
The Guide Dog as a Mobility Aid

Part 2: Perceived Changes to Travel Habits

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This article describes the second of a two-part study that examined the effects of a guide dog as an aid to mobility. The first part, which is also published in this issue, showed that dogs were perceived to significantly improve travel performance, irrespective of the participants' orientation and mobility skills before receiving the dog. The second part of the study describes the changes a dog makes to travel habits. In this second part, the travel habits of 50 people who were blind or vision impaired were examined retrospectively before and after they received a dog. The results indicate that dogs were used more frequently than other mobility aids except when it was more convenient to use a human guide or a long cane, as for example on a very short journey. People travelled independently more often and went further, with greater ease and enjoyment when travelling with a dog. The use of a dog appeared to reduce problems with access and the need to avoid certain journeys. However, dogs also caused difficulties, especially in social situations where they were not welcomed, and in crowded, cramped or dog-populated environments. More advantages than disadvantages were identified when comparing a dog to other mobility aids.

Perceived changes to travel habits

This study, which was conducted in two parts, investigated the effectiveness of the guide dog as an aid to mobility in terms of the heterogeneous population now using them, via inferential (part 1) and descriptive (part 2) statistics. The first part (Lloyd, La Grow, Stafford, & Budge, 2008) focused on the efficacy of the dog on travel performance, while this second part examines the dogs' affects on travel habits including mobility aids used, how often and how far people travel, avoidance of journeys and problems with access before and after receiving

a guide dog. In addition, the advantages and disadvantages of using dogs are identified. An overview of mobility aids and factors affecting mobility can be found in Lloyd et al., (2008).

Methodology

The method of participant recruitment is described in the first part of this study (Lloyd et al., 2008). Hence, fifty current and/or previous guide dog handlers from across New Zealand participated.

A series of open-ended questions were asked in which participants identified (a) any

mobility aids used, (b) the intensity of their travel, (c) journeys avoided and (d) access problems to specific environments when travelling with mobility aids other than a guide dog (i.e., before a guide dog was acquired) before and when using a dog. For reasons of expedience, responses pertained to experiences with guide dogs in general, that is, without being split into satisfactory and unsatisfactory dogs as in the first part of this study (Lloyd et al., 2008). Finally (e) the advantages and disadvantages of dogs compared to other mobility aids were noted. As in part one, participants were informed that travel pertained to independent travel only, and not when travelling with another person as a guide.

Results

MOBILITY AIDS USED

Mobility aids used (a) before and (b) after a dog was acquired, and (c) which aid was

used most often at these times are presented in Table 1. The majority (86%) of participants used a long cane before receiving a dog, which decreased to 48% once a dog was obtained. Two of these participants used a folding or telescopic cane as an adjunct to travelling with their dogs, for example, to detect how steep a drop-off was. Sixteen percent had tried an ultrasonic aid, the Mowat Sensor™ (which was developed and tested in New Zealand), but only one participant used this device after getting a dog. No one used a low vision aid, such as a monocular distance telescope, before or after receiving a dog. All but one participant (98%) used the services of a human guide before acquiring a dog, and 90% continued this practice after acquisition. Eighteen percent occasionally travelled without the use of any mobility aids before getting a dog and 8% continued this practice once the dog was acquired. Four percent used a pram as a mobility aid before receiving a dog, with or without a child in

Table 1. Mobility aids used by participants (N = 50) before and after receiving a guide dog and which aids were used most often at these times.

Mobility Aid	Before Dog (%)		After Dog (%)	
	Aids Used*	Aid Used Most	Aids Used*	Aid Used Most
Long cane	86	62	48	2
Electronic aid	16	0	2	0
Low vision aid	0	0	0	0
Human guide	98	30	90	4
No aid used	18	4	8	0
Other - pram	4	0	0	0
Identification cane	4	4	0	0
Guide dog	N/a	N/a	98	94

*Total percent does not add to 100, due to open-ended questions/multiple responses.

N/a = not applicable.

situ, and 4% used an identification cane (a short, white cane that identifies the traveller as being blind or vision impaired); neither of these techniques was practiced with the dog. After obtaining a dog, 'no aid' or aids other than a dog were used for very short journeys that did not seem worth harnessing the dog for, for example, retrieving the mail from the mailbox at the end of the drive or going to a neighboring office at work. One participant chose not to use the dog as a mobility aid after it was received, as it was not trusted to be a safe and effective guide.

Before dog acquisition, the long cane was the mobility aid most frequently used by most (62%) participants, 30% preferred the services of a human guide, two participants favoured the identification cane and two others mostly chose not to use any aid. After a dog was received, the aid used most often was the guide dog (94%), followed by two participants still using human guides and one the long cane.

INTENSITY OF TRAVEL

Travel intensity was assessed by participants being asked whether using a dog changed how *often* (which was examined inferentially in the first part of this study) in conjunction with how *far* they travelled. The intensity of travel increased for 88%, 10% did not report a difference and one participant travelled less intensely. Of those whose travel intensity increased, 80% said that this was mainly due to wanting to travel more often and/or further, as they felt more confident, and that travel was easier and faster. In contrast, travel intensity increased for two participants (4%) due to the dogs' needs for exercise and toileting, and for two others because of a change in work habits (i.e., conducting public relations work such as a school talk on life

with a guide dog or because the location of a new workplace was further away). The 10% who did not experience a change in travel intensity claimed to have good long cane skills, but travel was considered easier, faster and more enjoyable with a dog. The participant who travelled less often than before a dog was acquired, did so as his or her mobility needs altered, and a walk to and from work was no longer necessary.

JOURNEY AVOIDANCE¹

Sixty eight percent of participants avoided one or more journeys (i.e., environments, routes and destinations) before they received a dog. Of these, 48% ($n = 24$) readily travelled independently before acquiring a dog. Those who did not travel independently relied upon the services of a human guide (18%), and one participant preferred being housebound to travelling with either a long cane or a human guide.

Concerning the 48% of participants who avoided one or more journeys while travelling independently before dog acquisition, 28% ($n = 14$) avoided busy, crowded environments such as outdoor markets, 24% limited their travel to their home base and/or familiar routes, and although not a journey *per se* 10% did not walk for pleasure such as a Sunday stroll. In relation to specific mobility tasks, 8% did not travel at night in the dark, 6% did not use public transport such as buses or trains, one participant avoided supermarkets and another did not negotiate areas with unmarked footpaths.

Fifty eight percent of participants did not avoid any journeys once they acquired a

1. Note: The total percentage of responses in this and the remaining sections does not add to 100 due to participants having supplied multiple response

dog; an increase of 26% from before a dog was attained, while the remaining 42% did. All participants claimed to travel independently, at least some of the time, once they acquired their dogs. The reasons given for the 42% of participants who avoided certain journeys when using their dogs included social and environmental issues and problems with specific mobility tasks as follows:

Social situations: 18% abstained from attending social functions including going to the pub and crowded places like an outdoor concert, or left their dogs behind if attending; and 8% shunned homes or cars where dogs were not welcome.

Environmental: 12% travelled independently only when using their dogs over familiar routes and chose to be guided by a human outside this domain; 6% could not work their dogs in heavily dog-populated areas as the guide dogs were distracted by or aggressive towards the other dogs; one participant avoided areas such as road-works or building sites as her dog was side-tracked wherever several men congregated; and one participant preferred not to use his dog when the weather was inclement, due to the bother of dealing with a wet, grimy dog.

Specific mobility tasks: 6% percent avoided negotiating busy motor traffic and roundabouts; one participant avoided wide platforms because her dog failed to maintain a straight line of travel; and one participant chose air travel over buses/trains if the journey was long, as although all methods were uncomfortably confined the former mode was faster.

PROBLEMS WITH ACCESS

The majority (78%) of participants reported they had difficulty accessing environments

such as buildings and public transport before they used a dog. Of those experiencing problems, 46% ($n = 23$) readily travelled independently and the remaining 32% required a human guide to gain access to virtually all destinations. Concerning the 46% of participants with access problems while travelling independently before acquiring a dog: 40% found gaining access to destinations and public transport to be difficult in general, finding doorways was problematic for 36% and 16% reported they frequently stumbled or fell when accessing public places.

Only 36% of participants experienced access problems once a dog was acquired, which equates to a decrease of 42% prior to dog acquisition. The biggest single issue noted was that 28% encountered periodic difficulties attempting to enter hotels, pubs or public transport, despite there being a legal requirement in New Zealand for guide dogs to be admitted. Six percent had problems when using buses, as the dogs were too big in size to fit into the small space allocation; and one participant found accessing doorways difficult as although his dog could indicate where the door was, the participant could not locate the gap as easily as he could when using a long cane. As previously mentioned, 12% continued to use a human guide when travelling over unfamiliar territory.

ADVANTAGES AND DISADVANTAGES OF USING A GUIDE DOG

The advantages and disadvantages of using a guide dog compared to other mobility aids are presented in Table 2. The responses have been sorted primarily into work related (travel) and non-work related categories (social and other), where the sub-heading 'social' includes responses concerning social interactions and companionship, and 'other'

pertains to alternative observations. All participants stated at least one advantage, but 16% said there were no disadvantages. Many more advantages (385 responses) than disadvantages (161 responses) were identified.

Most of the advantages concerned the dog as an aid to travel (236 responses), and most of the disadvantages were categorised as something 'other' (75 responses) than travel or social related. However, some of the

Table 2. Participants' ($N = 50$) observations of advantages and disadvantages of using a guide dog.

Advantages (total of 385 responses)	%	Disadvantages (total of 161 responses)	%
<i>Travel</i> (total of 236 responses)		<i>Travel</i> (total of 43 responses)	
Facilitates independent mobility	66	Previous cane skills deteriorate	24
Finding destinations/doorways	66	Less safe/efficient or disorienting if dog is not working well	12
Obstacle avoidance (including overheads and puddles)	64	Obstacles are not located or identified	8
Less stressful	64	Mobility is reduced as dog ages/slows down or becomes sick	8
Safer travel	58	Difficult to work in crowds	2
Faster/more efficient travel	38	Cannot locate gap in doorway once doorway is identified	2
Expand horizons – no limits to travel/sense of freedom	32	Public are less likely to offer assistance	2
Can dispense with cane (stigmatising through sight and sound, and prods abdomen)	30		
Dignified travel (less stumbling)	16	<i>Indirectly related to travel</i>	
Facilitates public offers of assistance	12	Too big to fit in public transport, car foot well, under desk at work	14
Facilitates travel on dark nights	8	Relatively low longevity and take a long time to replace	14
Other pedestrians get out of path of travel/ look more obviously blind	8		
Easier to learn new routes/environments of travel	6		
Provision of some physical support/ stabilising	4		
<i>Social</i> (total of 77 responses)		<i>Social</i> (total of 31 responses)	
Companionship (when and when not travelling)	94	Poor behaviour in social situations, at home or at work	22
Facilitates contact with others	58	Attracts unwelcome public attention	20
Helps to 'knit' a family	2	Unwelcome in certain environments (others' home, car, Marai)	18
		Public interacting with dog, not the handler	2

<i>Other</i> (total of 72 responses)		<i>Other</i> (total of 87 responses)	
Increased confidence in travel ability	62	Inconvenience when planning travel (with or without dog)	56
Increased self-esteem	32	Dog needs care (welfare, grooming; exercising toileting)	48
Enjoyment in caring for dog	16	Makes a mess in home, car and on clothing	32
Increase personal security from assault (when and when not travelling)	14	End of relationship is painful (death, retirement or return)	18
Look more 'normal'/'cool' (less 'disabled') - discourages pity	10	Expensive to maintain (food, health care, equipment)	12
Keeps one motivated, fit, sharp	6	Tension in family (dog not wanted, mess in home/garden)	6
Increase in personal space (can turn head to converse with travel companion)	4	Complying with the RNZFB's Guide Dog Services' rules	2

16% stated that there were no disadvantages.

Total percent does not add to 100, due to open-ended questions/multiple responses.

categories overlap. For example, "companionship", which was classified as 'social' was also associated with shared experiences when travelling.

For the majority of participants (66%), travel was enhanced by the facilitation of independent mobility, the dog finding destinations/doorways (66%) and avoiding obstacles (64%). Travel was perceived as less stressful as the dog did the work (64%), safer (concerning traffic work in particular) (58%) more efficient (38%), and that travellers could expand their travel repertoire (32%). Another advantage was that participants (30%) could dispense with the long cane, which was considered stigmatising both visually and acoustically, and could be uncomfortable to use. Disadvantages regarding travel included the deterioration of previous cane skills due to a lack of practise (24%), reduced mobility (problems with orientation and safety) if the dog was not working well (20%) or slowed through old age or ill health (8%). Other disadvantages, which

were indirectly related to the dog as a mobility aid included being unable to fit the dogs into confined spaces (14%), the fact that they do not last very long and take a long time to replace (14%), and the expense of maintenance (12%).

Advantages from the social category include companionship (94%) and the dog as a facilitator of social interactions (58%). Conversely, dogs could also be socially disadvantageous. Some dogs behaved badly at home or at social functions (22%), attracted unwelcome public attention (usually when the dog was working) (20%) and there were situations where the dog was not welcomed by others (18%).

The most often cited 'other' advantages were increased confidence in travel ability (62%) and improved self-esteem (32%). Other benefits included the pleasures of nurturing a dog (16%), and feeling more secure from physical assault (14%). Disadvantages in this category concerned the demands and inconveniences of having and caring for

a dog including planning to travel with or without the dog (plus the issue of quarantine when travelling overseas) (56%), attending to the dogs' needs (48%) and dealing with dog hair and other mess (32%).

Discussion

Before acquiring a dog, human guides and long canes were the mobility aids used by most participants in this study, with the long cane being used most frequently. Once a dog was acquired, almost all the participants preferred to use the dog as their primary mobility aid, although human guides and long canes were still employed on occasion when it was more convenient. This pattern is similar to Steffens and Bergler's (1998) observations of guide dog usage.

Results of the present study support Jackson et al. (1994), Refson et al. (1998, 1999) and Refson et al. (2000) finding that dog handlers were more mobile than were other groups of vision impaired travellers. Participants in the present study travelled more often and further once they used guide dogs. Those with poor long cane skills were more confident with a dog, but those with good long cane skills also perceived travel to be easier, faster, less stressful and more enjoyable. In addition to confidence and self-esteem, and the enjoyment of having a travel companion, there are other reasons for a person to travel more with a dog than without including the dogs' needs for exercise and toileting or, for example, because a person's place of work may have moved to a further location. The present study clarifies that travel increased mainly because people wanted to travel more and because they were capable of doing so, not because they must.

Similar to Delafield (1974), the present study found improvements in mobility in terms of lower stress and greater safety when a dog was used. However, unlike Delafield, travelling with a dog was considered more efficient than when travelling with other mobility aids. This difference may be due to the greater variation in travel skill among participants in the present study, as formal O&M training is not mandatory for guide dog applicants in New Zealand, but would have been for the six subjects in Delafield's (1974) UK study. It would be interesting to explore any associations between pre and post guide dog mobility on how much O&M training was received before acquiring a dog, as well as variables such as time spent working with a dog, and onset and severity of visual status.

Anecdotal support for an increase in performance and efficiency is offered by Lambert (1990, p. 158), who, although he was an accomplished long cane traveller, wrote:

For me, working with a dog guide has meant the difference between walking 2½ miles per hour under constant stress and walking 3½ miles per hour in a confident and relaxed mood. It has represented a difference between feeling proud and confident and feeling proud and confident, and very efficient.

More participants (including those who readily travelled independently) avoided certain journeys and had more problems with access before they acquired a dog than after, although for different reasons. Dogs enabled independent travel for everyone who did not travel independently before acquisition, although some people avoided unfamiliar routes. For those who

travelled independently before acquiring a dog, the dog facilitated travelling in the dark (for people with night blindness due to such conditions as retinitis pigmentosa or diabetic retinopathy) or walking just for pleasure. However, as Warnath and Seyfarth (1982) also noted, the dogs were not a panacea for carefree travel. Places where other dogs might interfere with the guide dog's work were eschewed, as was travelling in bad weather to avoid the inconvenience of a soiled dog. Dogs were not always welcome in others' homes or cars, and were too large to fit comfortably on public transport or under a desk at work. As revealed by Deshen and Deshen (1989) and Steffans and Bergler (1998), dogs in the present study were also preferred to the long cane in congested places, as a cane could be stepped on and required more room to manoeuvre. However, the present study suggests that congested areas remain a problem for any mode of travel.

Participants had more problems finding doorways and gaining entry to public transport while keeping one's balance without a dog. The majority of access problems encountered when using a dog were related to social situations such as being denied permission to enter public places like hotels, pubs and public transport, despite the provisions in law. Therefore, further advocacy for legislation would seemingly be beneficial. In addition, the finding that access for some was limited by the dog being too large to fit on public transport, suggests that it might behove guide dog schools to breed smaller dogs.

Many more advantages than disadvantages were identified for the use of a guide dog. Most advantages related to the dog's abilities as a mobility aid and facilitator of

independent travel. However, as for other service dogs and pets, the dog was also important as a companion and a catalyst for social interactions, and they added to one's sense of self-worth (Eddy, Hart, & Boltz, 1998; Hart, Hart, & Bergin, 1987; Messent, 1983). Steffans and Bergler (1998) and Refson et al. (1999) reported similar advantages concerning guide dogs in terms of categories and frequency of response, which agree with the anecdotes of many blind or vision impaired travellers (Edwards, 2002; Ireson, 1991; Purves & Godwin, 1981; Warnath & Seyfarth, 1982) and the qualitative findings of Lloyd, Budge, La Grow, & Stafford (2000), Miner (2001), Muldoon (2000), Sanders (1999, 2000) and Zee (1983). The good was often taken with the bad. For example, although participants in the present study described the increase in social interactions to be advantageous, it was also considered objectionable for the public to interact with the dog without the handlers' permission, especially when the dog was working.

The finding that a third of participants appreciated not having to use a long cane once they acquired a dog, because in addition to being uncomfortable the cane was considered to be embarrassing visually and acoustically, endorses Deshen and Deshen's (1989) comments that cane users felt stigmatised in society. However, Lambert's (1990) commentary on becoming a guide dog handler suggests that because dogs, unlike the long cane or electronic mobility aids, are highly interactive and sociable, the psychological issues that relate to cane travel, such as anxiety, embarrassment and dependence-independence conflict, also relate to entrusting safety to a "mere canine". This is an interesting juxtaposition as like

Edwards (2002), for whom the acquisition of a dog, and subsequent ability to “come out” as a blind person, came as a relief, as carrying a cane did not effectively signal her limited vision to other people, participants in the present study felt it was advantageous to “look more obviously blind”. It was also felt that the dog does not have the same connotations of disability that the long cane has, as the dog does not signal helplessness or evoke pity. Although the effect of psychological factors on mobility outcomes for the long cane are unclear (Beggs, 1991; Clark-Carter, Heyes, & Howarth, 1986) addressing these psychosocial processes seem to be, as Lambert (1990) also suggests, important for a good outcome with a dog and should be considered by counsellors and educators in the field.

Most of the disadvantages found related to the demands of having and caring for an animal, which have also been noted to affect owners of other service dogs (Valentine, Kiddoo, & LaFleur, 1993) and pets in New Zealand (Fifield & Forsyth, 1999). The inconveniences of making travel plans with a guide dog is likely to become more pronounced as more handlers travel with their dogs nationally and internationally. Disadvantages also quantified in the present study and by Refson et al. (1999) included distress at the end of the partnership and problems associated with having the dog in social situations. Similar disadvantages have also been reported in qualitative studies (Lloyd et al., 2000; Miner, 2001; Sanders, 1999).

The monetary costs of breeding and training guide dogs are not usually borne by the handler, but maintaining a dog through its working life is. Interestingly, although these costs are steep (Edwards, 2002; Lloyd, 2004; Wirth & Rein, 2008), only a small number

of participants mentioned maintaining the dog as disadvantageous. Perhaps, for some people the costs may be neutralised by benefits to quality of life such as being able to travel to their place of work.

Other limitations were that dogs had a relatively short working life (also identified by Rimbault and Romero, 1994) and were more difficult to replace than other mobility aids. In addition, the present study noted that the handlers' cane skills deteriorated through a lack of practice and that travel was less safe if the dog did not perform well. The latter effect being due in part to handlers becoming disoriented and being unable to locate the shoreline as they did not have a cane to identify the edges of footpaths, walls and so forth. In contrast to the disadvantages of owning pet dogs, guide dog handlers did not mention a lack of space, rental agreement restrictions, disgruntled neighbours or worry about welfare (Bergler, 1988), roaming, fighting (Stafford, Erceg, Kyono, Lloyd, & Phipps, 2003) or unwanted litters of pups.

The fact that similar advantages and disadvantages have been reported by various sources using different methodologies suggests that these are key areas associated with the use of guide dogs, at least in western cultures. Disadvantages found in non-western studies included guide dogs being viewed by the public as dirty and handlers feeling different from their neighbours (Deshen & Deshen, 1989; Nippon Foundation for the Blind Research Overview, 1998).

Although people may choose to work with dogs rather than other mobility aids, it should be remembered that the dog is also a tool. Ulrey (1994) mentioned that although the dog has been taught many different commands that the handler uses to

reach destinations, a dog is an animal with the mental ability likened to that of a young child. As such, if the dog is not constantly reinforced through repeated use of these commands, some unused commands may be forgotten or performed poorly; this being a reflection of a dog's nature, not of the training.

The present study has identified a number of novel findings that will be of interest to those in the guide dog and the O&M field. As evidenced in the first part (Lloyd et al., 2008), people who use guide dogs evidently believe that a satisfactory dog enhances travel performance, regardless of one's ability in O&M. This second part indicates that independent travel is easier and more enjoyable with a dog than without and the dog extends travel possibilities. However, the findings in both parts are limited as they rely on the participants being able to accurately recollect past events. As previously mentioned, it would be useful to further investigate these changes over real time before and after a dog is acquired. In addition to a longitudinal study, more objective methods could be used to measure change in travel performance and not solely depend on the participants' perceptions. A triangulation of methods using qualitative as well and quantitative methodologies would deepen understanding of the concepts being examined.

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