekday night would be by private vehicle. For simplicity it has been assumed that each player/official traveling to the site will generate 1 trip to the site and 0.8 trips from the site in the PM peak. The variation resulting from 2 officials/parent per team staying at training.

Based on information detailed above the proposal will result in the following additional traffic in the peak hour:

- 12 trips X 7 teams = 84 trips to the venue
- 10 trips x 7 teams = 70 trips from the venue

Time	Total peak hour increase in trips
Weekday PM 630pm-730pm	154 trips/hr

Traffic Generation of Proposal

3.4 Intersection Performance

The performance of the Old South Head Road/New South Head Road roundabout under the scenario detailed above indicates that the intersection will still operate at a good Level of Service in the PM weeknight peak. Note that the additional traffic has been dispersed in the same proportion as the existing traffic.

	PM Peak	
	LoS	Ave. Del.
Old South Head Road/New South Head Road	A	8 sec

Intersection Performance with proposal

4 CONCLUSION

There is sufficient on street parking supply to cater for the demand, which will arise with the proposed floodlighting of all 4 fields. It should however be noted that the on street parking occupancy would increase significantly from 35% to 81% between the hours of 7:00pm and 8:30pm on a weeknight .

The traffic generated by the proposal will have negligible impact on the surrounding road network with the INTANAL analysis indicating no increase to delays at the Old South Head Road/New South Head Road intersection which would still operate at a Level of Service A.

In order to reduce the impact of traffic and parking for residents on the roads surrounding Christison Park, it is recommended that;

- a mix of adults and junior teams train at the venue each night to reduce the parking demand.
- only one timeslot be available for training each night on each field, in order to prevent the overlap of parking and traffic which could occur if more than 8 groups were allowed to train at the venue on a given night.
- Only 3 fields be used for training on any given night, which will reduce the parking demand of the venue.

APPENDIX A

Parking Surveys