

Disabled Parking Utilisation Survey

September, 2008

Department of Territory and Municipal
Services



Parsons Brinckerhoff Australia Pty Limited ABN 80 078 004 798

*Level 3, Empire Chambers
1-13 University Avenue
Canberra ACT 2600
GPO Box 331
Canberra ACT 2601
Australia
Telephone +61 2 6281 9500
Facsimile +61 2 6281 9501
Email canberra@pb.com.au*

NCSI Certified Quality System ISO 9001

© Parsons Brinckerhoff Australia Pty Limited (PB) [2008].

Copyright in the drawings, information and data recorded in this document (the information) is the property of PB. This document and the information are solely for the use of the authorised recipient and this document may not be used, copied or reproduced in whole or part for any purpose other than that for which it was supplied by PB. PB makes no representation, undertakes no duty and accepts no responsibility to any third party who may use or rely upon this document or the information.

Author: Laura Cannell

Signed: 

Reviewer: Francois Botes

Signed: 

Approved by: John Gill

Signed: 

Date: 16 September 2008

Distribution: Roads ACT/PB File

Contents

	Page Number
Executive summary	iii
1. Introduction.....	1
1.1 Purpose	1
1.2 Methodology	1
2. Results.....	2
2.1 Town Centres	2
2.1.1 <i>Belconnen</i>	2
2.1.2 <i>Civic</i>	3
2.1.3 <i>Gungahlin</i>	4
2.1.4 <i>Tuggeranong</i>	4
2.1.5 <i>Woden</i>	5
2.2 Group Centres	6
2.2.1 <i>Ainslie</i>	6
2.2.2 <i>Calwell</i>	7
2.2.3 <i>Charnwood</i>	7
2.2.4 <i>Chisholm</i>	8
2.2.5 <i>Cooleman Court, Weston</i>	9
2.2.6 <i>Curtin</i>	9
2.2.7 <i>Dickson</i>	10
2.2.8 <i>Erindale</i>	10
2.2.9 <i>Hawker</i>	11
2.2.10 <i>Jamison</i>	11
2.2.11 <i>Kaleen</i>	12
2.2.12 <i>Kambah</i>	12
2.2.13 <i>Kingston</i>	13
2.2.14 <i>Kippax Centre, Holt</i>	14
2.2.15 <i>Lanyon Market Place, Conder</i>	15
2.2.16 <i>Manuka, Griffith</i>	16
2.2.17 <i>Southlands Centre, Mawson</i>	17
3. Interpretation of results	18
4. Conclusion and recommendations	19

Contents (continued)

Page Number

List of figures

Figure E-1: BCA requirements compared to utilisation	iv
Figure 2-1: Occupation of disabled spaces compared to standard spaces	2
Figure 2-2: Belconnen occupation of parking spaces	3
Figure 2-3: Civic occupation of parking spaces	3
Figure 2-4: Gungahlin occupation of parking spaces	4
Figure 2-5: Tuggeranong occupation of parking spaces	5
Figure 2-6: Woden occupation of disabled parking spaces	5
Figure 2-7: Ainslie occupation of parking spaces	6
Figure 2-8: Calwell occupation of parking spaces	7
Figure 2-9: Charnwood occupation of disabled parking spaces	8
Figure 2-10: Chisholm occupation of parking spaces	8
Figure 2-11: Cooleman Court, Weston occupation of parking spaces	9
Figure 2-12: Curtin occupation of parking spaces	9
Figure 2-13: Dickson occupation of parking spaces	10
Figure 2-14: Erindale occupation of parking spaces	10
Figure 2-15: Hawker occupation of parking spaces	11
Figure 2-16: Jamison occupation of parking spaces	12
Figure 2-17: Kaleen occupation of parking spaces	12
Figure 2-18: Kambah occupation of parking spaces	13
Figure 2-19: Kingston occupation of disabled parking spaces	13
Figure 2-20: Kippax occupation of parking spaces	14
Figure 2-21: Lanyon Market occupation of parking spaces	15
Figure 2-22: Manuka occupation of parking spaces	16
Figure 2-23: Southlands Centre occupation of parking spaces	17

Executive summary

A detailed assessment of disabled parking facilities at publicly owned surface car parks at town and group centres in the ACT has been undertaken. The purpose of the study was to establish whether the provision of disabled parking facilities is adequate to meet the needs of disabled people in the ACT. This issue is of concern due to a demographic trend towards an ageing population and the perceived shortage of adequate parking for disabled people given the greater number of older people who may be eligible for disabled parking permits.

The work was broken down into three separate studies, which resulted in four individual reports:

- Parking provision accessibility survey – Group Centres
- Parking provision accessibility survey – Town Centres
- Utilisation survey
- Policy and demand.

This report considers the utilisation of disabled parking in the ACT and focuses on quantifying the raised concern that the supply of parking spaces for use by disabled people does not adequately meet the demand for spaces at the town and group centres in the ACT.

The approach taken by PB to test this assertion was to determine the utilisation characteristics of disabled parking bays in each of the town and group centres over a period of two days during nominated time periods. A non-school holiday Friday and Saturday in a public service pay week were chosen for analysis as it was considered that these periods were most likely to present the average or higher levels of usage for a month. Aerial photography of the shopping centre car parks was used to capture the required information for analysis. Friday 8 and Saturday 9 February 2008 were selected as the sample days.

This report documents the findings of the disabled parking utilisation survey which overall found that there were some vacant disabled parking spaces available at a lot of the centres at least at some time in the day. At most centres there were some spaces, located further from the desired destination, that were not used at all which highlights the need to locate disabled parking spaces as close to the desired destination as possible.

A lot of centres have some disabled parking spaces available for at least some of the survey time. Utilisation rates have been compared to Building Code of Australia (BCA) standards for parking provision. Fifty percent of the centres had a greater number of occupied spaces than the number of spaces required at the minimum levels set by BCA and Australian Standards AS289.1. This suggests that if the minimum standards had been applied, the demand for spaces would exceed the disabled parking provision. This would suggest that the standards do not require enough disabled parking to meet demand in the ACT. It is therefore recommended that where the provision of disabled parking exceeds the requirements of the standards that they be retained.

Public perceptions from the online survey also suggest that there are not enough disabled parking spaces at most centres, therefore, it is recommended that the proportion of disabled parking required in new car parks – or when revising existing car parks – is increased.

The percentage of disabled parking spaces utilised compared to the number of standard spaces available has been found for each centre, this is shown in Table 1. The maximum occupation level for each centre was used to calculate a ratio of disabled parking occupation to standard parking spaces provided. This demonstrates that the average utilisation of disabled parking spaces for all centres is 2.1% of the total number of standard parking spaces. This rate assumes that disabled drivers are not parking in standard spaces. No data has been found that indicates the proportion of disabled permit holders who park in standard parking spaces. Some spare capacity should be provided so that when a disabled person arrives at a shopping centre they are not forced to use standard spaces if all the disabled spaces are full in the peak times. As the standard spaces that are located closest to shop entrances are normally the most desirable to all drivers, the chances of a disabled driver being able to park in a reasonably located standard space rather than a disabled space are small.

Figure E-1: BCA requirements compared to utilisation

Centre	Regular Spaces	Easy Access Spaces	BCA req no. disabled	Number of Disabled Cars				Percentage Disabled Cars to number of standard parks provided				Maximum utilisation
				Friday 10:00	Friday 13:00	Friday 16:00	Saturday 12:00	Friday 10:00	Friday 13:00	Friday 16:00	Saturday 12:00	
Ainslie	113	4	2	3	3	0	1	2.7%	2.7%	0.0%	0.9%	2.7%
Calwell	229	5	3	1	0	4	1	0.4%	0.0%	1.7%	0.4%	1.7%
Charnwood	271	6	5	5	1	0	5	1.8%	0.4%	0.0%	1.8%	1.8%
Chisholm	157	4	3	2		1	2	1.3%		0.6%	1.3%	1.3%
Curtin	222	6	5	2	3	3	3	0.9%	1.4%	1.4%	1.4%	1.4%
Dickson	1033	31	20	4	17	3	9	0.4%	1.6%	0.3%	0.9%	1.6%
Erindale	506	18	8	10	11	5	3	2.0%	2.2%	1.0%	0.6%	2.2%
Hawker	332	8	4	1	3	2	2	0.3%	0.9%	0.6%	0.6%	0.9%
Jamison	617	14	7	10	10	10	11	1.6%	1.6%	1.6%	1.8%	1.8%
Kaleen	241	6	5	2	4	2	1	0.8%	1.7%	0.8%	0.4%	1.7%
Kambah	282	7	1	3	3	2	4	1.1%	1.1%	0.7%	1.4%	1.4%
Kingston	208	14	8	12	14	12	11	5.8%	6.7%	5.8%	5.3%	6.7%
Kippax	470	18	9	17	14	7	14	3.6%	3.0%	1.5%	3.0%	3.6%
Lanyon	372	8	8	4	3	2	0	1.1%	0.8%	0.5%	0.0%	1.1%
Manuka	400	11	4	2	3	3	5	0.5%	0.8%	0.8%	1.3%	1.3%
Southlands	627	16	11	6	11	8	11	1.0%	1.8%	1.3%	1.8%	1.8%
Weston	464	15	12	15	11	5	8	3.2%	2.4%	1.1%	1.7%	3.2%
Belconnen	3505	58	67	42	50	38	27	1.2%	1.4%	1.1%	0.8%	1.4%
Civic	3022	90	54	64	74	23	18.4	2.1%	2.4%	0.8%	0.6%	2.4%
Gungahlin	589	23	10	12	13	9	2	2.0%	2.2%	1.5%	0.3%	2.2%
Tuggeranong	1770	43	34	23	27	11	13	1.3%	1.5%	0.6%	0.7%	1.5%
Woden	1276	42	15	23	21	14	38	1.8%	1.6%	1.1%	3.0%	3.0%
Average								1.7%	1.8%	1.1%	1.4%	2.1%
85th %ile								2.6%	2.4%	1.5%	1.8%	2.9%

Table 1 Utilisation of disabled spaces compared to BCA required number of spaces.

Red text identifies locations where the number of occupied disabled spaces exceeds BCA requirements.

Green text denotes percentages of utilisation that are greater than 1.5% of the standard spaces provided,

Orange text denotes percentages of utilisation that is greater than 2% of standard spaces provided and

Blue text denotes percentages greater than 3% of standard spaces provided.

Although the aerial photography, undertaken in February 2008 demonstrates that there are some underutilised spaces, when the compliance surveys were undertaken in December 2007, virtually all disabled parking spaces were utilised, demonstrating that utilisation varies throughout the year. The number of occupied standard spaces during this time of the year was also greater.

There is no individual factor relating to the physical design compliance of the disabled spaces – signage, width, length etc – that affects the level of disabled parking utilisation. This suggests that disabled drivers are no less likely to use a disabled access parking space if it does not meet the design standards than if it does. General observations have found that spaces that are not located at reasonable distance from the likely destination are underutilised demonstrating that proximity to desired destination is the most

important factor that affects usage. This would suggest that providing disabled parking spaces close to destinations is more important than providing spaces that meet design standards.

It is recommended that the number of disabled parking spaces at the following centres is increased:

- Jamison – relocate the badly located spaces and consider providing some additional parking
- Manuka
- Kippax – had only one vacant disabled parking space on Friday morning additional parking may be beneficial.

It is likely that the minimum BCA and AS 2890.1 parking standards will not meet the demand of disabled people and therefore in new car parks more than the minimum number of disabled spaces should be provided or that the standards should be revised. It is likely to be difficult to force private developers to exceed the standard requirements for disabled parking provision without a real financial incentive or planning requirement to comply. Ideally there should be some spare capacity provided so that disabled people are able to park in disabled parking spaces even at the peak times.

1. Introduction

1.1 Purpose

This report presents the findings of a survey undertaken to establish the utilisation of disabled parking spaces within ACT government car parks located in Town Centres and Group Centres in the ACT. It is the second of a sequence of reports that together will present the overall results of the review of disabled parking in the ACT.

The car parks covered by this survey include:

Town Centres

- Belconnen
- Civic
- Gungahlin
- Tuggeranong
- Woden

Group Centres

- Ainslie
- Calwell
- Charnwood
- Chisholm
- Cooleman Court, Weston
- Curtin
- Dickson
- Erindale
- Hawker
- Jamison
- Kaleen
- Kambah
- Kingston
- Kippax Centre, Holt
- Lanyon Market Place, Conder
- Manuka
- Southlands Centre, Mawson
- The Village Centre Kaleen
- Wanniasa

1.2 Methodology

Aerial photography was chosen as the most cost effective and accurate way of capturing the data required for analysis.

The aerial photography was undertaken at shopping centre car parks on Friday 8 and Saturday 9 February 2008. These dates were chosen as they were outside of school holidays and therefore they could be expected to represent a normal scenario. In addition, these dates also coincided with pay day for public servants who worked in the area; therefore it was likely that the number of shoppers and therefore utilisation of parking spaces was likely to be at their highest levels for the month.

Each of the centres was surveyed during the following time periods:

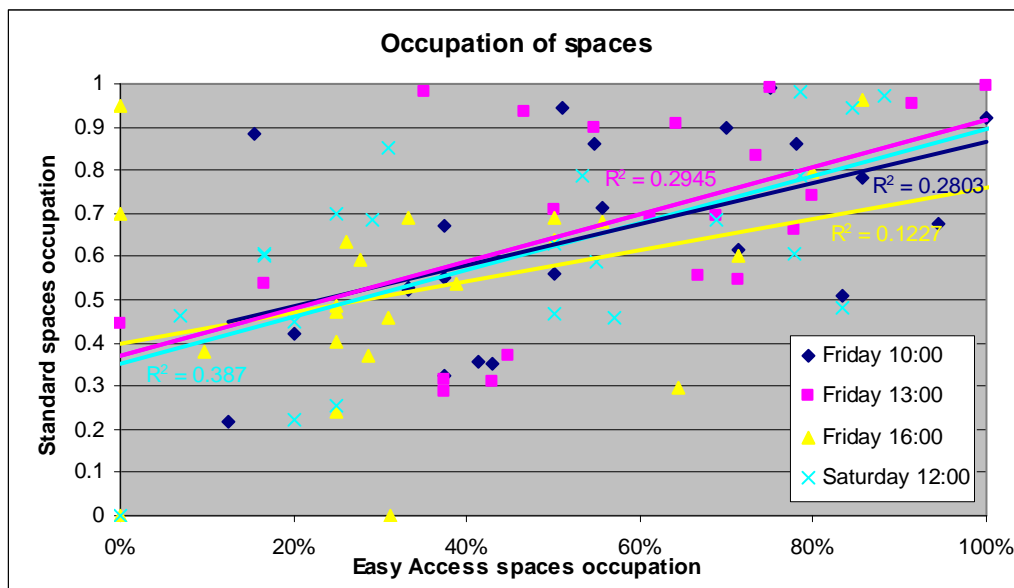
- Friday morning (approximately 10 am)
- Friday lunchtime (approximately 1 pm)
- Friday afternoon (approximately 4 pm)
- Saturday lunchtime (approximately 12 pm).

2. Results

The results of the parking utilisation survey for each shopping centre are presented in Section 2.1 of this report.

One hypothesis suggested at the commencement of the survey was that disabled drivers do not go to the centres surveyed at the peak times for other shoppers; it would appear they would prefer to use the facilities when they are less busy. Figure 2–1 below, shows that, in the overall analysis of results for the town centres and group centres, there is no relationship between the percentage occupation of standard spaces and the percentage occupation of disabled spaces. This confirms that the busiest times for disabled shoppers are not the same as those for shoppers using standard parking spaces.

Figure 2-1: Occupation of disabled spaces compared to standard spaces

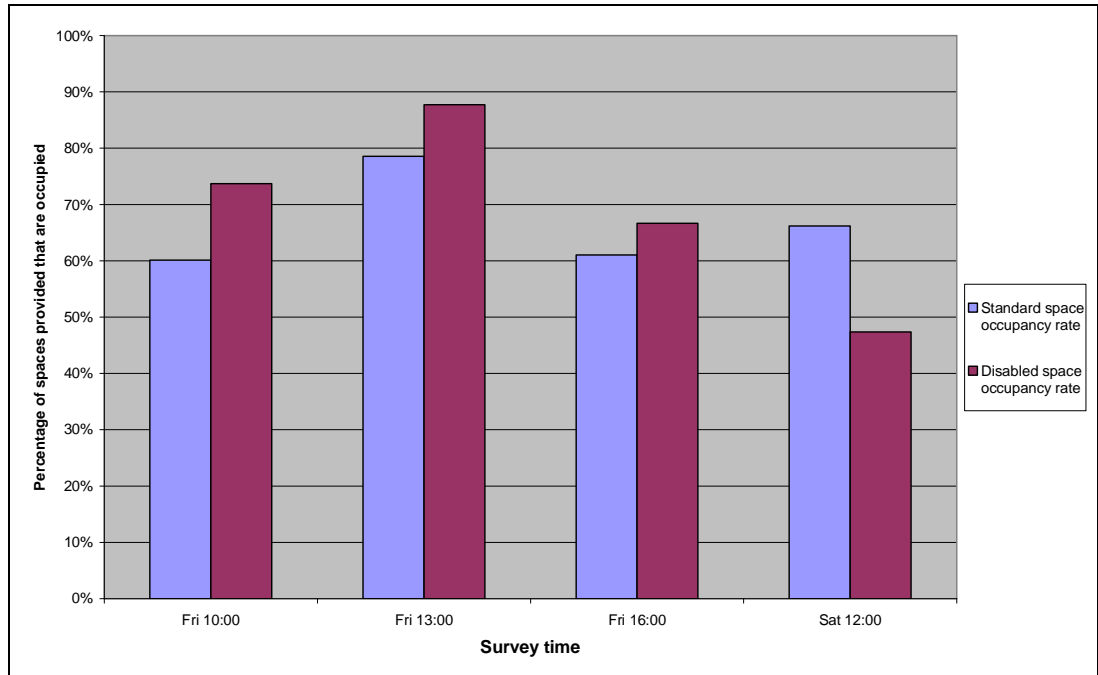


2.1 Town Centres

2.1.1 Belconnen

Occupation of disabled parking bays is highest in Belconnen on Friday lunchtime. The disabled spaces nearest to the shopping centres are utilised the most throughout all of the survey times.

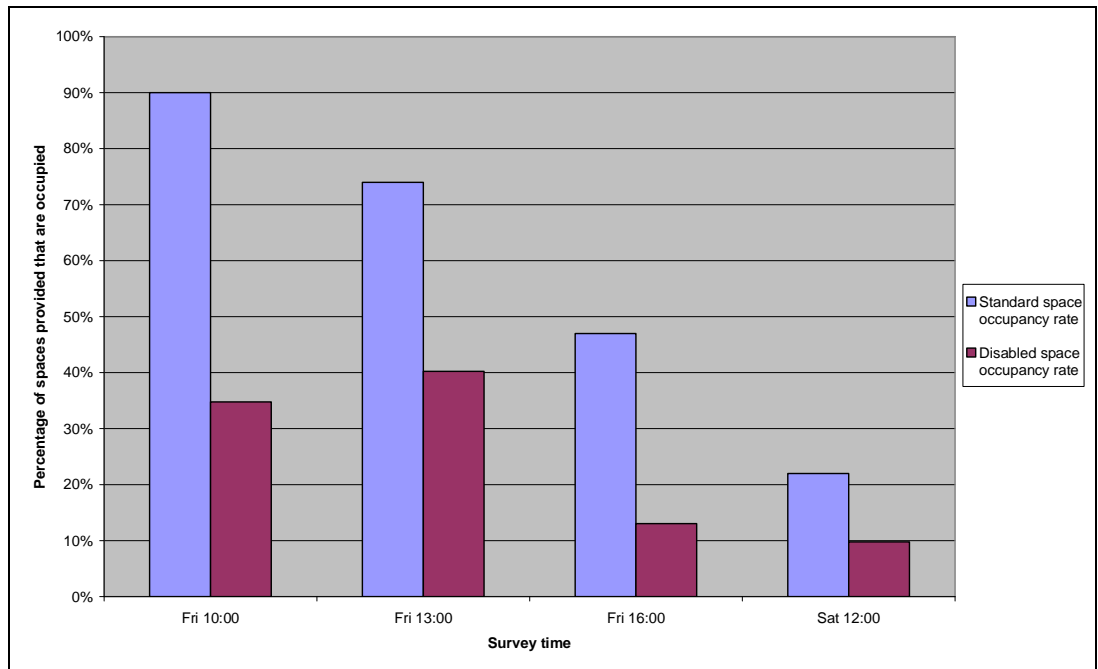
Figure 2-2: Belconnen occupation of parking spaces



2.1.2 Civic

The highest percentage occupation of parking spaces in Civic was on Friday lunchtime. Occupation of parking in London Circuit car parks was low on Friday evening and Saturday morning.

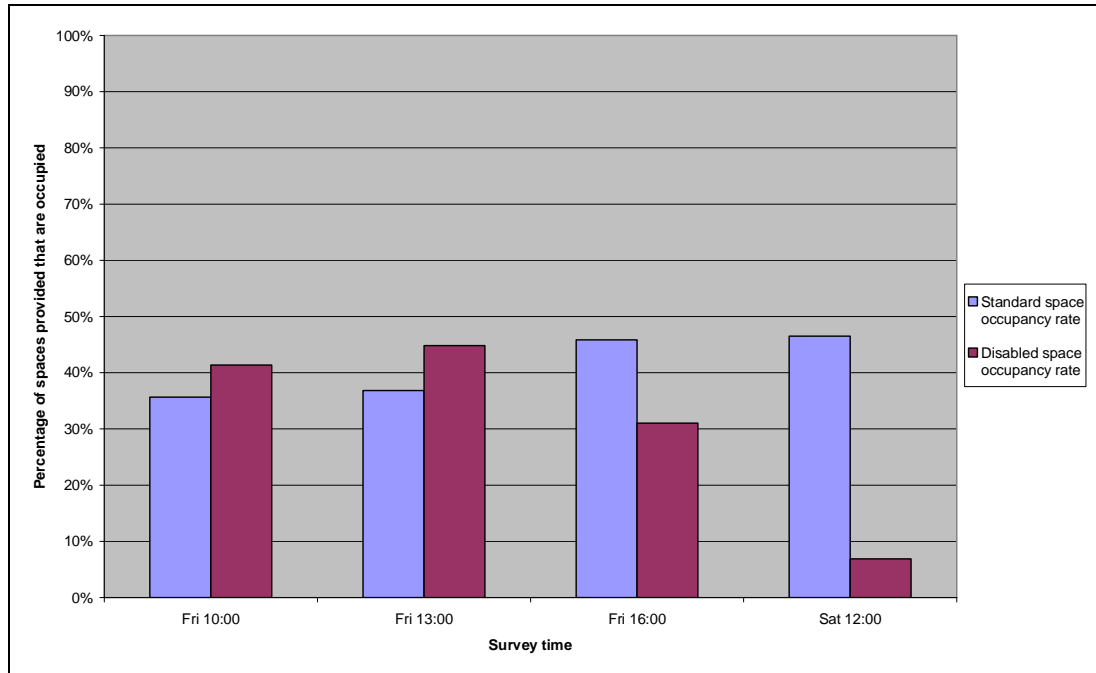
Figure 2-3: Civic occupation of parking spaces



2.1.3 Gungahlin

Utilisation of both standard and disabled parking spaces in Gungahlin was observed to be less than 50% at all times of the day. Eight of the disabled parking spaces are located either away from the shopping area, or are parallel bays which are more difficult to access. The area of the large car park nearest to the store was completely full throughout all of the time periods; however there are many spaces located further from the shopping areas that were mostly empty throughout the survey times.

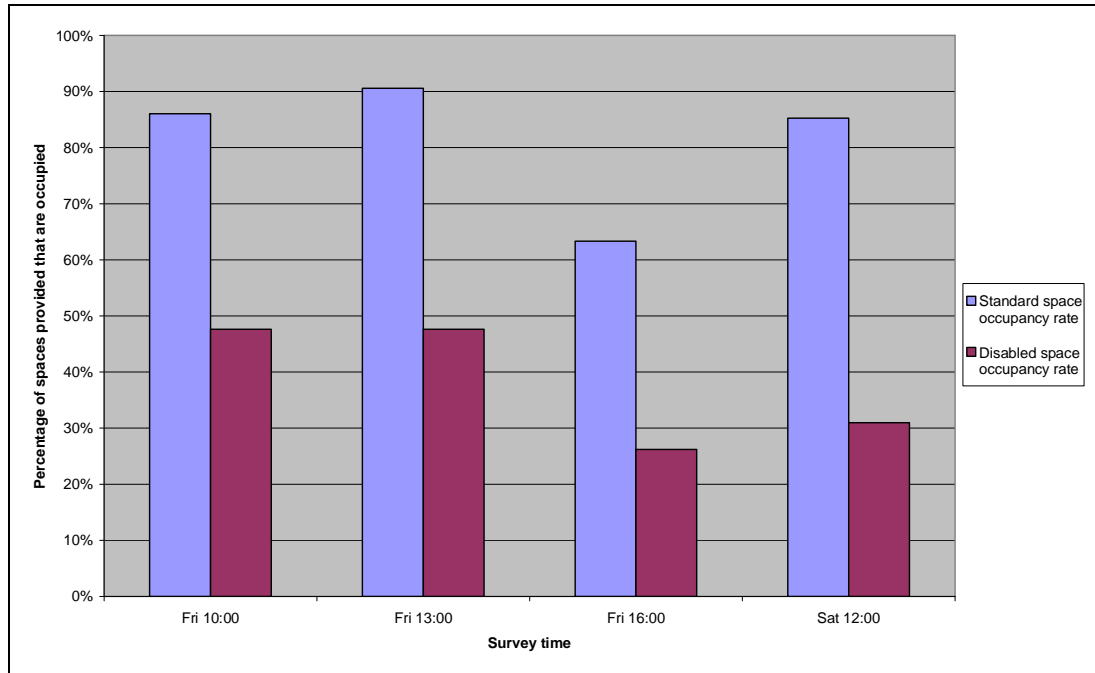
Figure 2-4: Gungahlin occupation of parking spaces



2.1.4 Tuggeranong

The highest occupation of disabled parking spaces was observed on Friday lunchtime, when 27 of the 42 spaces were occupied. Whilst there are a number of vacant disabled parking spaces throughout the survey period, the spaces located closest to the shopping areas were occupied through most of the survey periods.

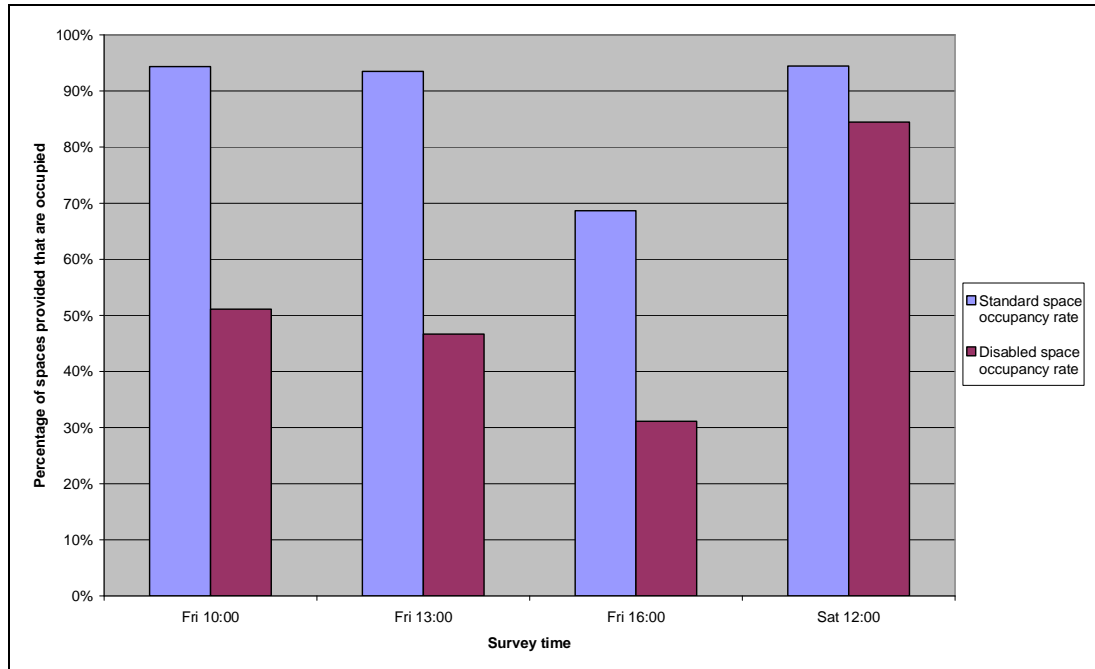
Figure 2-5: Tuggeranong occupation of parking spaces



2.1.5 Woden

On Saturday lunchtime 38 out of the 45 disabled parking spaces were occupied. Throughout the rest of the survey times the disabled parking occupation was approximately 50% or less.

Figure 2-6: Woden occupation of disabled parking spaces



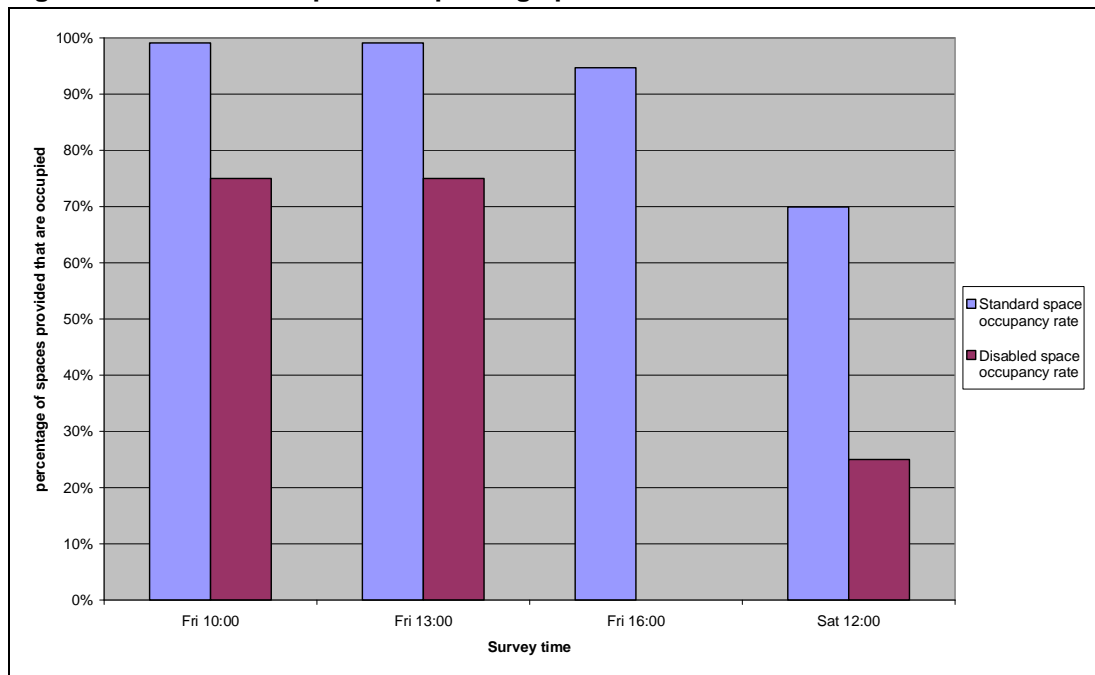
2.2 Group Centres

2.2.1 Ainslie

Surveys found that 3 out of 4 of the disabled parking bays were occupied on Friday morning and lunchtime. None of the disabled bays were occupied on Friday evening and only one space was occupied at lunchtime on Saturday.

The highest occupancy rate of disabled parking bays on Friday morning and lunchtime is the same as the time of highest occupancy of standard parking bays. Friday evening experienced no disabled bays in use; however there was high usage of standard parking bays at this time.

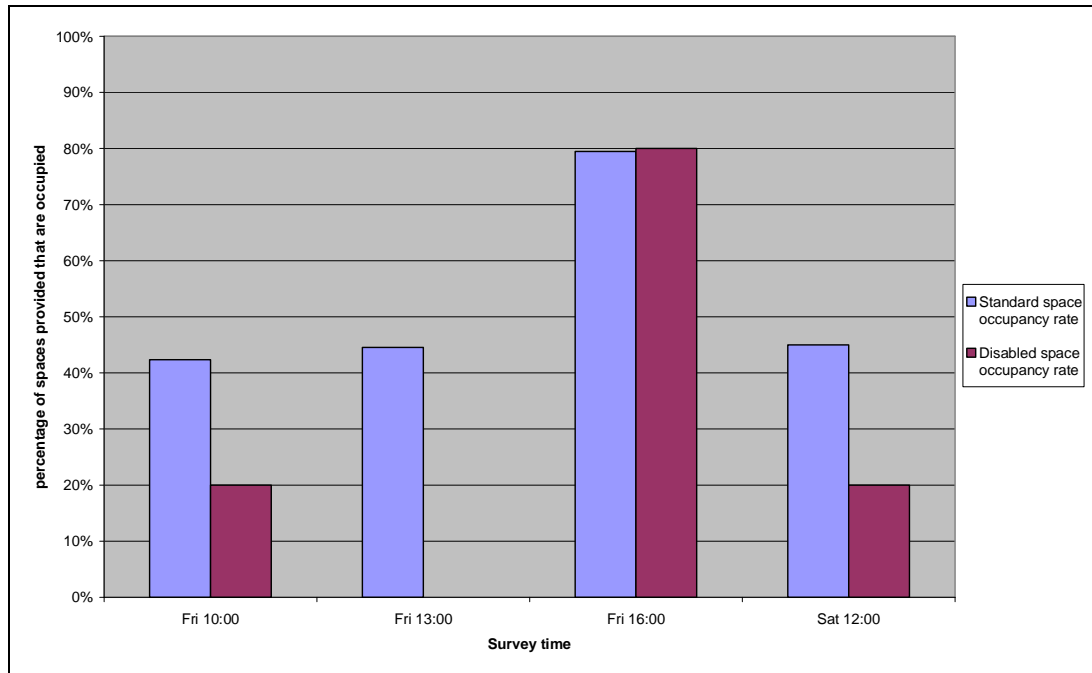
Figure 2-7: Ainslie occupation of parking spaces



2.2.2 Calwell

The peak utilisation period for parking was observed to be similar for standard and disabled parking spaces. An 80% utilisation rate was observed for both types of spaces on Friday evenings. However, at other surveyed times the utilisation rate of all spaces was low, with only 1 or less disabled spaces out of 5 occupied most of the time. There were no times at which all of the disabled spaces were occupied.

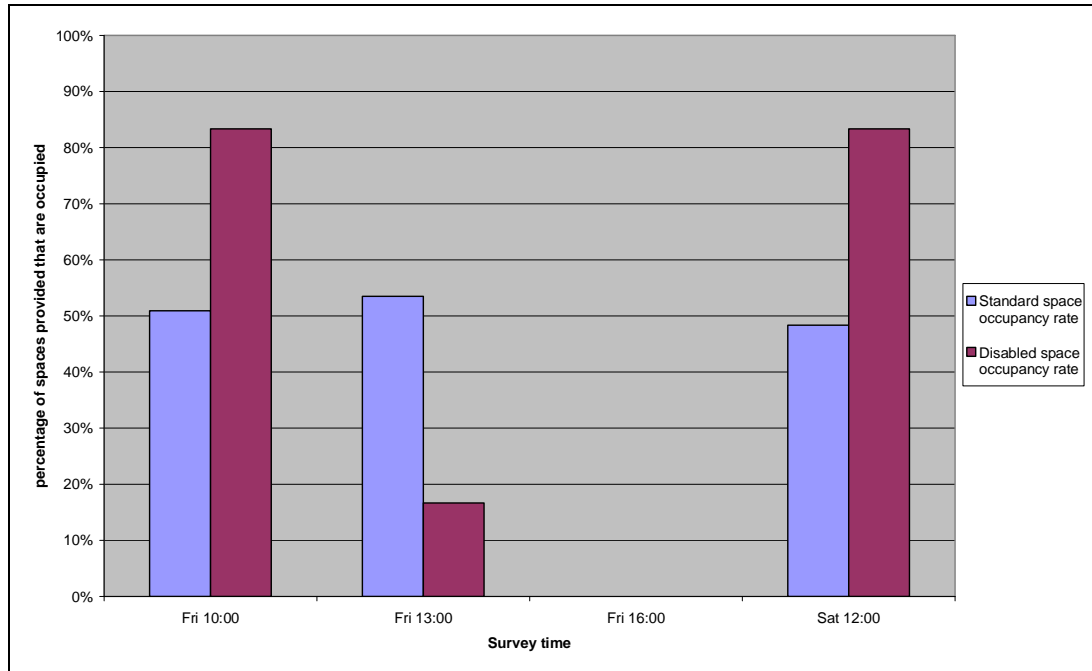
Figure 2-8: Calwell occupation of parking spaces



2.2.3 Charnwood

The level of occupation of disabled parking spaces for Charnwood varies dramatically at different times of the day. High occupations were observed on Friday morning and on Saturday. However, much lower occupations were observed on Friday lunchtime.

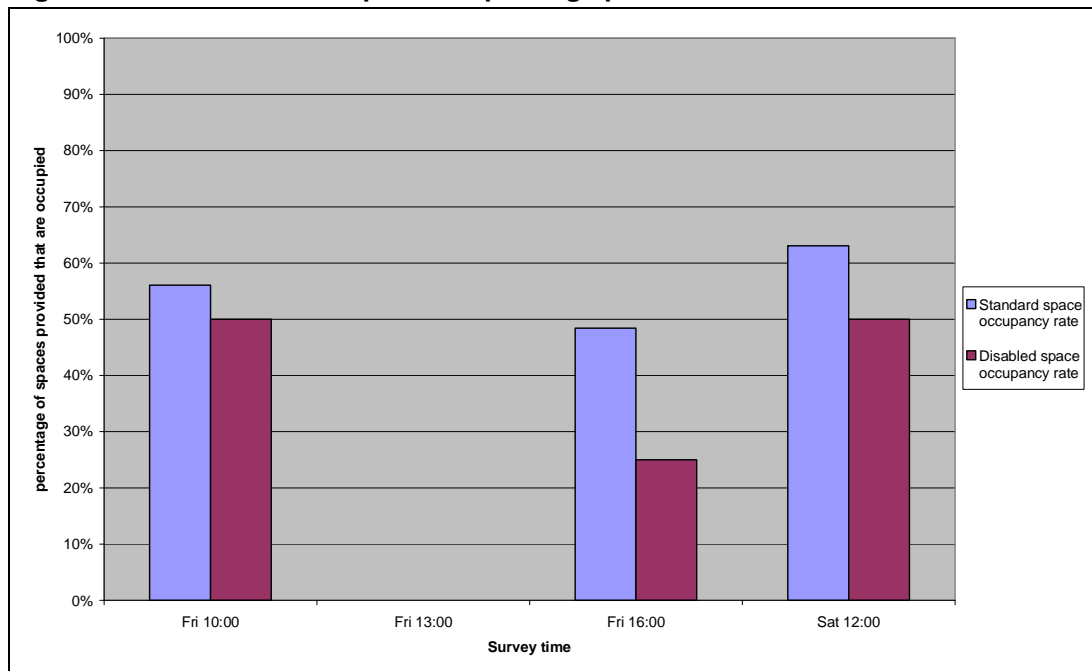
Figure 2-9: Charnwood occupation of disabled parking spaces



2.2.4 Chisholm

Car park occupation was highest on Saturday and occupation of disabled spaces was 50% on both Saturday and Friday morning. Occupation of disabled spaces on Friday evening was low, with only 1 of the 4 spaces occupied.

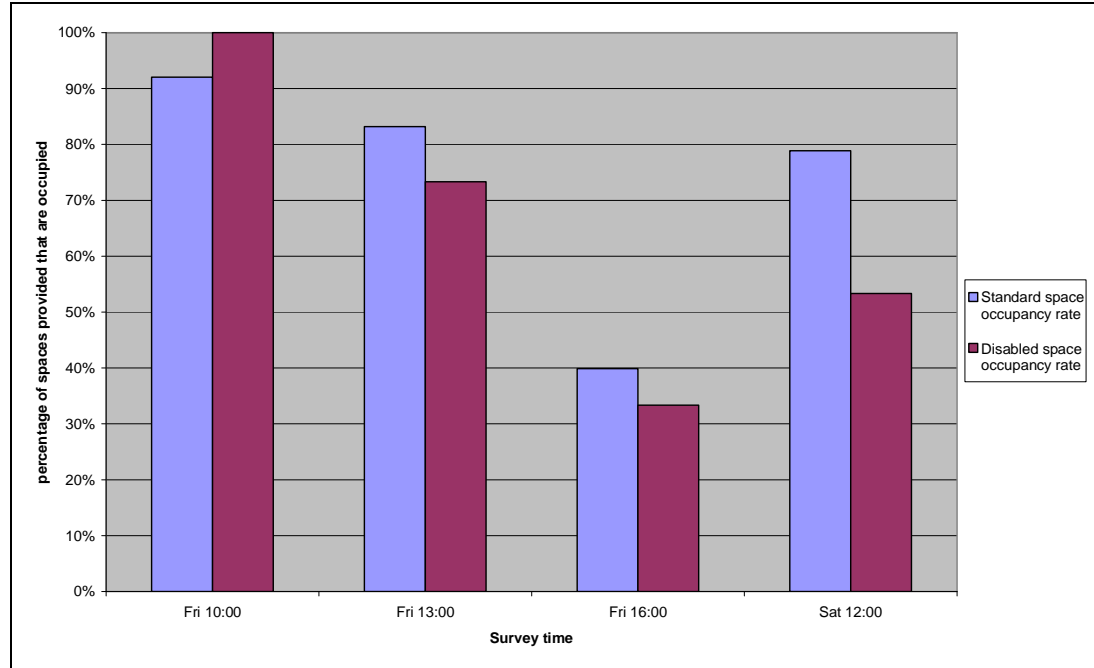
Figure 2-10: Chisholm occupation of parking spaces



2.2.5 Cooleman Court, Weston

On Friday morning all of the 15 disabled parking spaces at Cooleman Court were occupied. More than 50% of the spaces were occupied throughout the survey periods. A high proportion of standard parking spaces were also occupied throughout the day.

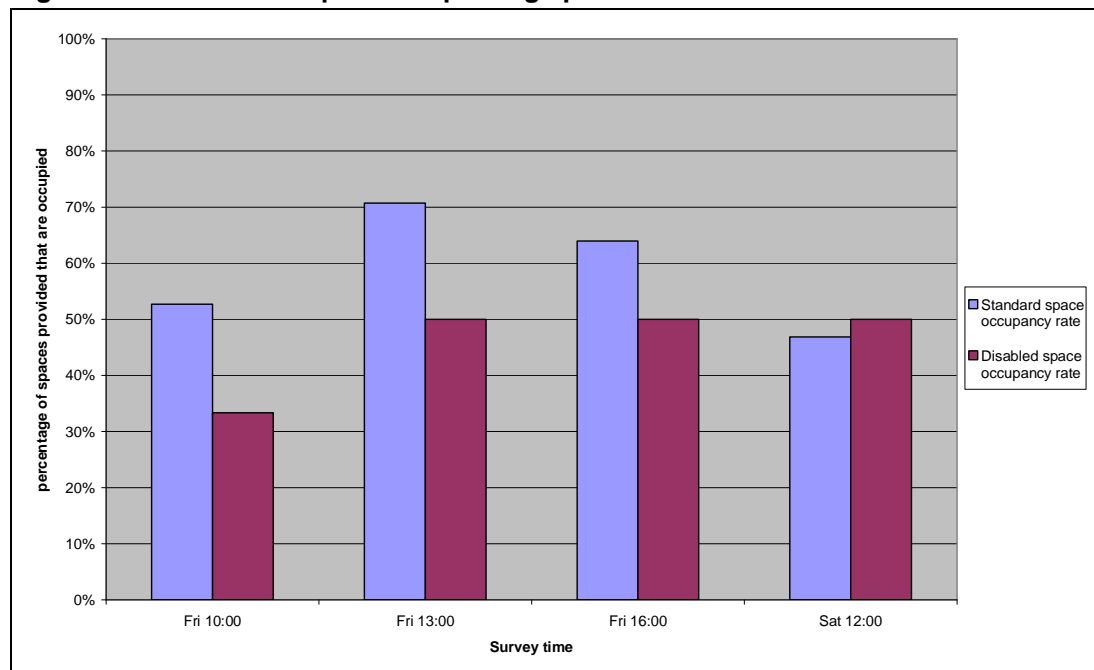
Figure 2-11: Cooleman Court, Weston occupation of parking spaces



2.2.6 Curtin

Only 50% or fewer – two to three out of the six – disabled parking spaces were observed occupied at each time of the surveys. There was little variation between the parking occupation at Curtin throughout the survey times.

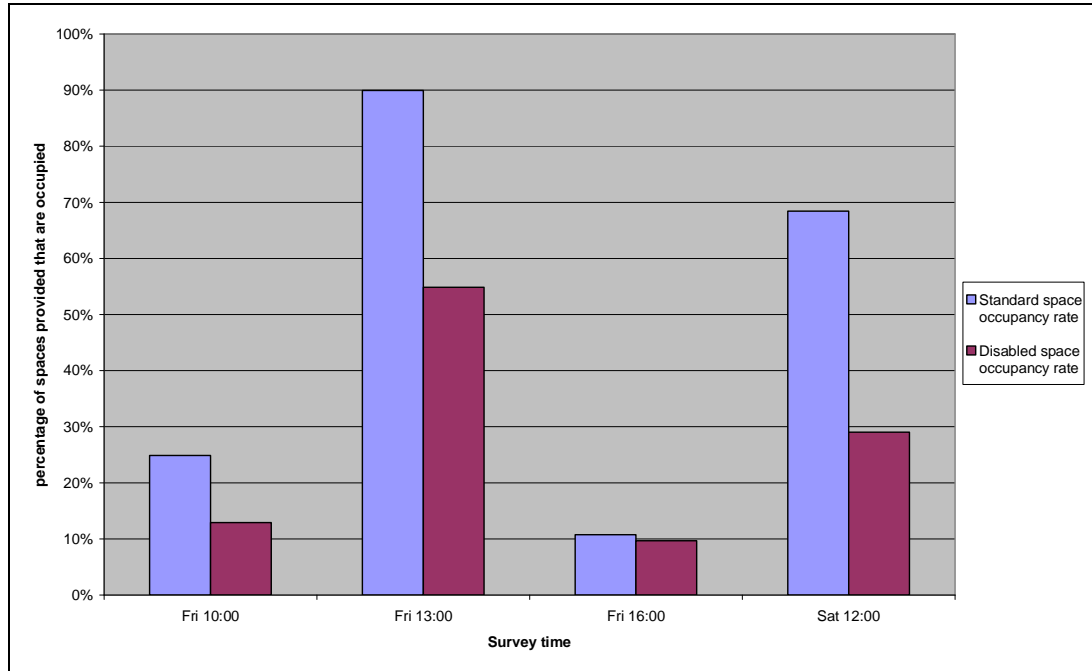
Figure 2-12: Curtin occupation of parking spaces



2.2.7 Dickson

The occupation rate of disabled parking spaces was a lot lower than for standard parking spaces. The peak period observed for standard parking spaces was the same time as that for disabled parking spaces on Friday lunchtime.

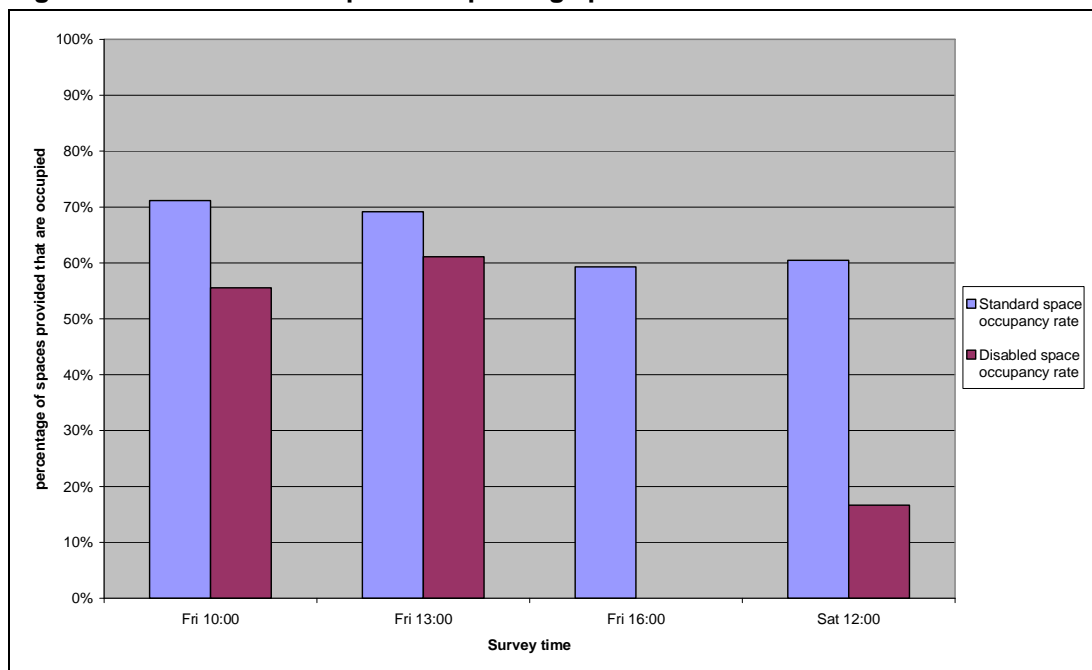
Figure 2-13: Dickson occupation of parking spaces



2.2.8 Erindale

The highest occupation of disabled parking spaces was observed at Erindale on Friday lunchtime. Even at this time only 60% of the disabled spaces were occupied.

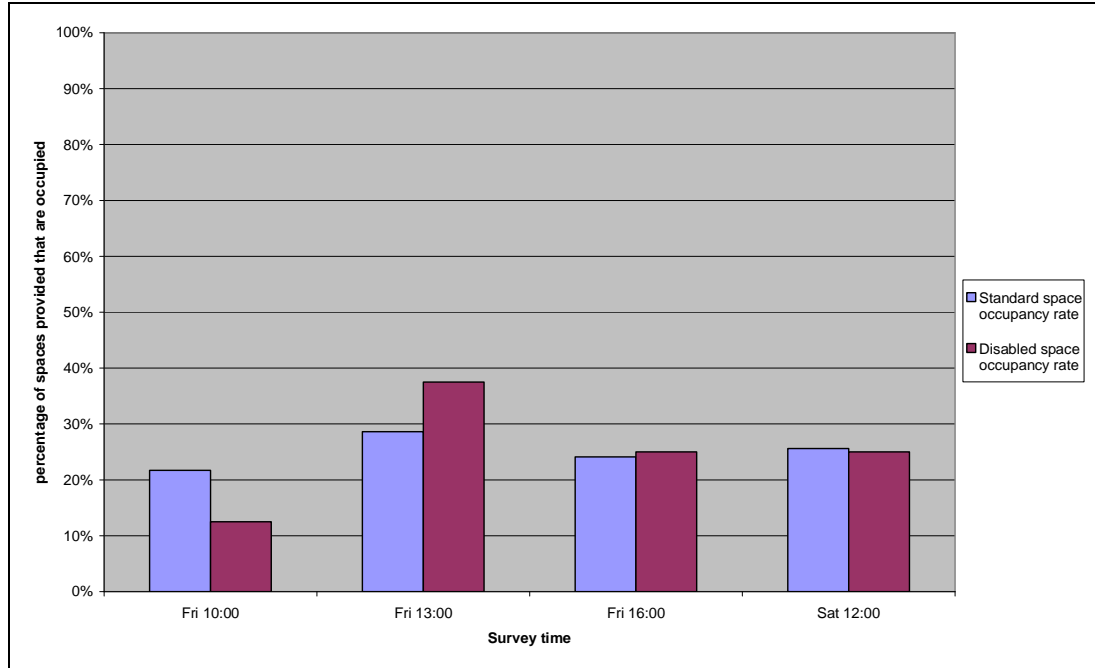
Figure 2-14: Erindale occupation of parking spaces



2.2.9 Hawker

Utilisation of parking at Hawker is very low. There was never more than 40% occupation of disabled parking spaces throughout the survey period.

Figure 2-15: Hawker occupation of parking spaces

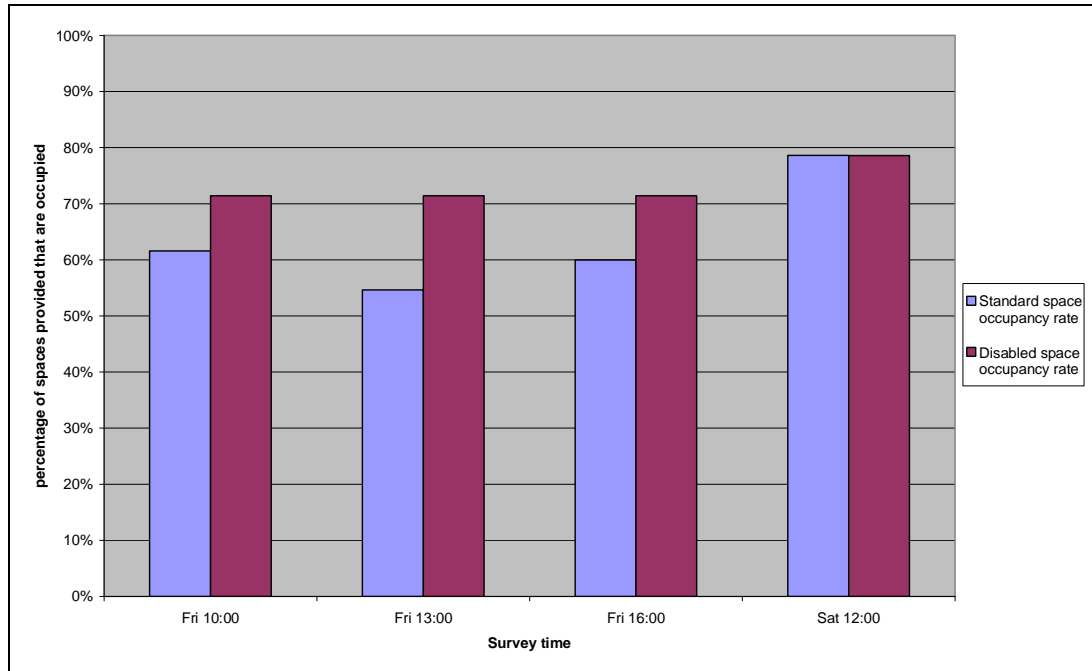


2.2.10 Jamison

There is little variation between the proportions of disabled parking spaces that are occupied at each survey time. At most times of the day 10–11 of the 14 disabled parking spaces were occupied. The 3 spaces that are normally vacant were considered unsuitable for disabled use due to their distance from the entrance to the centre, the fact that they are located on a fairly significant gradient and that there is not a pathway providing a safe route to the store entrance. It is likely that a disabled person would use a standard parking space nearer to the store if possible rather than use these spaces.

As these spaces are not very suitable for use by disabled people, it means that there is 100% occupancy of the suitable parking spaces at all times of the day. This indicates that the provision of spaces does not meet the demand of disabled people.

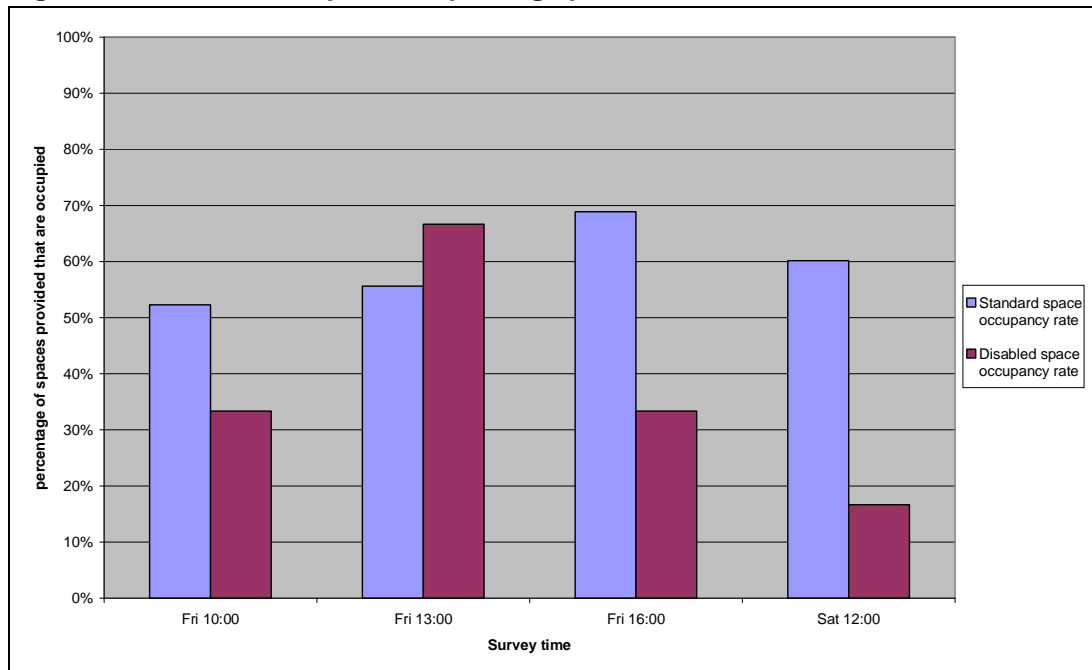
Figure 2-16: Jamison occupation of parking spaces



2.2.11 Kaleen

The peak period for disabled spaces was Friday lunchtime, but the peak time for the standard spaces was Friday evening. Throughout the survey times, the occupation of both types of spaces was less than 70%.

Figure 2-17: Kaleen occupation of parking spaces

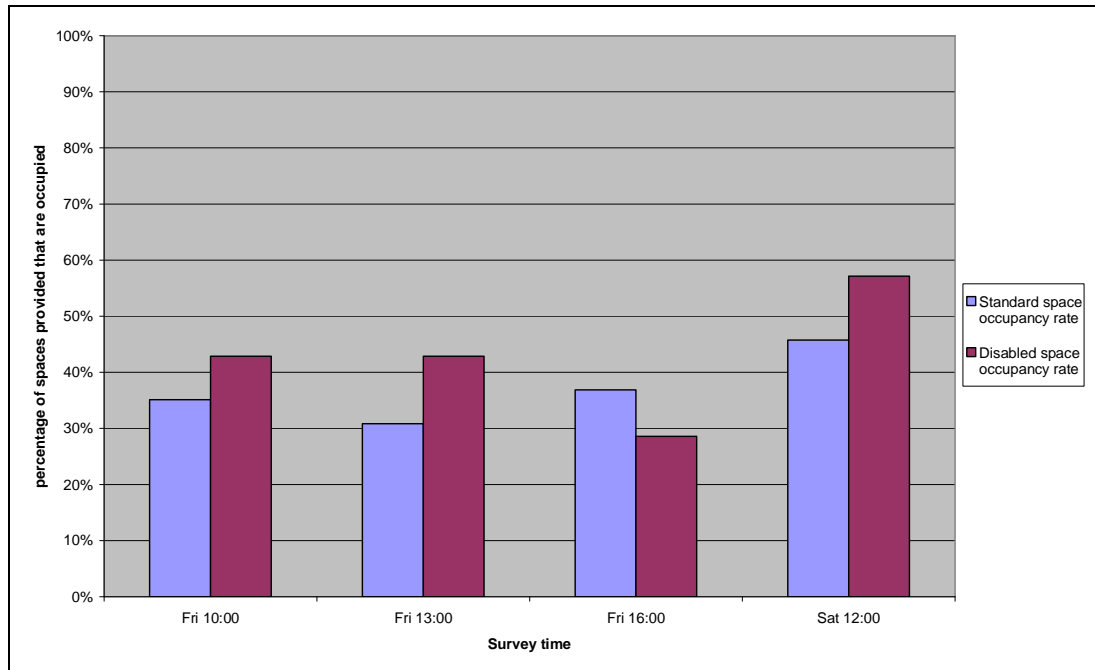


2.2.12 Kambah

There is a low utilisation rate in Kambah centre. The majority of the survey period the proportion of utilisation of disabled parking is higher than standard parking, the only

exception being Friday evening. Throughout the survey period the utilisation of disabled parking spaces is less than 60%.

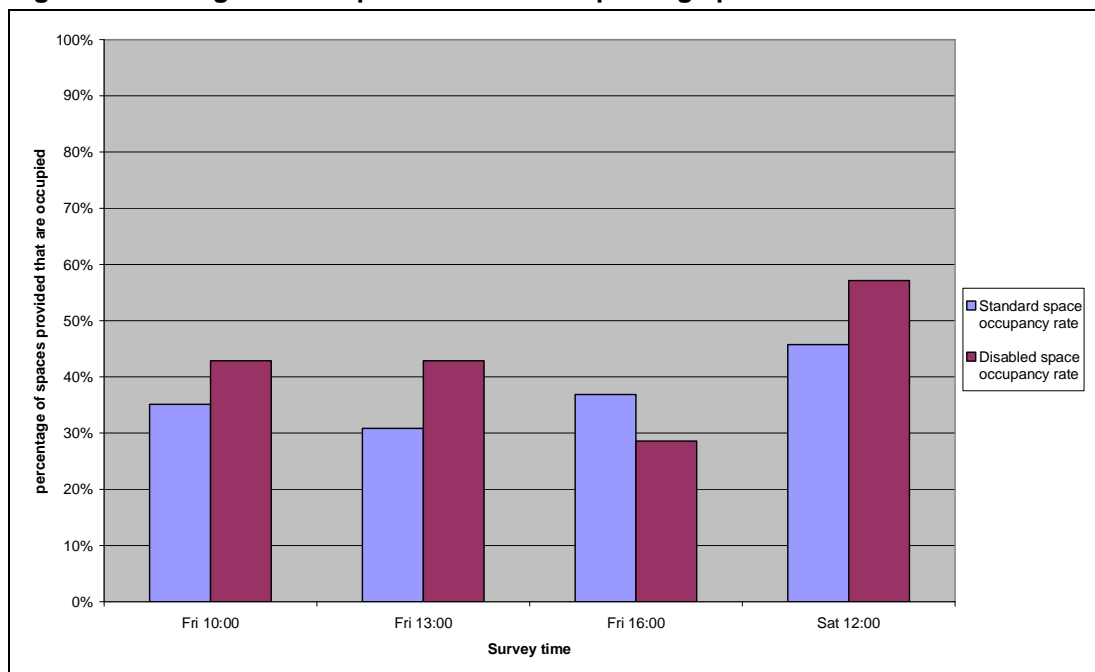
Figure 2-18: Kambah occupation of parking spaces



2.2.13 Kingston

There was a very high occupation rate of all spaces and whilst disabled parking spaces have a relatively low observed parking occupation rate, the spaces that are located adjacent to the shopping centre were occupied all of the time, suggesting that there are not enough disabled parking spaces located in the right locations, close to the shopping area.

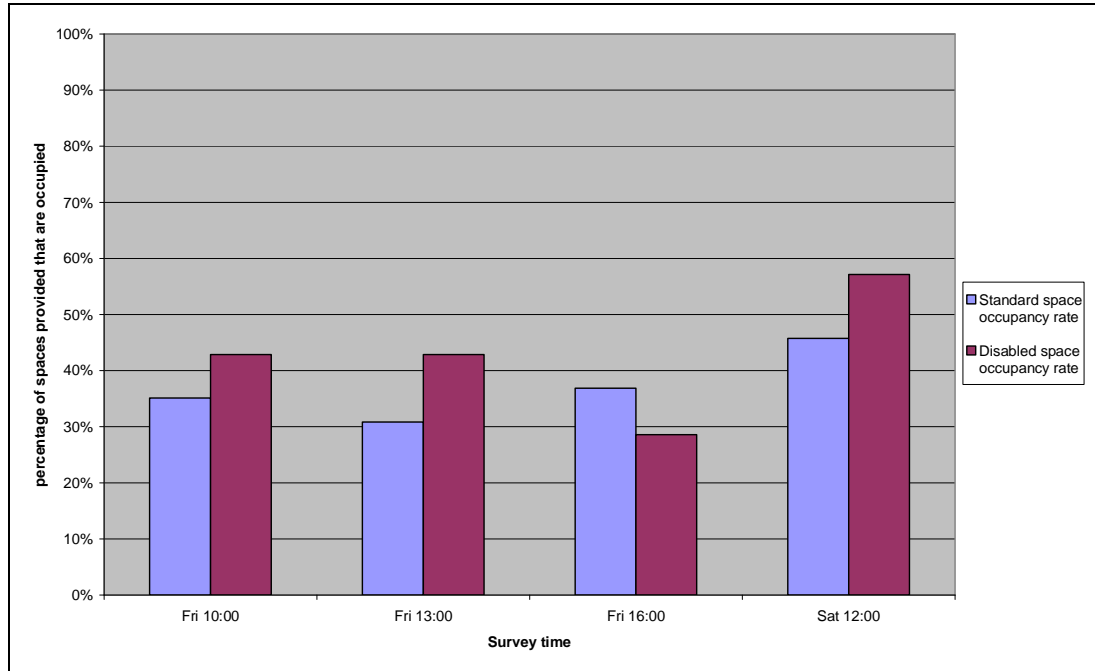
Figure 2-19: Kingston occupation of disabled parking spaces



2.2.14 Kippax Centre, Holt

The peak hour for standard parking was on Friday morning. This was also the same peak hour as disabled parking. Over 50% of the disabled parking bays were utilised at all survey times, but there were no times at which all of the disabled parking spaces were occupied.

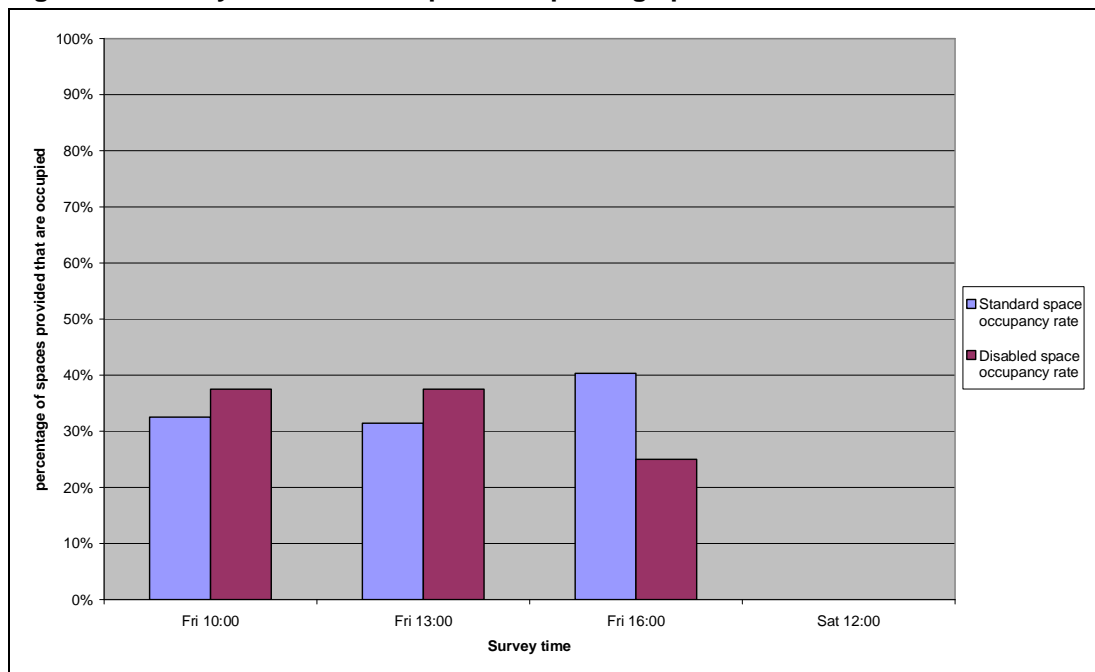
Figure 2-20: Kippax occupation of parking spaces



2.2.15 Lanyon Market Place, Conder

Parking utilisation at Lanyon Market Place was fairly low throughout each of the time periods surveyed for both disabled and standard parking spaces. The proportion of disabled parking and standard parking is similar at less than 40% for each of the time periods for both standard and disabled spaces. As with the other centres, the peak period for parking is different for standard and disabled spaces. Although there is not a lot of variation between parking levels at the different times, the peak period for standard parking was Friday evening whereas the peak period for disabled parking was Friday morning and lunchtime.

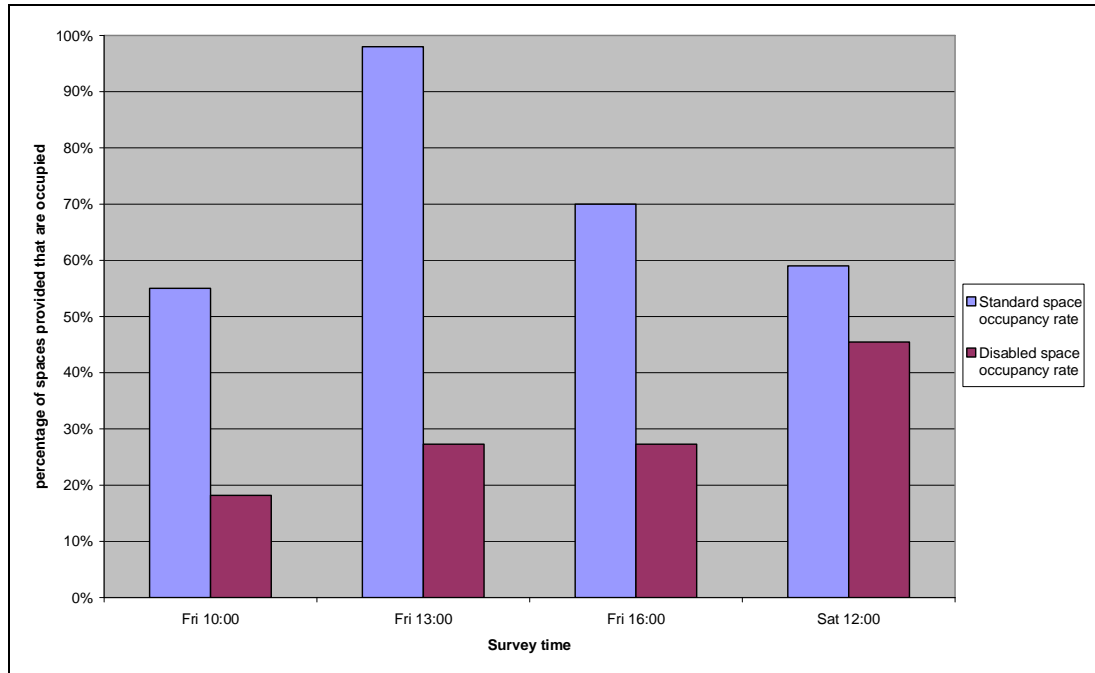
Figure 2-21: Lanyon Market occupation of parking spaces



2.2.16 Manuka, Griffith

There was a significant variation between the levels of parking occupation throughout the survey period. Friday lunchtime experienced the highest occupation of standard spaces. However Friday evening saw no drivers using the disabled parking spaces and there was a comparatively low utilisation rate throughout the rest of the survey period. The low utilisation rates could be due to the fact that the disabled car parking spaces are not all located close enough to likely destinations.

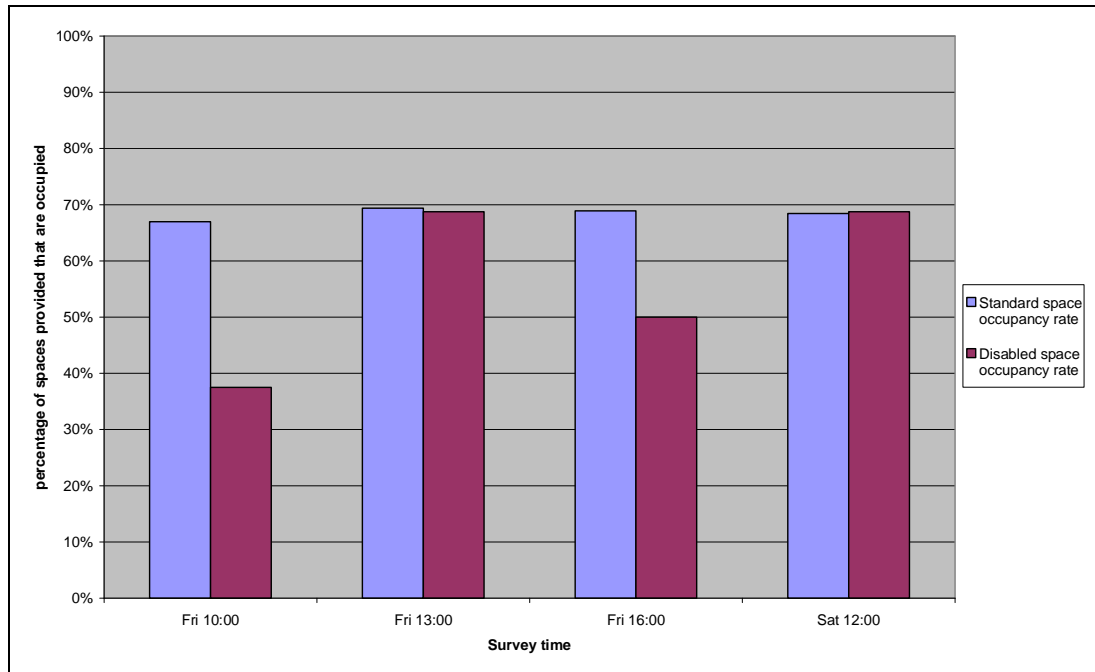
Figure 2-22: Manuka occupation of parking spaces



2.2.17 Southlands Centre, Mawson

The proportion of disabled parking occupation was similar to standard parking occupation throughout the day. However there were no points in the day where the utilisation neared 100% capacity.

Figure 2-23: Southlands Centre occupation of parking spaces



3. Interpretation of results

There are some centres where the demand for disabled parking exceeds the supply – most notably at Jamison. Most centres have some available disabled parking at all times of the day. However, as none of the centres had directional markings to help disabled drivers to identify disabled parking spaces, it is possible that disabled drivers are not able to find some of the disabled parking facilities and are therefore either parking in standard parking spaces, or are avoiding using the centre. Generally disabled parking is located close to the entrance of shopping centres or other facilities. When a disabled permit is issued, current disabled parking locations for town centres are provided, therefore difficulty finding disabled spaces is likely to be mainly a problem; for example when spaces have been moved or where the disabled driver does not regularly visit the centre.

A survey of disabled drivers undertaken in December 2007 suggested that many find that there is an inadequate supply of disabled parking at many centres. This was particularly the case for Ainslie. Although some disabled spaces were available throughout the day, the centre clearly suffers from inadequate provision of standard parking, with more than 100% occupancy at times – with drivers waiting for spaces or parking in an area that is not a designated parking space. This is likely to encourage drivers to use disabled spaces who are not entitled to use them. Also any traffic congestion accessing the centre is likely to make it difficult for disabled drivers to access the disabled spaces.

The utilisation of disabled parking spaces is relatively low at some of the centres. A possible reason for this is that drivers have come to expect difficulty parking at some of the centres and have adapted their behaviour accordingly, either travelling at different times – as suggested by the lack of correlation between standard parking utilisation rates and disabled parking rates – or travelling to other centres.

At some centres there are disabled spaces located close to ramps that are suitably sized and positioned but, presumably because they are not located close to the specific desired destination of the disabled driver, they are under utilised. Spaces at the same centre close to other destinations are constantly occupied, often by different vehicles. The location of disabled parking spaces must be based on likely desired destinations.

Improving directional signage to disabled parking bays may help drivers access disabled parking, making them aware of locations providing suitable parking. Part of the reason the difference between the driver's perception of parking availability and actual observed utilisation is likely to be because drivers are unaware of the locations of the designated parking spaces.

4. Conclusion and recommendations

Most centres have some vacant disabled parking spaces throughout the day. However, at most centres there are some spaces located further from the desired destination that are not used at all. With this in mind, it is recommended that:

- The location of disabled parking spaces at centres should be considered carefully based on the desired destinations of drivers.
- Directional signage to disabled spaces within centres should be considered to assist drivers to find the disabled spaces. It is likely that many disabled drivers do not know where all the disabled spaces are located and therefore only those that are obviously visible from the entrance are used.