

ACT Disabled Parking Study Executive summary

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Department of Territory and Municipal
Services



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Executive summary

The ACT demographic trend is towards an ageing population and there is a perceived shortage of adequate parking for disabled people that may be associated with the greater number of older people who may be eligible for disabled parking permits. A detailed assessment of disabled parking facilities at publicly owned surface car parks at town and group centres in the ACT has been undertaken to assess the adequacy of disabled parking facilities and to identify the extent to which they meet the needs of disabled people in the ACT. This assessment updated a previous 2002 study conducted for Roads ACT.

The project comprised four separate studies:

1. Conduct a parking provision and accessibility survey for Group Centres
2. Conduct a parking provision and accessibility survey for Town centres
3. Conduct utilisation surveys, and
4. Review the policy and demand trends

The studies considered the following town and group centres in the ACT:

- Town Centres: Belconnen, City, Gungahlin, Tuggeranong, and Woden (updating the previous study of 2003)
- Group Centres, Ainslie, Calwell, Charnwood, Chisholm, Coolamon Court (Weston), Curtin, Dickson, Erindale, Hawker, Jamison, Kaleen, Kambah, Kingston, Kippax Centre (Holt), Lanyon Market Place, (Conder), Manuka, Southlands Centre (Mawson), The Village Centre (Kambah), and Wanniasa

Tasks (1) and (2) were undertaken by PB by an initial desk top review of all of the disabled spaces at the above town and group centres [as documented in the inventory of Traffic Control Devices (TCD's) of Roads ACT], followed by a field survey to determine the extent of compliance of these spaces with standards. Task (3), to identify the utilisation of spaces, was undertaken using aerial photography whilst the public perceptions about the adequacy of the parking provision at the centres have been assessed through an online questionnaire survey. Task (4), identifying policies and demand trends relating to disabled parking provision in the ACT, has been compared to selected other jurisdictions both in Australia and overseas.

This report summarises the findings of these four project streams.

Parking provision and accessibility

This component of the assessment reviewed the number of spaces provided, their compliance with the Building Code of Australia (BCA), Parking Facilities – Off Street Car Parking (AS 2890.1) and Design for Access and mobility (AS 1428). A similar study conducted in 2002 found that there were deficiencies in the compliance of the three reference codes. This previous study was reviewed in this process.

The scope of this part of the current study was to review and update the previous report as well as expand the coverage to include the Group Centres of Erindale, Charnwood, Ainslie, Kingston, Manuka, Chisholm, Wanniasa, Hawker, Kaleen and to update Southlands (Mawson) to account for changed arrangements since the previous assessment.

Improvements recommended in the 2002 report are being implemented, this was particularly noted where whole car parks have been modified. The new surveys found that where whole car parks had

been modified the level of compliance, particularly in respect to signage, had increased, however signs directing drivers to disabled spaces are generally not installed. A large number of superceded 'reserved class B vehicles only' style signage are still in use rather than the international access symbol type signage identified in the 2002 study, however new signs that have been installed are of the 'easy access' style. The 2002 study also recommended that parallel parking bays should be relocated because they are generally unsuited for disabled drivers but these may be acceptable for disabled passengers.

Disabled parking spaces provision

The BCA and AS2890.1 outline requirements for the proportion of disabled parking that should be provided in car parks. A desktop study has determined that the ratio of disabled parking to standard spaces required based on these standards is generally in the range of 2%- 5% of spaces. All centres provided adequate parking spaces to meet both standards. The BCA standards are most stringent and many centres provided more disabled parking than was required by this standard. The Group Centres of Chisholm, Coolemon Court, Dickson, Erindale, Hawker, Kingston, Kippax and Manuka provided at least 50% more disabled parking spaces than the minimum requirement.

Accessibility

The following criteria were used to assess the accessibility of the spaces:

- Kerb ramp design and location
- Gradients of parking space and likely route to destination
- Parking bay size (length and width)
- Proximity to destination
- Signage and bay marking

There is no directional signage guiding drivers to the disabled parking spaces from the car park entrance in any of the surveyed car parks. Generally, the disabled parking spaces are located close to the building entrance of likely destinations; however some spaces were difficult to locate within the car parks.

Town Centres

The majority of parking spaces do not meet all of the requirements. Even though each of the disabled spaces provided does conform to most relevant criteria, there are only 22 spaces out of 251 disabled spaces surveyed at town centres that conform to each of the criteria (apart from directional signage providing guidance from the entrance and lighting). Although a majority may be of appropriate size, absent of any adverse crossfall and serviced by good ramps and clear path of travel, only a small number of spaces have appropriate signage featuring the "easy access" symbol. A summary of their compliance is presented in Table 1.

Table 1: Town Centre compliance

Town centre name	Total disabled spaces	No of disabled parking bays that fail to meet criteria for:				Inadequate signage		Kerb ramp location related to space			Space located too far from destination	Number of spaces that meet all criteria
		length	width	both L and W	Reserved style signage	no signage	adja-cent	appro-priate distance	remote/n one			
										grade		
Belconnen	58	21	22	8	51		37	6	15		0	
City	90	42	41	17	38	4	59		31	21	11	
Gungahlin	23	3	2		9		14	5	4	2	6	
Tuggeranong	43	7	14	9	30	4	14	25	4	4	5	
Woden	42	7	11	6	22	2	33		12	8	0	
Total	256	80	90	40	150	10	157	36	66	35	22	

Group Centres

The majority of parking spaces do not meet all of the requirements. Even though each of the disabled spaces provided does conform to most relevant criteria, there are only 38 spaces out of 186 disabled spaces surveyed at the additional group centres that conform to each of the criteria (apart from directional signage from the entrance and lighting). Although a majority may be of appropriate size, absent of any adverse cross fall and serviced by good ramps and clear path of travel, only a small number of spaces have appropriate signage featuring the “easy access” symbol. A summary of their compliance is presented in Tables 2.

Table 2: Group Centre compliance

Group centre name	Total disabled spaces	No of disabled parking bays that fail to meet criteria for:					Inadequate signage		Kerb ramp location related to space			Space located too far from destination	Number of spaces that meet all criteria
		length	width	both L and W	grade	Reserved style signage	no signage	adja-cent	appro-priate distance	remote			
											grade		
Ainslie	4		1			3		3	1			0	
Calwell	5	2				5		5				0	
Charnwood	6	5	2	1		3		4	1		6	0	
Chisholm	4							2	2			4	
Coolman	21	7	3	1		19		11	10			0	
Curtin	6	2	3	2		4		5	1			0	
Dickson	31	26	8	7		30		8	10	12		0	
Erindale	18	7	2	1		7		15	3			3	
Hawker	8	1						5	1			5	
Jamison	14	6	2	2	3			11		3	3	3	
Kaleen	6	5				3		5	1			0	
Kambah	1	1				1		1				0	
Kingston	11	5	3	2		4		11				2	
Kippax	18		1			8		7	6	5		8	
Lanyon	8	3	2			6	1	6	2			0	
Manuka	14	2				4		12		2		10	
Southlands	16	4	5	1		7		8	2	2		0	
Village	7		1			1		2	2	1		3	
Wanniassa	3												
Total	201	76	33	17	3	105	1	121	42	25	9	38	

There are a number of parallel parking bays, all of which were found to be of insufficient width. Parallel parking bays are not particularly suitable for use by disabled drivers as parallel bays place the disabled driver in the path of traffic. However as many drivers who use disabled permits are driving friends/relatives as disabled passengers, this issue would not arise if the driver of the vehicle is not the disabled person in the vehicle, hence although parallel bays are not the most preferred type of disabled bay, they are preferable than no provision at all.

The absence of appropriate signage to direct the motorist to the disabled bays is exacerbated by the usage of the superseded “Reserved” signage. This type of signage appears similar for loading zones,

government and specialty parking with red letters on white background, and is not readily identifiable from a distance as being uniquely disabled parking type parking.

Remedial Measures

A number of remedial measures were identified. Each has been assigned a priority rating. The cost to improve the spaces to design standards, including relocating spaces where necessary is estimated to be in the order of about \$165,000 for all centres.

The costs for each centre are summarised in Table 3: Total cost for improvements per town centre on the following page.

Packages of works were also suggested.

Table 3: Total cost for improvements per town centre

Priority Rating	Item	Belconnen	City	Gungahlin	Tuggeranong	Woden
1	Bay Ramp	\$8,700	\$17,980	\$2,320	\$2,320	\$4,060
	Painting to resize bay	\$2,640	\$4,920	\$240	\$1,680	\$1,320
	Path of travel ramp	\$3,480	\$1,160	\$2,900	\$14,500	\$0
	Total Priority 1 Works Costs	\$14,820	\$24,060	\$5,460	\$18,500	\$5,380
2	Bay Signage	\$8,200	\$8,400	\$1,800	\$6,000	\$4,400
	Directional Signage	\$200	\$200	\$200	\$200	\$8,400
	Relocation of parallel bay	\$9,800	\$24,500	\$2,940	\$3,920	\$0
	Painting due to poor delineation	\$1,800	\$1,320	\$120	\$720	\$600
	Relocation to provide length	\$20,580	\$28,420	\$2,940	\$10,780	\$25,480
	Total Priority 2 Works Costs	\$40,580	\$62,840	\$8,000	\$21,620	\$25,480
	TOTAL OVERALL	\$55,400	\$86,900	\$13,460	\$40,120	\$30,860

Table 4: Total cost for improvements per Group centre

Priority	Item	Ainslie	Calwell	Charnwood	Chisholm	Coolman Court	Curtin	Dickson	Erindale	Hawker	Jamison	Kaleen	Kambah	Kingston	Kippax	Lanyon	Manuka	Southlands	The Village	Wanniassa	Total	
1	Bay ramp	\$0	\$0	\$0	\$0	\$2,900	\$0	\$0	\$0	\$0	\$1,740	\$1,160	\$0	\$0	\$2,900	\$0	\$0	\$1,160	\$580	\$0	\$10,440	
	Painting to resize bay	\$120	\$0	\$120	\$0	\$240	\$120	\$120	\$120	\$0	\$0	\$0	\$0	\$120	\$120	\$240	\$0	\$480	\$120	\$0	\$1,920	
	Path of travel ramp	\$0	\$0	\$0	\$0	\$0	\$0	\$6,960	\$0	\$1,160	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,120
	Total Priority 1 Works Costs	\$120	\$0	\$120	\$0	\$3,140	\$120	\$7,080	\$120	\$1,160	\$1,740	\$1,160	\$0	\$120	\$3,020	\$240	\$0	\$1,640	\$700	\$0	\$20,480	
2	Bay signage	\$600	\$1,000	\$600	\$0	\$3,800	\$800	\$6,000	\$1,400	\$0	\$0	\$600	\$200	\$800	\$1,600	\$1,400	\$800	\$1,400	\$200	\$0	\$21,200	
	Directional signage	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$200	\$3,800
	Relocation of parallel parking bay	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,940	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,940
	Painting due to poor delineation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$600	\$0	\$0	\$0	\$0	\$0	\$240	\$0	\$0	\$0	\$120	\$0	\$0	\$960
	Relocation to provide required length	\$0	\$1,960	\$4,900	\$0	\$6,860	\$1,960	\$25,480	\$6,860	\$980	\$5,880	\$4,900	\$980	\$4,900	\$0	\$2,940	\$1,960	\$3,920	\$0	\$0	\$0	\$74,480
	Total Priority 2 Works Costs	\$800	\$3,160	\$5,700	\$200	\$10,860	\$2,960	\$31,680	\$9,060	\$1,180	\$9,020	\$5,700	\$1,380	\$5,900	\$2,040	\$4,540	\$2,960	\$5,520	\$520	\$200	\$103,380	
TOTAL OVERALL	\$920	\$3,160	\$5,820	\$200	\$14,000	\$3,080	\$38,760	\$9,180	\$2,340	\$10,760	\$6,860	\$1,380	\$6,020	\$5,060	\$4,780	\$2,960	\$7,160	\$1,220	\$200	\$123,860		

The overall findings are as follows:

- Overall, the number of parking bays provided for each centre meets with the relevant AS and BCA standards, although one of the centres is undersupply according to the BCA standards.
- There are only 38 parking bays that meet all of the guidelines for disabled parking. Reasons for non compliance include:
 - Very few kerbs or crossings featured tactile strips
 - A large number of spaces feature the “reserved” type signs rather than the compliant “easy access” symbol. This makes it difficult to readily identify disabled spaces and separate them from other “reserved” spaces such as doctors, loading zones etc. The number and proportion of spaces displaying compliant signage has improved since the 2002 surveys.
 - No car parking areas surveyed (which were located remote to the car park entrance) had sufficient signage to guide motorists from the car park entry to the disabled parking parking. Adding to the difficulty of finding the parking spaces is the installation of the “reserved” type signage.

The accessible area of a pathway is sometimes reduced from conformance to non-conformance due to the overhang of vehicles (especially vehicle “noses”) over the path

Parking utilisation study

Utilisation surveys were undertaken at 10:00, 13:00 and 16:00 on a Friday and at 12:00 on a Saturday. There were some disabled parking spaces available at most town and group centres throughout the survey. Observed Utilisation rates are shown in Table 5 for both Town and Group Centres

Many of the town and group centres exceed the required provision of disabled parking spaces. This is a result of a reaction to questions and advice over time to meet demands at specific locations. Whilst this has addressed many locations, others have not been resolved and there are continuing changes needed, as there is for other parking demand changes such as balance of short and long term parking.

Utilisation rates have been compared to BCA standards for parking provision and are shown in Table-5. More than 50% of the town and group centres were observed to have a greater number of occupied spaces than the minimum number of spaces required by BCA and AS2890.1. This suggests that if the minimum standards had been applied, the demand for spaces would exceed the disabled parking provision. This also suggests that the BCA and AS 2890.1 standards do not require sufficient disabled parking to meet the demand in the ACT. It is therefore recommended that where the provision of disabled parking exceeds the requirements of the standards, this is retained.

The maximum occupation level for each centre was used to find an average of each centre, as shown in the table below. This demonstrates that on average the utilisation of disabled parking spaces is 2.1% of the total number of standard parking spaces. This assumes that disabled drivers are not parking in standard 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 drivers, it is unlikely that there will be suitably located standard parking spaces available when all of the disabled spaces are in use.

Table-5: Utilisation of standard spaces and disabled spaces compared to BCA required number of spaces

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%

Note:

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 regular spaces provided,
Orange text denotes percentages of utilisation that is greater than 2% of standards spaces and
Blue text denotes percentages greater than 3%.

Although the surveys undertaken by aerial photography in February 2008 demonstrates that there are some underutilised spaces, this finding is inconsistent with the findings during compliance surveys of December 2007 when nearly all disabled parking spaces were utilised. This appears to be the result of seasonal variations. The number of occupied standard spaces during the December period was also greater than during February.

There was no individual factor relating to the physical design compliance of the disabled spaces (signage, width, length etc) that was identified as affecting the level of utilisation of disabled parking. This suggests that drivers with disabled permits are no less likely to use a non conforming disabled access parking space compared to a conforming space. General observations indicated that poorly located spaces with unreasonable travel distance from the likely destination are underutilised, demonstrating that proximity to desired destination is important. This would suggest that users prefer to use non conforming spaces close to their destination rather than an inconveniently located conforming space.

Jamison centre has three disabled parking spaces that were not observed to be used in the survey period, that are located too far from the entrance to the shopping centre and downhill from the entrance. This appears to be a result of the redevelopment of the centre and requires review. There are many

standard parking spaces that are more easily accessible than these spaces. It is likely that some disabled people are parking in standard spaces rather than using these spaces.

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. Casual observations indicate a very high level of demand at the “Woolworths’ end often by people without obvious mobility difficulties.

Parking Policy

A review of the number of disabled parking permits issued in the ACT has revealed a very rapid increase of 700% between December 2000 and December 2006.

The ACT disability group does not keep data relating to the number of disabled people in the ACT (eg the number of people who are registered to receive help/care to assist them with their disabilities) and it has not been possible to ascertain whether the number of disabled people has increased by the same proportion during this time. Research is required to establish whether this is the case, or whether the criteria for receipt of a permit may have been relaxed in this period or whether there are other factors affecting the uptake of permits, such as increased activity of disabled people.

The relationship between the number of permits issued and the number of motor vehicles registered is shown in Figure 1. This shows that the rate of permits is escalating at a much faster rate than the number of vehicles registered.

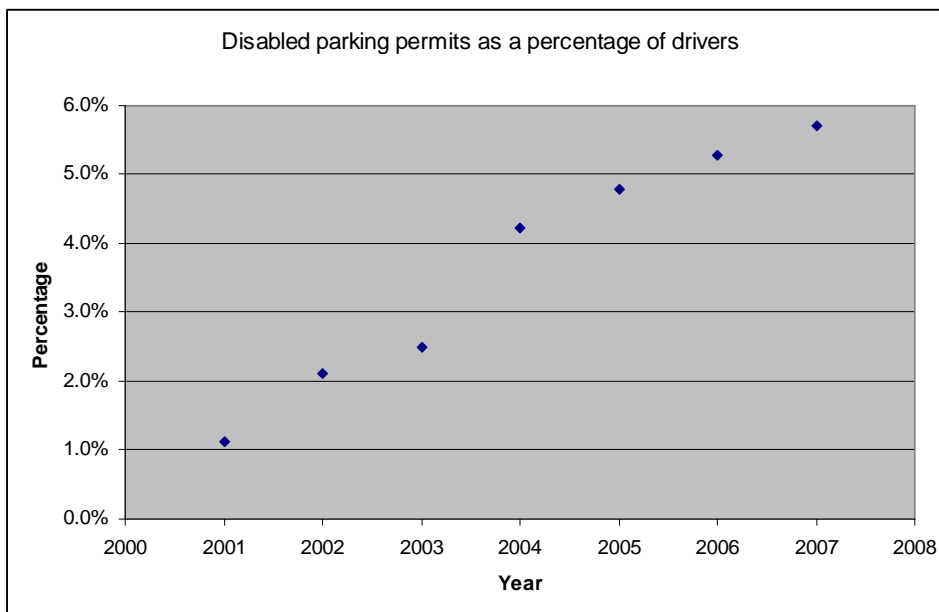


Figure 1: Disabled parking permits as a percentage of drivers

An online survey of disabled people in the ACT was undertaken and received 71 responses. The general perception of disabled drivers appears to be that there are not enough disabled parking spaces provided at shopping centres. It should be taken into account that the survey was undertaken before Christmas and therefore the results may have been skewed by difficulties parking during the Christmas shopping period.

The proportion of disabled parking required by the ACT is similar to that in other Australian cities but is significantly lower than the UK and USA, however these countries do not have the same policies in relation to standard parking provision.

The proportion of people aged 65 years and over as a percentage of total population in the ACT is lower than for Australia as a whole. This means that fewer older people live in ACT compared to the rest of Australia. There is a trend showing that the proportion of older people in the population is increasing in the ACT and in Australia as a whole. The proportion of older people in the population has increased from 7.8% to 9.7% in the ACT over the 10 year period from 1996 to 2006 as shown in Figure 2. There were just over 21,000 people over 65 in the ACT in 1996, in 2006 this had increased to 31,000 people. The trend would suggest that this might equate to 42,000 people over 65 in 2016. This trend if associated with the need for disabled parking would have resulted in an increased demand by 50% over this period rather than the 700% recorded over only a 7 year period.

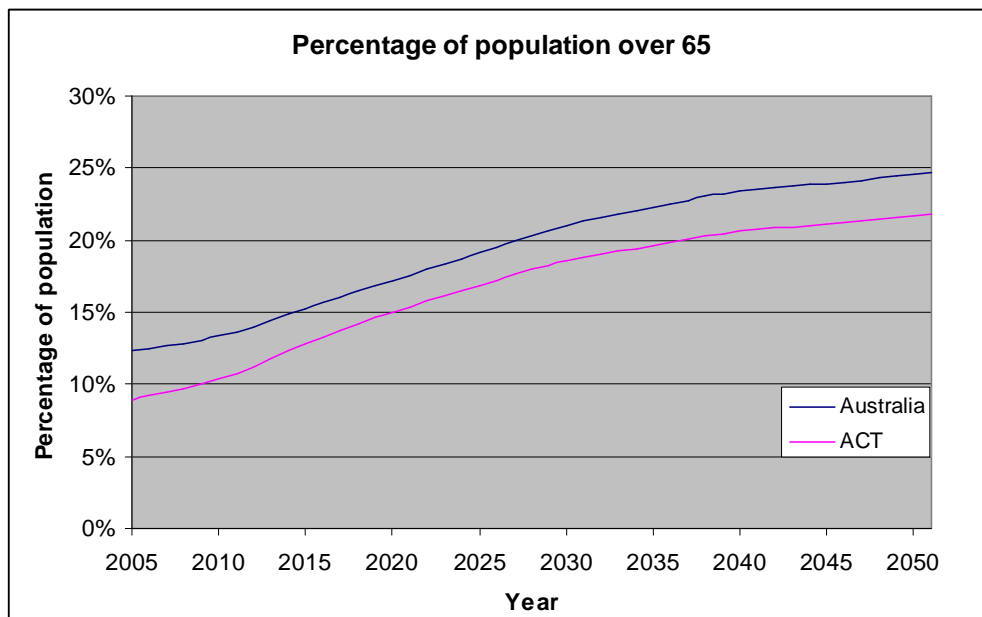


Figure 2: Proportion of population aged over 65¹

Given these trends, it is likely that the proportion of people eligible for disabled parking permits will continue to rise – although the data indicates that the ACT requires fewer rather than more parking disabled spaces compared to the average based on age.

¹ Produced with data from www.abs.gov.au, 3222.0 - Population Projections, Australia, 2004 to 2101, ABS (2006), using series B predictions (middle level growth)

Public perceptions from the online survey also suggest that there are insufficient disabled parking spaces at most centres. This may be a genuine shortage, occupancy of spaces by people abusing the system (drivers with a disabled label but not being used for transport of a disabled person at the time), or that the ACT has a different level of criteria for possession of a label or demand than exists elsewhere in Australia. Casual observations indicated that there may be use by persons who are not mobility impaired – although at times these people may be collecting rather than setting down disabled passengers. Identifying this type of abuse would be a difficult and sensitive task.

Conclusions and recommendations

Only a few disabled parking spaces comply with all of the criteria identified in the relevant standards. This study found that although many of the disabled parking spaces provided within the ACT town and group centres do not comply with the relevant standards for the physical design of the spaces most are suitable for unconstrained use by disabled persons. However it has also been found that non compliance with any individual design standard does not affect the utilisation of the parking spaces. Spaces that are not located near to desired destinations are less likely to be utilised perhaps because a disabled person will use a standard parking space that is located close to their destination than use a disabled space (that is larger, has ramps provided etc) but is not near to their destination. This demonstrates that proximity to destination is the most important factor in utilisation of disabled parking spaces.

As standard parking spaces that are close to the entrance to shopping centres etc are the most desirable to other drivers, these standard spaces cannot readily offer 'back up' additional parking for disabled drivers. Therefore the number of disabled parking provided should meet the demand of disabled people.

The main need in achieving compliance is the replacement of superceded signage and the installation of directional signage to disabled spaces from the car park entry.

Utilisation surveys have shown that in the December period there is likely to be a demand that exceeds supply however in February the supply was generally in balance with the demand. All centres meet the existing standards for the number of disabled parking spaces that should be provided at the centres. Many centres exceed this number. Where these are exceeded the utilisation rate is greater than the number of spaces required by the standards, suggesting that the standard requirements are too low.

The rate of supply of spaces generally exceeds the minimum required by either the BCA or AS 2890.1 in both the Town and Group Centres, with one exception at Belconnen. However Australia has a lower rate of provision of disabled spaces than either the USA or United Kingdom.

The hypothesis that the demand for disabled parking has increased over the past few years is likely to be true as the number of disabled permits issued has increased dramatically (700% over seven years) and the proportion of people aged over 65 within the ACT has also increased (by 50% over 10 years). This is a population trend that is likely to continue therefore it is foreshadowed that it will be necessary to provide for the likelihood of additional disabled parking demand at these centres in the ACT in the years to come.

It was not possible to conclude whether the reason for the increase in disabled parking permits has increased dramatically because there are more disabled people in ACT or whether it has become easier to qualify for a disabled permit. Public perception seems to suggest that it is too easy to get permits and that people "borrow" permits belonging to friends and relatives so that they can park for longer, closer to

destinations or for free. It is difficult to police this; however some research may be necessary into this aspect of parking permit issue and use. It appears that an increase has occurred since the adoption of the general practice of a non specified vehicle on the permit.

Recommendations:

A rate of 3% of spaces for disabled parking would better meet the demand for disabled parking and should be considered for implementation in public car parks. This parking would need to be located close to likely destinations. Where there is likely to be an overall shortage of standard parking, a much higher percentage of disabled parking should be provided. Centres such as Manuka provide far beyond the required levels of disabled parking, however all spaces were utilised throughout most of the survey period, there was a clear shortage of parking provided generally with the majority of standard parking also occupied most of the time.

Additional disabled parking is recommended for Manuka.

Disabled parking is recommended to be relocated at Jamison to better access the revised shopping centre arrangements.

Additional disabled parking should be considered at centres where there is one or less available space at any of the survey times: Ainslie, Charnwood, Coolemon Court, Weston, Kippax and Southlands.

There appears to be a case to review the basis upon which parking permits are issued in order to better understand the dramatic increase in the number of permits issued and the corresponding increase in parking demand for disabled persons.