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City centre accessibility for wheelchair users: The consumer perspective and the planning implications

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In the context of recent 'disability' initiatives, evidence is drawn from 150 detailed interviews with wheelchair users, to investigate and reassess current city centre accessibility 10 years after the introduction of the Disability Discrimination Act, 1995 in the UK. Aspects of the built environment, public transport, and current levels of shopper activity continue to present a range of difficulties for wheelchair users, which restrict their physical mobility in the city centre. A majority of wheelchair users (61%), for example, feel that they are disabled by the way in which places are planned or designed. While 80% find the purpose-built modern covered shopping centre easy to negotiate, more peripheral shopping streets with vehicular traffic, and traditional market areas, are considered problematic by a third or more. Based on considerable empirical evidence, the findings can be generalised to suggest six issues relevant to the creation of 'enabling' or more accessible city centre environments for all, as urban planners across the world become more concerned about inclusion.

Keywords: City centre access, urban planning, disability, wheelchair user

Introduction

City centres across the world share common characteristics, including a concentration of shopping facilities located along pedestrian and vehicle streets, where kerbs, steps and crowds of people can inhibit circulation. Improving access to such areas for wheelchair users and other disabled people has been active in Western cities for some years, and particularly in the UK since the Disability Discrimination Act (DDA) of 1995. At the same time, major regeneration projects and smaller enhancement schemes have provided opportunities for redesigning the city centre to improve accessibility for all sections of the community. A focus on a UK city case study can enable a reassessment of the situation after recent efforts to improve accessibility, and at the same time highlight the general features and issues which are critical for improving access for wheelchair users in any city centre. Disabled people who use wheelchairs for shopping in the city centre are likely to be a growing population as ambulatory and breathing difficulties become more common with increasing numbers of elderly (see Sapey et al., 2005). The paper is based on a substantial number of 'in-depth' interviews with wheelchair users to identify the types of changes needed to ensure that the city centre offers a truly inclusive environment for all.

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Throughout the research, emphasis is placed as much on the social as on the physical dimensions of the built environment, to help explain the difficulties still experienced by wheelchair users when shopping in the city centre. The case study evidence can yield findings which can be incorporated into the planning of improvement schemes which are active in so many city centres.

Research on the wheelchair user in the urban context is limited. Although there is extensive geographical and other research relating to planning and change in the city centre (see Pacione, 2005), rarely does the literature make other than passing reference to the needs of disabled people. Furthermore, the theoretical work on social exclusion which implicitly informs much policy-related urban research, focuses principally on access for poorer sections of the community or on ethnic minorities. Therefore, although this paper adopts a policy-oriented and spatial approach to the interpretation of empirical evidence, it is useful to situate the work, at least in very general terms, in some of the literature within disability studies.

Impairment and disability: theoretical perspectives

As a brief introduction, it is useful to appreciate that the experiences of people with a physical (or mental) impairment are commonly viewed from two alternative theoretical perspectives: the medical and the social.

The medical (or individual) model focuses the problem of disability within the individual, viewing disabled people as 'individual medical tragedies' (Oliver, 1990, p. 31). Fawcett (2000) suggests that the DDA (DDA, 1995) was predicated on this basis because it defined disability as: 'A physical or mental impairment which has substantial and long term adverse effect on a person's ability to carry out normal day-to-day activities' (DDA, 1995). The perspective is seen as marking out disabled people as a minority group defined by their impairments, and, consequently, marginalised or excluded from mainstream society. Furthermore, disabled people are seen as requiring 'special' attention, which is often viewed as patronizing. At the same time, there is an implication that their expectations should be limited, and that they need to make the best of their adverse circumstances, in effect, as second-class citizens (Imrie, 2000). It has been suggested that the medical perspective often results in a merely tokenistic provision for people with disabilities in Western society (Barnes et al., 1999).

By contrast, the social model of disability views society as failing, both through environmental design and through the way in which it delivers services to people with physical and mental impairments (Abberley, 1987; Gleeson, 1999b; Imrie, 1996; Marks, 1999; Sapey et al., 2005). It is contended that urban areas have been designed with the able-bodied in mind to such an extent that those who do not fit are defined as 'outsiders'. Imrie and Kumar (1998) unequivocally suggest that most built environments are disablist, in that they implicitly exclude through their design and form. Imrie (1996) argues strongly that western cities are characterised by what can be called a 'design apartheid', where building form is inscribed with the values of society. Goldsmith (2000) coins the term 'architecturally disabled' to define those who are disadvantaged not through their own being but through the architecture and spaces that surround them, while Kitchin and Law (2001, p. 287) observe, 'space is socially produced in ways that deny disabled people the same levels of access as non-disabled people'.

Thus, while the social model does not deny the underlying medical dimension of impairment (Oliver, 1996; Drake, 1999), it emphasises that society is the principal disabling force, marginalising impaired people socially, economically and politically. Disability according to the social model is all things that impose restrictions upon disabled people, especially in the character of the built environment, which can be seen as oppressive (Imrie, 1996). Inevitably the theoretical discussion of these two main viewpoints has progressed considerably within disability studies (see Gabel and Peters, 2004; Thomas, 2004) and Shakespeare (2006) has recently suggested that the two models are ''dangerous polarizations''. Nevertheless, as the research for this paper is concerned with issues of access and policy in the city centre, drawing, albeit briefly, on the discussions within disability studies can make a valuable contribution.

In addition to discussion of the medical and social models, a key and related body of literature has emerged which draws attention to the weak formal representation of the perspective of the disabled population. This calls for the incorporation of a stronger 'disabled voice' in the decision-making processes affecting the life circumstances of disabled people. Gleeson (1996), for example, suggested that people with disabilities occupy a structural position within society that limits their life chances and closes down their opportunities. 'True understanding', he suggests will only be achieved by investigating their worlds from their perspective. More specifically, Imrie (1999a) contends that disabled people are consistently confronted by environments planned by people, most of who have limited awareness of disability. This suggests the continued need to research the 'disabled voice' more strongly if their life circumstances are to be improved (Imrie, 1999b, 2000). The involvement of disabled people in decision-making can avoid situations that are often overlooked by the able-bodied, and can be remedied from an early design stage. This is where the research paper can make a special contribution, by drawing on a large number of wheelchair user opinions, rather than adopting a more selective qualitative approach.

Legislative responses in the UK

Whichever model of disability is accepted, a variety of improvements have taken place for disabled people in general and for wheelchair users in particular. A major step forward in the UK occurred in 1995 with the Disability Discrimination Act (DDA), which has since become the cornerstone for disability rights (Manley, 1998; Jones and Schmidt, 2004). The Act provides disabled people with rights in areas of employment; access to goods, facilities and services; and buying or renting land or property. Different sections of the 1995 DDA have come into force in sequence in subsequent years, substantially affecting the access design requirements of certain categories of buildings. However, it is important to understand that the DDA does not directly require accessible environments to be provided for disabled people. The designated rights are for access to goods, facilities and services, rather than to the particular building in which these goods, facilities and services are normally made available to the public (CAE, 1999). Even if fully implemented, the DDA is only partial legislation, and ignores important areas of life, in particular the right to accessible transport (Jacklin, 2005).

More fundamentally, critics of the Act consider that it is flawed through its reliance upon the medical (individual) rather than wider societal (social) definition of disability (Chadwick, 1996). In addition, it appears that businesses have been slow to act in accordance with the relatively narrow demands of the Act, and this is widely considered to reflect a dependence upon 'voluntary' compliance rather than a commitment to enacting the force of law via the Courts.

However, the DDA was strengthened significantly in April 2000 with the establishment of the Disability Rights Commission (DRC). The DRC is an independent, executive, non-governmental public body responsible for promoting equality of opportunity for disabled people in the UK. The DRC has the power to enter into a legally binding written agreement with a person or organisation if it has reason to believe that they may have committed, or may be committing, an unlawful act (see http://www.drc-gb.org). Particularly important is the right to undertake formal investigations of possible deviations from the DDA 1995, a power that has reached more deeply into organisations than can individual complaints.

Nevertheless, even following the enactment of the final stage of the DDA 1995 in October 2004, which required service providers to make other ''reasonable adjustments'' to the physical features of their premises to overcome barriers to access, the environment of 'voluntary' compliance has not been encouraging from the perspective of disabled people. Despite the possibility of fines of up to £50,000 for non-compliance in actions brought by the DRC, the Federation of Small Businesses, which acts for 185,000 members, reported that 42% of their members had done nothing to comply with the Act (Wall, 2004). In effect, a 'wait and see' strategy, combined with demands for Government financial support, is being used widely to test the resolve of the Commission. Clearly, in the service provision environment, the individual or medical perspective on disability continues to be the dominating culture, with a strong continuing reliance on voluntary compliance.

Furthermore, while the UK legislation ensures improved access to most 'public' buildings, the spaces between buildings also need to be barrier free if people with disabilities are to achieve greater freedom. One of the key difficulties in attempting to create a more accessible public realm relates to the lack of overall control of the organisations that shape it. The recent appointment of dedicated Access Officers within local authorities is at least an important step towards coordinating the creation of accessible space.

It is evident that a number of initiatives have been introduced into law in the UK designed to improve access for disabled people. However, it is equally apparent that the initiatives are not fully comprehensive and there is a great likelihood that more than 10 years after the initiation of the DDA substantial access problems remain. The research reported here not only aims to assess this contention for wheelchair users in a British city, but also to develop the wider implications of the findings.

International comparisons

Although significant changes have taken place in the UK, particularly through the DDA (1995), comparisons with other countries also suggest that much still needs to be achieved. In the USA 'The Americans with Disabilities Act' (1990), and updated guidelines (see http://www.access-board.gov) are much more comprehensive than the DDA. Even so, and despite the rapid phasing in of the requirements of the legislation from 1990 to 1992, the problems of ease of access for disabled people have not been resolved. For example, a survey of shopping environments in the US in 2000 noted that: '. . .shoppers who are wheelchair mobile cannot count on compliance and cannot predict which physical architectural barriers they will find in shopping centres' (McClain, 2000, p. 178).

Like the USA, Canada, Australia and New Zealand have adopted a stronger anti-discrimination or human rights approach to disability, which recognises the rights of disabled people and seeks to eradicate discrimination against them (Finkelstein, 1993). In Japan, the government working through an organisation known as ESCAP has promoted barrier-free environments since 1993 (Haber and Blank, 1992, p. 18). As a result, three cities became

demonstration sites for the promotion of barrier-free environments, with many improvements such as kerb ramps for wheelchair users, handrails and accessible toilets, as well as tactile Braille pathways for visually impaired citizen (ESCAP, 2006). Gilroy (1999, p. 65) acclaimed the accomplishment as a 'laudable model for all planners in the developed world to follow'. These experiences have led to the development and strengthening of access-related legislation in other Asian countries such as China, India and Thailand, with each setting up working committees for the promotion of non-handicapping environments (ESCAP, 2006). However, it has to be recognised that cultural differences in some countries reduce the priority attached to widening access (Komardjaja, 2001).

In most cities, the hope is that design considerations for disabled people are not seen as minority special needs provision. Ideally, the built environment should be accessible for all users, if an environment of real quality is to be created. Similarly, accessible transport is an increasing concern and is monitored by Access Exchange International (http://globalride-sf.org/rnl.html). Academics have pointed to the need to develop a holistic stance, in which access and mobility considerations are integral to the design process (Walker, 1995; Greed and Roberts, 1998; Venter et al., 2004), and are carefully audited (Ormerod, 2005). With the spread of the Disability Rights Movement, there is a growing enthusiasm for universal design, i.e. planning and design, which ensures access for everyone and encourages social inclusiveness (Goldsmith, 2000; Williams, 2001; Wilkoff and Abed, 2002).

Thus international experience suggests that there are a number of alternative approaches, which might be adopted to improve city centre access for the disabled sections of the community.

The research project

The research project was based principally in the British city of Swansea, a regional shopping centre with a primary trade area extending over a 15-mile radius, and containing a population of about 500,000 (Neighbourhood Statistics, 2006; Tallon et al., 2005). In the mid 1970s the Quadrant shopping centre was opened in heart of the city centre (*Figure 1*). Subsequent changes to the built-environment included extensive pedestrianisation in the early 1990s and the remodelling of Castle Square in the late 1990s. These changes, while providing a largely traffic-free central shopping area, added to vehicular congestion in peripheral streets such as the Kingsway. The various improvement schemes and developments contributed to the creation of markedly different types of city centre space which are subsequently shown to impact so differently on the wheelchair user. Alongside city centre improvement schemes (Bromley et al., 2005; Tallon et al., 2005, 2006), there have been two specific initiatives associated with the DDA: the appointment of an Access Officer and the introduction of a Shopmobility scheme. Gant (2002) draws attention to the general success of Shopmobility schemes. 'Shopmobility...has been designed to secure for mobility-impaired people equality of access to shopping facilities and ''barrier-free'' movement within town centres' (Gant, 2002, p. 123). In August 2000, Swansea was one of 234 Shopmobility schemes in operation in the UK (Gant, 2002). The Swansea scheme provides a varied array of electric scooters which are available free of charge to its members, between 10 a.m. and 4.30 p.m., Monday to Saturday. In the context of the implementation of recent 'disability' initiatives, Swansea provides an appropriate setting for an investigation of the experiences of wheelchair users in the city centre because it includes the variety of retail environments typical of many cities across the world.

The research aims to explore the experiences of wheelchair shoppers in a city centre environment 10 years after the initiation of the program of requirements of the Disability Discrimination Act 1995. In contrast to other exclusively qualitative research (e.g. Schmidt et al., 2005), an interview sample of 120 wheelchair users in Swansea represented a range of age groups and socio-economic status allowing quantitative generalization as well as qualitative insight. The interview sample was achieved through snowballing from at least four different sources, with careful monitoring of respondents to ensure a representative sample. The sample included 42% men and 58% women, and 72% were aged 50 years and over, both characteristics reflecting the national distribution (Grundy et al., 1999). Although the research findings presented here emphasise the quantitative findings, the project was designed to focus explicitly on the 'disabled voice'. Each wheelchair user responded to a lengthy face-to-face interview based on a schedule of closed and open questions developed in consultation with the Swansea Access Officer and various disability groups. Thirty of the 120 respondents agreed to further in-depth interviews, and 12 participated in two focus groups to discuss the quantitative findings and the policy suggestions. Of the 120 wheelchair users, 73% shop regularly in the city centre of Swansea, the majority of these (58%) visiting at least once a week. Information from the interviews of wheelchair users was supplemented by 22 key informant interviews with retail managers, representatives of disability organisations, city planners and other local authority personnel. In addition, a further 30 in-depth interviews were conducted with wheelchair users in Bristol to strengthen the interpretation of wheelchair user views of a covered shopping centre environment. The significance of the contribution of the research project rests on the substantial empirical base of 150 individual interviews with

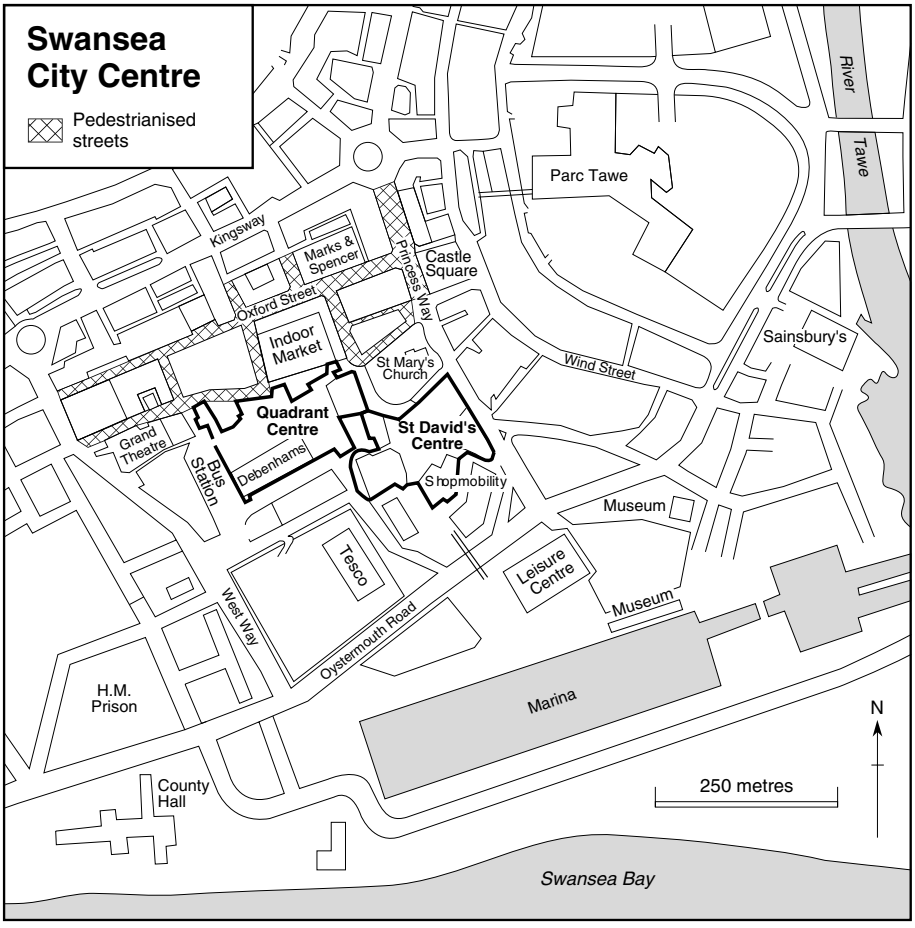

Figure 1 Swansea city centre.

wheelchair users. This, as well as the relevance of the case study city, supplemented by other urban evidence, allows some scope for generalisation.

The rest of the paper focuses on the findings from the interviews, relying principally on summary statistics, and only occasionally on individual quotations and viewpoints. The core sections outline the consumer perspective on the city centre, covering travel to, and movement around the city centre, including the use of the shops. These sections are followed by a broader explanatory analysis of the attitudes of respondents to their situations, prior to developing a discussion of suggestions concerning improvements and policy priorities designed to further improve the accessibility of city centres for wheelchair users.

Access to the city centre

Most wheelchair users who shop in Swansea city centre travel by car (76%), and an additional 15% use taxis. Of the remaining 9%, most made their way to the city centre along the pavements. None use the public bus system, the vast majority of wheelchair users (90%) considering buses 'difficult' or 'very difficult' to use because of the high step to get on board combined with the lack of ramps (72%). One wheelchair user pointed out that ''On the whole there are not any disabled facilities on public transport. Unfortunately, it is done for the majority of people and not the minority'' (Male, 20–39 years). The lack of bus use is especially disappointing since the city centre is the hub of the public transport system. In this respect Britain has lagged far behind other countries. More than a decade ago, O'Brien (1991) observed that in Sweden and the USA, many cities had adapted their bus systems to accommodate wheelchair users. Despite the fact that Britain's first low-floor bus service was introduced in 1993, availability is still relatively limited. Evidently, the notions of the 'disadvantaged consumer of transport' (Bruce, 1986) and 'transport disability' (Gant, 1992; Heiser, 1995) continue to be a central facet of the experiences of wheelchair users in the Swansea area. This situation reflects the fact reported earlier that the DDA 1995 does not include the right to accessible transport (Jacklin, 2005).

Due to the strong dependence upon the private car as a mode of transport for wheelchair-users, the availability and quality of car parking in the city

centre assumes central significance. Asked to rate car parking in the city centre, just over half of the respondents (56%) rated car parking as 'easy', and a further 20% as 'OK'. However, a significant 24% expressed difficulty. The variety of viewpoints on parking reflected the particular choice of car parking location. For example, of the 30 respondents who parked their car at the Shopmobility car park, a large majority (86%), found car parking to be either 'very easy' (47%) or 'easy' (40%). By contrast, of those who parked in non-specific locations around the city centre, 78% found car parking to be 'difficult' (30%) or 'very difficult' (48%), largely because of the lack of appropriate spaces. Together, these findings suggest that car parking in the city centre is largely reasonably good for wheelchair-users. Nevertheless, transport to the city centre continues to be a problem for a significant minority of respondents, highlighting the need for improvement.

Moving around the city centre

Once in the city centre, the survey reveals that movement for wheelchair users continues to be affected by the built environment and also by pedestrian activity. In any city centre the built environment includes a variety of public spaces such as the streets, pavements and squares. In most city centres many of these public spaces have been upgraded and regenerated with pedestrianisation, repaving and planting schemes, and the case study city of Swansea is no exception. For wheelchair users in particular, there have been improvements since the DDA. Of the 83 wheelchair respondents who claimed knowledge of the Act, 32% felt that shopping has been improved 'a lot', and only 10% felt that there has been no improvement.

Despite the recognition of general improvements, interviews with key informants suggested an array of difficulties which obstruct the movement of wheelchair users. Each respondent was asked to grade the suggested difficulties. Three obstacles: people on pavements, getting into shops and the lack of dropped kerbs; were considered 'major' or 'prohibitive' by more than 60% (*Table 1*). The next most serious group of obstacles all fall within the public realm, and include high kerbs, steps, and uneven surfaces (including the deliberately planned cobbled areas). Other problems noted by smaller but still substantial proportions of respondents derive from vehicle traffic and narrow pavements outside the pedestrianised core. From the in-depth interviews and focus groups, it is apparent that many of those who use the city centre need a keen knowledge of how to get around, often involving long detours in order to avoid some of the identified obstacles and to minimize inconvenience.

Wheelchair users also continue to face further challenges inside the shops of the city centre. For example, 35% find the shops they usually visit to be 'very wheelchair friendly', whilst 37% find accessibility to be 'poor', with the remainder viewing the situation as 'OK'. Particular problem stores can be identified with respect to features such as narrow doorways and aisles, and inconsiderate placement of stock. In addition, changing rooms are viewed as being 'difficult' or 'very difficult' to use by 62% of respondents, while shelf height is described as 'difficult' or 'very difficult' by 45% (*Table 2*). However, more positively, toilets around the city centre are seen as being 'easy' or 'very easy' to use by the great majority (74%).

Pedestrian activity in the city centre is also an important determinant of ease of movement (see *Figure 2*). Crowded pavements present a major challenge to over half of wheelchair users (55%). Consequently, many adapt the timing of their shopping patterns to avoid busy periods. Thus, Thursday is the most popular day (47%) for wheelchair users, while Saturday (16%) and Sunday (3%) are the least popular. The especially low Sunday figure reflects the closure of Shopmobility on that day. However,

Table 1 Rating of potential city centre obstacles (mentioned as prohibitive by more than 10 wheelchair users)

Feature	Prohibitive obstacle	Major obstacle	Minor obstacle	Not an obstacle	Total (*n*)
Prohibitive or major obstacle to 63–70%					
Lots of people on pavements	54.0%	14.9%	2.3%	28.7%	100.0% (87)
Getting into shops	41.4%	21.8%	5.7%	31.1%	100.0% (87)
Lack of dropped kerbs	40.2%	25.3%	5.7%	28.8%	100.0% (87)
Prohibitive or major obstacle to 43–50%					
High kerbs	33.3%	12.6%	6.9%	47.1%	100.0% (87)
Steps	32.2%	11.5%	5.7%	50.6%	100.0% (87)
Uneven surfaces	27.6%	20.7%	10.3%	41.4%	100.0% (87)
Dropped kerbs not adjacent	19.5%	28.7%	8.0%	43.7%	100.0% (87)
Prohibitive or major obstacle to 33–40%					
Narrow pavements	16.3%	16.3%	5.1%	52.4%	100.0% (86)
Busy roads	16.1%	20.7%	12.6%	50.6%	100.0% (87)

Source: Interview survey of wheelchair users, Swansea, UK.

Table 2 Rating of features relating to the in-store shopping experience

Feature (listed in order of difficulty)	Very easy to use	Easy to use	OK	Difficult to use	Very difficult to use	Total (*n*)
Changing rooms	4.0%	6.0%	28.0%	38.0%	24.0%	100.0% (50)
Shelf (height)	5.7%	21.8%	27.6%	33.3%	11.5%	99.9% (87)
Lifts (provision and use)	6.4%	28.2%	38.5%	19.2%	7.7%	100.0% (78)
Checkouts (height)	10.3%	36.8%	25.3%	20.7%	6.9%	100.0% (87)
Toilets	20.0%	53.8%	13.8%	9.2%	3.1%	99.9% (65)

Source: Interview survey of wheelchair users, Swansea, UK.

Figure 2 Moderate congestion, on a Thursday morning, at an exit from Swansea indoor market, affecting ease of movement for wheelchair users (the wheelchair in the photograph is borrowed from Shopmobility).

the 'avoidance tactic' is regarded as a non-preferred option, and represents a strategy to minimize personal inconvenience and psychological discomfort. Time of day for shopping is influenced by similar factors, with the quieter morning as the most common choice of shopping time (44%), and a further 30 per admitting that they choose times perceived as being less busy.

Spatial variability

There is also a distinct spatiality to the views of wheelchair users on the ease of moving around the various parts of the city centre. Responses concerning four particular areas are especially revealing (*Table 3*), because Swansea, like most city centres encompasses different types of city centre space. The results highlight the way in which the pedestrianised heart of the city centre is rated as easy to move around in, but that peripheral streets present barriers. Thus, the modern indoor Quadrant Shopping Centre is rated 'very easy' or 'easy' by 80% of respondents. For wheelchair users these recent, purpose-built enclosed environments offer near to ideal conditions for shopping. The additional interview survey conducted at the new out-of town shopping centre of Cribb's Causeway, Bristol, emphasised that these locations accommodate wheelchair users to a greater extent than city centres as a whole. Out of the 30 wheelchair users interviewed here, 80% stated that they found it 'very easy' or 'easy' to navigate. New city centre shopping precincts can replicate these movement advantages, as demonstrated by identical findings for the Quadrant Centre in Swansea, but some of the older and peripheral parts of the city centre do not. Thus only 24% of Swansea wheelchair users, found movement in the peripheral shopping streets with vehicle traffic, easy. The reasons given for the difficulties at the periphery include the lack of dropped kerbs and the poor-up-keep of pavements. As one wheelchair user articulated: ''The Kingsway [peripheral street] is a real sod of a place. The road's too wide, it's too busy, there are no real crossing places, the pavement's poor and it deserves to be knocked down!'' (Female, 60+ years). The traditional space of the covered market also presented some difficulties and occupies an intermediate position.

Table 3 The ease of moving around different areas of the city centre

Type of area: Swansea example	Very easy	Easy	Neither easy nor difficult	Difficult	Very difficult	Total (*n*)
Modern shopping centre: Quadrant	38.8%	41.2%	16.5%	2.4%	1.2%	100.0% (85)
Upgraded pedestrianised square: Castle Square	23.6%	45.8%	22.2%	8.3%	1.4%	100.0% (72)
Traditional covered market: Swansea Market	10.5%	29.4%	27.1%	25.9%	7.1%	100.0% (85)
Peripheral street with traffic: Kingsway	5.3%	18.7%	25.3%	33.3%	17.3%	100.0% (75)

Note: Responses from those who never visited the area were deemed not applicable and were excluded.
Source: Interview survey of wheelchair users, Swansea, UK.

Thus, while city centre shopping precincts replicate the movement advantages of suburban malls, the older and peripheral parts of the city centre remain problematic (see *Figures 3 and 4*).

Attitudes of wheelchair users

The interview evidence indicates that, in the UK, despite the existence of the DDA 1995 for over 10 years, a substantial minority of wheelchair users continues to experience significant access difficulties with both public transport and car parking within the city centre. Equally, movement around the city centre is replete with physical obstacles, which are particularly problematic in peripheral areas. Likewise, elements of 'store architecture' outside the confines of existing legislation continue to be restrictive, while busy shopping periods also continue to constrain the choices of wheelchair users in the city centre. In these circumstances, a further exploration of the attitudes of wheelchair users will serve to assess the progress of improvements heralded by the legislative shift initiated in 1995 and in the next section provide suggestions for general improvements.

The research project explored wheelchair users' feelings about possible explanations for the continuing difficulties. Each wheelchair user was invited to agree or disagree with four suggested explanations for the problems they experienced when shopping (*Table 4*). Notably, only 11% supported an explanation based on the way in which services are provided. Also, well under half (39%) thought that their mobility disadvantage is best explained by their physical disabilities. The two principal explanations receiving majority support relate to the built environment ('the way in which places are planned or designed') (61%) and to society ('the way in which society treats me') (53%). The 'disabled by society' point of view is further confirmed through the use of attitudinal statement testing. In total, 67% of respondents 'strongly agreed' or 'agreed' with the statement: 'I am disabled by society not by my impairment'. Evidence of this kind suggests that wheelchair users consider that their problems with access are more a function of selective socio-spatial mechanisms mediated through their effects on the built environment, rather than a direct result of their physical impairments alone. Disability in this sense is interpreted as a social construction. Thus, wheel-

Figure 3 A pedestrianised street in the heart of Swansea city centre providing relatively easy movement for wheelchair users.

Figure 4 The peripheral High Street in Swansea city centre where kerbs and vehicular traffic present difficulties for wheelchair users.

Table 4 Agreement with suggested explanations for the problems experienced as wheelchair users

Suggested explanation	Agree	Disagree/ no view	Total (*n*)
The way in which places are planned/designed	60.8%	39.2%	100% (120)
The way society treats me	52.5%	47.5%	100% (120)
Physical disability	39.2%	60.8%	100% (120)
The way in which service are provided	10.8%	89.2%	100% (120)

Source: Interview survey of wheelchair users, Swansea, UK.

chair users' views are much more closely consistent with the social model than the medical model of disability. In effect, the characteristics of the city-centre shopping environment are seen as closely linked with attitudes towards disability within society, because the majority of obstacles that confront wheelchair users are considered to be a consequence of (poor) planning and ableist design.

However, wheelchair users display a variety of views and their responses were explored for possible variations in terms of gender, age, type of wheelchair, socio-economic status, and car ownership. It is notable that no statistically significant variations were found, indicative of a high degree of consistency of attitude. Nevertheless there is some indication that wheelchair users aged under 60 years (67%) are more emphatic in blaming the way in which places are planned than their elders (53%).

Thus, the way in which places are planned/designed was considered the most important explanation for the problems experienced by wheelchair users while shopping. This suggests that the ameliorative activities initiated by the DDA, 1995 have a long way to go to resolve the difficulties to an acceptable level. In effect, there is a strong feeling amongst wheelchair users that their needs have been ignored. Indeed, 62% either 'strongly agreed' or 'agreed' that they felt left out of local decision-making. Also, the need to recognise diversity and difference in the needs of wheelchair users was a point made repeatedly in discussions. However wheelchair users are full of support for the Access Officer who had been appointed by the Local Authority. There was a clear view that this is an important campaigning position for wheelchair users, and is improving the chances of appropriate planning and design.

Also, an attitude which recurs throughout the survey responses and the in-depth interviews, suggests a strong dimension of 'disabled acceptance'. Wheelchair users are seemingly prepared to put up with, rather than challenge, poor levels of accessibility and obstructions to their mobility. As one wheelchair user said: ''I think some people have just got to accept that they cannot get into places where you cannot go …. I would not sit in a queue and look at the place and think 'I should be allowed in there, but there are steps there'. You cannot expect to be able to go everywhere''. (Male, 40–49 years). This attitude was reinforced in the focus group discussions and is reflected further by the fact that only around a quarter of wheelchair users (26%) had ever spoken to anyone in authority about issues to do with planning and access. The research project gave the 'silent' group an opportunity to voice their opinions about improvements.

Evidently, the attitudes expressed by wheelchair users provide strong support for the continued existence from their viewpoint of a strong 'ableist' perspective in the organisation of space in modern British society, and the significance of the need for a stronger social perspective if problems are to be understood and reduced (Imrie, 1996). Also, a weak 'consumer' voice continues to exist in the planning environment, emphasising the continued need to research the experiences of disabled people from their unique perspective if their life circumstances are to be improved (Imrie, 1999b, 2000; Esteghlalian, 2002).

Improving access and planning implications

Wheelchair users suggested a number of potential improvements for access to shopping in the city centre, which are applicable to any city centre environment. Some are short-term palliatives, while others are longer-term goals, which require a full commitment from government at all levels. Among the longer-term priorities is the need for an inclusive public transport, which would have the additional benefit of more generally enhancing the sustainability of the city centre by reducing reliance on the car. For wheelchair users, British public transport is currently both limited and limiting. Gooding (1994) and Kitchin (1998) see this as a core facet of disabled people's exclusion from the mainstream of society. Policy gaps and service needs identified back in the early 1990s (Gant, 1992) still await remedy.

Wheelchair users also identified many obstacles in the city centre environment, which impeded movement, but which could be removed in the short-term. The 108 suggestions (*Table 5*) for improving public space in Swansea city centre included more dropped kerbs (21%), improving the quality of pavements (13%) as well as removing steps. Parking could be facilitated both by better policing of the parking bays (11%) or through the provision of more parking spaces (10%). Other improvements emerged from a meeting the local authority held with the researchers (June 2004). One of these is a modification to the car parking charge system so that a disabled person could move his/her car from car park to car park without more than a single payment. Less easy to solve is the manner in which parking spaces are reserved for wheelchair users. A wheelchair user described how these "mark you out as being different....I want to go where others go on their terms, not to be something special (Male, 40–49 years). Such spaces are 'iconically stamped' with a disabled badge, which some regard as indicative of a planning apartheid. However, it is difficult to envisage a realistic alternative.

Table 5 Suggested improvements to the city centre (mentioned by 7 or more)

Improvement	Percent of mentions
More dropped kerbs	21.2
Improve quality of pavements	12.9
Improve overall access	12.1
Better policing of disabled parking bays	11.1
More disabled parking bays	10.2
Removal of steps	6.5
More bins/improve quality of environment	6.5
Total mentions (n = 108)	100.0

Source: Interview survey of wheelchair users, Swansea, UK.

Other short-term suggestions for Swansea city centre focused on the existing and much praised Shopmobility scheme adopted widely in the UK, which would be even more useful with more flexible, extended hours and without the requirement to book at least 24-h in advance. There was also the need for better information about facilities for disabled people within the city centre. At present, available information relates to car parking and disabled toilets, but there is negligible in-store information or details on the location of barriers and obstacles for the mobility impaired. Matthews and Vujakovic (1995) identified this problem in the UK in the mid-1990s and nearly a decade later, Matthews et al. (2003) confirmed that very little had changed.

Inside shops, many other problems are evident, for example, heavy doors, cluttered aisles, inaccessible shelves and narrow checkouts. All of these obstacles make shopping for the wheelchair user an experience fraught with difficulties. However, with the application of limited resources and a little more thought, most of these problems are easily surmountable. Although in the UK, the DDA now requires shops to be accessible to those who are mobility impaired, for many owners of smaller retail outlets the costs involved to ensure complete compliance are considered so great that, at best, most have responded by ensuring only the provision of minimum standards. Even for larger retail stores, commitment to the DDA is not always satisfactory. Thus, typically, the majority has introduced new measures and improvements to their retail spaces, but these might be interpreted as gestures towards a legal landscape and not as a wholehearted commitment towards eradicating those aspects of shopping environments that limit the capabilities of wheelchair users and others.

Universal design in the built environment

Like public transport, the evidence from this research suggests that a long term goal of achieving the best possible access for disabled people is likely to require the implementation of universal design in the built environment. The concept of universal design, as discussed in the introduction, is that everything is planned with equality in mind, so minimising the need for specially adapted and segregated facilities. Universal design is all-inclusive and

does not draw attention to those who depart from socially constructed norms. As one wheelchair user said: ''If you design for everyone you are not categorising and you are not putting people in pigeon holes... We do not want to be treated differently. We want to be treated the same as everybody else.'' (Male, 20–39 years). Universal design is undoubtedly the ideal, even if in practical terms it might be considered unrealistic.

The academic literature has widely advocated universally accessible design as a longer-term solution to access problems (Manley, 1998; Gleeson, 1999a). There is now considerable momentum, in conjunction with the requirements of the DDA, for contemporary British planning to embrace the approach wholeheartedly. At present, all planning and design has to ensure access for all groups, but the emphasis tends to be on satisfactory access, on the 'adequate' rather than the 'universal'. Goldsmith (2000) utilizes the term 'universal design', predicated on the assumption that buildings and spaces (and transport) need not be disabling. Manley (1998) argues that the creation of universally accessible urban environments should be seen to be part of a wider agenda for a more sustainable future focused on the 'civilised town and city centre...rather than as a direct benefit dispensed to a minority, ''special needs'' group' (Manley, 1998, p. 155).

In order to work towards the achievement of universal design the voices of wheelchair users need to be heard, by involving and engaging with them in the planning process. A favoured way forward is Participatory Action Design, whereby different user groups would be contacted at the outset of the design stage of any new public building (Kitchin, 2000). Through their early inclusion, not only would wheelchair users be helping to make a building accessible for other users, but also they would be helping the planners make appropriate and reasonable decisions, ensuring wide accessibility.

Public awareness and social attitudes

An additional long-term goal is to raise public awareness and change social attitudes in the direction characterised within the social model of disability. The research showed that a large part of the adverse 'experience' of being a wheelchair user is the reactions experienced on a daily basis from the able-bodied. Feelings of being stared at and being made to feel out of place lead to a strong sense of discomfort and insecurity. However, most government legislation, typified by the DDA, still treats disability as a medical condition. In failing to recognise that disability discrimination is largely a socially defined construct, Britain now lags behind other countries, such as the USA. Social education, for example in schools, to raise awareness of the difficulties experienced by wheelchair users and to encourage the development of more accommodating attitudes, would feed into improvements in all aspects of the social and built environments.

Elements of compromise

The findings associated with the journeys to the city centre and the subsequent patterns of shopper behaviour suggest that planning for the ideal may not always be realistic, and that a degree of compromise is needed on the part of both the 'service providers' and the wheelchair shoppers. A substantial proportion of wheelchair users (55%), for example, found the city centre crowded and difficult to negotiate at times. This was countered by modifying the days and/or the time of day when trips were undertaken. Obviously, this constitutes a restriction on the choices of wheelchair users. However, if the city centre is to continue to be a thriving commercial and social entity attracting all shoppers, it is inevitable that an element of 'crowding' will continue to occur at peak shopping periods. Clearly, planners can respond to this problem by attempting to ensure that pavements are sufficiently wide and pedestrian activity is spread across as wide an area as possible. Nevertheless, if such actions are successful, it is likely that even more activity will be generated. Thus, a successful shopping environment will always tend towards 'crowding'. Indeed, it is this element of 'bustle' that many shoppers find attractive. Consequently, it is perhaps necessary for wheelchair users to accept an element of time compromise/constraint to maximize their comfort. This does not seem entirely unreasonable, since many able-bodied and elderly people, adopt similar timing strategies designed to avoid the same elements of crowding, difficulties with car parking, and traffic congestion. However, for the latter groups this probably incorporates a greater element of choice than that exercised by wheelchair users.

Similarly, it was evident that the majority of wheelchair users (51%) experienced significant difficulties of movement in peripheral shopping streets (*Table 3*). It is unlikely in the short term that these difficulties can be resolved due to a combination of the wide spatial spread of the edges of most traditional shopping centres and budgetary constraints on the improvements required. The issue therefore arises as to whether 'traditional' shopping centres with a heritage of peripheral areas can be adapted realistically in the short term to truly provide 'access for all'. The scale of this problem can be reduced by directing resources to the parts of the 'periphery' which wheelchair users are most likely to visit. Financially and organizationally, it seems likely that such compromises should be regarded as acceptable. Support for this argument is provided by the fact that in Swansea, and many other city centres, the focal points are as easy to negotiate by wheelchair users as many of the newer out-of-centre facilities. In mitigation, it is also noteworthy that peripheral

shopping streets are far less frequented by all sections of the community due to a combination of their declining shopping attractions contingent upon competition, and the associated fears they generate amongst shoppers (Thomas and Bromley, 1996).

There are also problems within stores which probably require an equal element of compromise. Many of the remaining obstacles for wheelchair users can probably be overcome by a more stringent management of space combined with limited additional investment. In connection with this, and other evidence presented, it can be suggested that the continued improvement of the situation of wheelchair users in the shopping environment is that all parties need to recognise that an element of compromise is a necessary component of the equation. While universal design can remain the ideal, compromise is a more pragmatic, likely eventuality.

Conclusions

This research provides a picture of the accessibility of the British city centre 10 years after the Disability Discrimination Act 1995, at a time anticipated to reveal considerable improvements for disabled people, particularly following the recent activities of the Disability Rights Commission. Based on large numbers of interviews, it also provides a new body of information, which can help to inform planning and policy with respect to the ways in which wheelchair users travel to, move around and use city centre shopping environments. The detailed interviews highlighted the ways in which different spaces within the city centre environment presented different levels of difficulty. By extension, the findings have wider relevance for the experiences of the 'mobility impaired' in general, and to other cities across the world where, depending on the cultural context, there is concern to improve access. More especially, this research presents findings based on the individual experiences of 150 wheelchair users. In this respect the research is consistent with the call from the wider academic community and the respondents alike for the need for a stronger 'disabled voice' in the decision making processes affecting those with mobility impairments.

The evidence suggests the continued 'embeddedness' of the medical (individual) perspective on disability in the UK. Consequently, the findings imply that there is a need for a shift in the attitudes of society in general, and legislators in particular, towards the social model of disability and the associated requirements of universal design, if the situation of the mobility impaired is to continue to improve. In effect, there is ample evidence of society's failure to deliver forms of environmental design and service delivery, which do not impose restrictions on wheelchair users and other mobility impaired people. Ableist practices and assumptions have become written-in to the landscape. Those who are mobility-impaired have to make do with what is on offer, exerting their own agency only to get by, and thus, surviving by their own ingenuity, and rarely through the predetermined volition of city planners, architects and city centre managers. Thus, inconvenience continues to be a 'normal' and 'routine' part of most wheelchair users experience, which is compounded by a widespread 'disabled acceptance' of their lot.

Nevertheless, there was evidence of some improvement in a variety of situations such as car parking, the removal of kerbs in the streets associated with pedestrianisation, and the Shopmobility scheme. However, progress appears to be slow and disadvantage continues to rest on basic physical problems within the transport and city centre environments.

In planning for improvement, it is important for wheelchair users to recognise the need for compromise on some issues, particularly in the short term. Even following a fundamental social change in direction, improvements to the physical environment might be both slow and costly. Similarly, while universal design is a laudable ideal, it is unlikely that some obstacles, restrictions and circuitous routes will ever be eradicated for all mobility impaired or disabled groups. Even so, there is ample opportunity for improvements to be introduced.

The evidence of this British case study suggests a number of considerations which should be central to planning and policy initiatives in most city centres in order to improve access for wheelchair users:

- an inclusive public transport system
- a movement in the direction of universal design
- the inclusion of a stronger 'disabled voice' in the development of policy and planning
- the raising of public awareness of disability issues
- the recognition of the need for compromise on some issues by both mobility impaired consumers and by service providers in the public and private sectors
- awareness of good practice already initiated in some countries

Within the city centre, planners and others involved in design should focus with renewed vigour on the creation of enabling environments since, on the evidence of a substantial British case study, many obstacles still remain, despite legislation.

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