THE GAP IN TERM OF MOBILITY FOR DISABLED TRAVELLERS IN FRANCE

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ABSTRACT

The demographic and social changes that are currently taking place in the developed countries, such as the ageing of the population, the disappearance of local services and the increasing fragmentation of social and family networks are likely to affect the future travel practices of a great share of the population. Also the number of persons who find it difficult to move around without any assistance outside their home could increase. The objective of this paper is to assess travel practices among people with travel's difficulties. Our research is based on the 2007-08 French National Travel Survey (ENTD) with about 20,000 respondent households conducted by the Ministry in charge of transport and the French National Statistics Office (INSEE). Firstly the paper describes the travel practices of disabled travellers and gives the gap in term of number of trips for a typical day, travel budget time and daily distance travelled for these two segment of the population (people with and without difficulties).
Secondly we will identify several sociodemographic characteristics that influence the number of trips per day and their travel behaviour, such as age, gender, professional occupation or residential zone.

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INTRODUCTION

The demographic and social changes that are currently taking place in the developed world are likely to affect the future travel practices of the entire population. Factors such as the disappearance of local services and the increasing fragmentation of social and family networks all affect lifestyles and may make it more difficult to meet travel needs. In addition, the ageing of the population caused by a reduction in mortality and birth rates (Brutel, 2002) will change travel patterns and may induce new needs in terms of transport, such as demand-responsive transport (ECMT, 2000). The ageing is accompanied by an increase in the prevalence of all forms of activity limitation and functional limitation, which, without other changes in the determinants of transport needs or a change in the system of transport supply, is likely to lead to an increase in the number of persons who find it difficult to move around unassisted outside their home (Hauet and Ravaut, 2001). Indeed, several studies outline the presence of many barriers to mobility for displacements outside the home (Stahl et al., 2008)

Disability was for a long time considered to be a form of infirmity, but it is now seen more as the outcome of a set of environmental, political, cultural and technical obstacles (Minaire, 1992). Integration can no longer be perceived as depending on a one-way process of adapting individuals to society, it also involves reshaping the environment and eliminating the obstacles it presents for disabled people. Thus, to understand and try to compensate for disability the focus has moved from the disabled person to analyzing the disability situation, with its individual and environmental components (OMS, 1998). It has thus been shown by a Canadian team led by Patrick Fougeyrollas that a disability situation arises from a reduction in the ability to carry out day-to-day activities caused by the interaction between personal factors (impairments, activity limitations, and other personal characteristics) and environmental factors (Fougeyrollas et al., 1995 and 1998). On this basis, it is very easy to see that an impairment or an activity limitation is permanent, whereas the disability associated with a situation may be attenuated or even eliminated. So, as disability situations are linked with an unsuitable environment they may be experienced not only permanently by wheelchair users, the visually disabled, deaf or the mentally disabled, but also by children, the elderly, pregnant women, parents with pushchairs … in other words the entire population at one time or another (Chanut and Michaudon, 2004). Thus, measures that aim to improve individuals' capacities are nowadays accompanied by measures that aim to change the environment by removing any obstacles it contains (Ravaud and Dejeammes, 1997).

If our main purpose is to alter difficult situations with a view to reduce or eliminate travel disabilities, it is important to analyze how people with disabilities travel. The study sets out to answer a number of questions: Are those with travel difficulties stay more often at home and do they make shorter trips (in both time and distance) than the population as a whole? Do they use the same travel modes and have the same trip purposes as those who experience no travel difficulties? What are factors that influence travel behaviour?

Our study is based on the National Transportation and Travel Survey (Enquête Nationale sur les Transports et les Déplacements - ENTD) that was conducted in France in 2007-2008 (Armoogum et al., 2007). The survey set out to study the travel practices and use of personal and public transport modes of households living in France. These national

transport surveys are the largest in France, with a sample size of 20,000 households, and consider all trips irrespective of their purpose, length, duration, transport mode, or the period of year or time of day. Situations of disability are identified on the basis of respondent's self-reported travel difficulties in a survey whose sample was drawn from all the ordinary households resident in France.

As we have seen above, today, disability is seen as being "…the expression of a conflict between an individual's activity limitations, i.e. functional reduction, and daily life" (Minaire, 1992). It therefore seems worthwhile to identify those persons who are in disability situations when they travel based on the difficulties they report rather than a priori by identifying their activity limitations. The ENTD identified three levels of reported travel difficulties: simple difficulties, limitations on certain routes and limitations on all routes. We have identified people with travel difficulties when they reported having difficulty at any level. According to the survey, in France in 2007-2008, about 10% of individuals of 15 years of age or over (i.e. 5.1 million individuals) reported difficulties when moving around outside their home. We will now analyse the travel practices of these people.

1- LOWER LEVELS OF TRAVEL

1-1 Greater immobility

The respondents were asked whether they had made a journey on each of the last seven days. It emerged that total immobility, i.e. on all of the last 7 days, was very much higher among persons reporting difficulties, 19.2 % versus 1.5 % for persons without difficulties (Table 1). Although 85 % of the persons without travel difficulties had made a journey the day before, this was the case for only slightly more than half of the persons reporting difficulties. Thus, the percentage of persons who made no journey between one and six days before the survey day was always higher for persons with difficulties than for the others.

Table 1 – Number of days between the survey day and the last day on which respondents made a journey

When did you make your last trip?	People reporting any difficulty (%)	People reporting difficulties (%)
Yesterday	85,0	55,9
The day before yesterday	8,4	11,5
Three days before	2,9	6,1
Four days before	1,1	2,8
Five days before	0,7	2,2
Six days before	0,3	1,8
Seven days before	0,2	0,5
No journey	1,5	19,2
Total	100,0	100,0

Source : Insee - SOeS - Inrets, enquêtes transports et déplacements 2007-2008.

These analyses give the impression that people who report travel difficulties are "forced" to stay at home. If we consider those persons who made no journey between Monday and Friday, the percentage of those who reported temporary or permanent activity limitations was much higher among those reporting travel difficulties (Table 2). While approximately 20 % of persons without difficulties reported making no journey during the week before the survey because of activity limitations (16.7 % because of temporary activity limitation and 3.5 % of permanent activity limitation), the figure for persons reporting difficulties was 72 % (respectively because 22.8 % and 49.0 % of temporary and permanent activity limitation).

TABLE 2 Reasons for not travelling during the week before the survey (from Monday to Friday)

Reasons %	People reporting any difficulty (%)	People reporting difficulties (%)
Temporary activity limitation	16.7	22.8
Permanent activity limitation	3.5	49.0
Other	79.2	28.2
Total	100	100

Source : Insee - SOeS - Inrets, enquêtes transports et déplacements 2007-2008.

We shall now examine the travel practices of individuals based on the journeys made on a weekday (between Monday and Friday) the day before the survey.

1-2 Fewer, shorter, trips

Those reporting travel difficulties made 1.8 trips per day, on average, which is almost half as many as those without difficulties (Table 3). Even if this difference was largely due to a higher level of immobility, those with travel difficulties still made slightly fewer trips: 3.3 trips per person per day compared with 3.9 for those reporting no difficulties.

If we want to see the characteristics that influence the travel practices, we can consider the average number of trips per day with reference to various socio-demographic characteristics. We can observe major differences. First, the women who did not report travel difficulties travelled more than the men, and the opposite holds among those reporting difficulties. Also, the number of daily trips diminished with age, falling, in the case of those with difficulties from 3.1 trips per day per person of under 45 years of age to 1.1 trips per day for the over 75 year-olds. This reduction was lower in the case of those without difficulties whose number of trips fell from 3.8 to 2.0.
Those who had a professional occupation made 3.2 trips per day and those without made 1.7 – lack of a professional occupation seems to have a major impact on the travel practices of persons in situations of disability. The further individuals lived from the city or town centre the fewer trips they made, and this applied both to those who reported difficulties and those who did not. Last, the fewer cars individuals had in their household the less they travelled.

TABLE 3 Number of trips per person per day according to their level of difficulties and various sociodemographic characteristics.

Average number of trips per day	People reporting any difficulty	People reporting difficulties
All respondents (per person)	3,4	1,8
Per trip-maker	3,9	3,3
Gender		
Men	3,3	2,0
Women	3,5	1,8
Age classes (yrs)		
Less than 45	3,8	3,1
45-64	3,3	2,4
65-74	2,7	2,0
75 and over	2,0	1,1
Professional occupation		
working	3,7	3,2
non-working	3,2	1,7
retired	2,7	1,6
Residential zone		
Town/city centre	3,5	2,0
Suburbs	3,4	1,9
Rural areas	3,2	1,5
Household car ownership		
Carless	2,9	1,3
1 car	3,3	2,0
2 or more cars	3,6	2,5

Source : Insee - SOeS - Inrets, enquêtes transports et déplacements 2007-2008.

Also, we can see from the table below (Table 4) that the trips made by persons in disability situations were shorter than those of persons who were not: 60 % of the trips made by persons who reported difficulties were within their municipality of residence while this was the case for 48% of the trips made by other persons.

Table 4 Crow flight distance between the origin and destination municipalities

Distance	People reporting any difficulty (%)	People reporting difficulties (%)
Same municipality	48.1	59.8
0.1-5 km	17.6	15.3
5.1-10 km	15.1	12.1
>10km	19.2	12.8
All trips	100	100

Source : Insee - SOeS - Inrets, enquêtes transports et déplacements 2007-2008.

In correlation with the above results, daily travel time was lower for persons with travel difficulties (Table 5): 59.3 % of this group travelled for less than 30 minutes compared with 27.4 % of persons without difficulties.

Table 5 Daily travel time according to the level of difficulties

Daily travel time	People reporting any difficulty (%)	People reporting difficulties (%)
Less than 30 mn	27.4	59.3
30-60 mn	24.4	17.7
60-90 mn	20.3	10.3
90-120 mn	11.5	6.8
120 min and over	16.3	5.9
Total	100	100

Source : Insee - SOeS - Inrets, enquêtes transports et déplacements 2007-2008.

So, in France in 2007-08, persons in a disability situation when travelling travelled less than other persons, both in terms of time and distance.

2- DIFFERENT TRAVEL PRACTICES

2-1 Different transport modes

There is a difference between persons who reported difficulties and those who did not with regard to the breakdown of transport modes used (Graph 1). The first difference that strikes one involves trips made entirely on foot, in a wheelchair or on roller skates and push scooters (33.1 % of the journeys made by persons with difficulties compared with 19.2 % for persons without) (Hopkin et al., 1978). Persons with difficulties therefore seem to travel more on foot that those without (Pieters, 1995). Furthermore, even though cars accounted for a smaller percentage of all the trips made by persons with difficulties (57.5 % compared with 68.3 %), the percentage of their trips in which they were car passengers was higher.

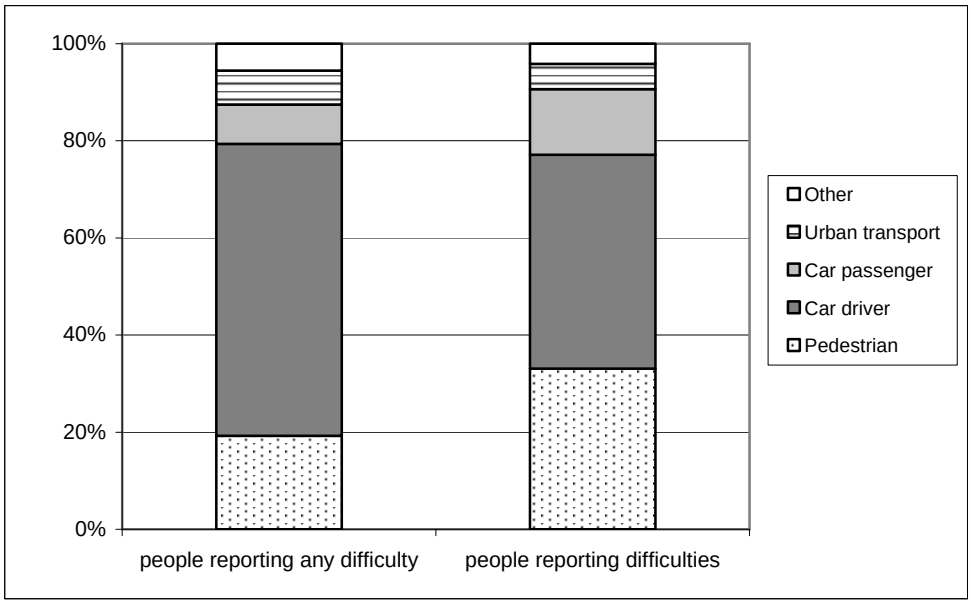

Figure 1 – Breakdown of the principal transport modes used by persons with travel difficulties and those without.

Source : Insee - SOeS - Inrets, enquêtes transports et déplacements 2007-2008.

Last, even if the proportion of trips made by public transport was similar among persons with travel difficulties and those without (between 5 and 7 %), the use of the various types of urban transport (for example buses, trams, metros or RER (the Paris regional express railway)) differed greatly between the two sub-groups (Table 6). Thus, although 50 % of the public transport trips made by persons without travel difficulties were by metro or RER, this was the case for only a fifth of the trips made by persons with difficulties. In correlation with this, the percentage of trips made by urban bus or tram was greater among persons with difficulties (43.2 % and 19.4 % respectively) than the others (34.1 % and 8.6 % respectively). This last observation shows that even when different public transport modes are available, the percentage of underground modes among persons with travel difficulties is lower to the benefit of the bus and the tram. As less progress has been made in making underground modes accessible, their use by persons with travel difficulties presents more problems.
These results therefore suggest that persons with difficulties favour certain transport modes: as they make more short trips they make more trips on foot, they make few trips on two-wheeled vehicles, and when they use public transport they prefer buses and trams to the metro and the RER.

Table 6 Breakdown of the urban transport modes used by persons with travel difficulties and those without

Urban transport mode	People reporting any difficulty (%)	People reporting difficulties (%)
Bus	34.1	43.2
Tram	8.6	19.4
Metro RER	50.2	25.4
Other	7.1	12.0
All trips	100	100

Source : Insee - SOeS - Inrets, enquêtes transports et déplacements 2007-2008.

2-2 Different trip purposes

The first difference we observed relates to the frequency of returning home which was the purpose of 45.3% of the trips made by individuals with travel difficulties compared with 40.7% those without (Graph 2). We can deduce from this that persons with difficulties make more return journeys (local trips) between their activity locations and their home than persons without difficulties, who when they leave home make several trips in order to perform a number of activities before returning. Also, as we have seen above, with increasing age, the percentage of persons with travel difficulties increases. The percentage of work-related trips is therefore much lower among persons with difficulties than the others (5.5 % versus 22.4 % of all trips).

In order to correct this bias we have conducted an analysis of only the trips made by persons of 65 years of age and over, as the percentage of work-related trips is negligible at that age. It emerged that the main activity performed by persons with and without difficulties outside their home (i.e. the second most frequent trip purpose after returning home, was "shopping" (approximately 22% of trips). It is also apparent that the differences between persons of over 65 years of age on the basis of whether they have difficulties or not are minor.

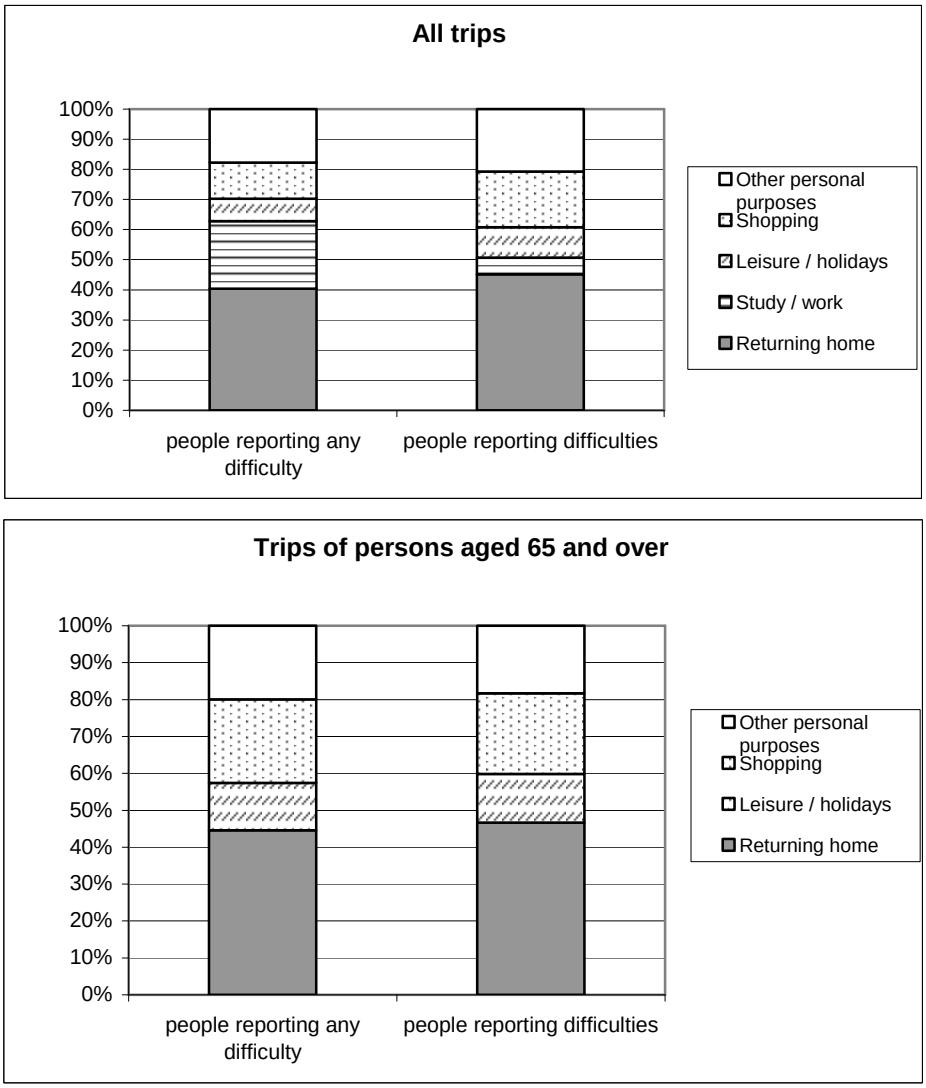

Figure 1 – Distribution of trip purposes according to the level of difficulties
Source : Insee - SOeS - Inrets, enquêtes transports et déplacements 2007-2008.

3- CONCLUSION

As disability situations are nowadays defined as a conflict between personal factors and environmental factors, the ENTD survey has allowed us to detect persons in disability situations during their journeys based on their responses to the question about their travel difficulties. In France in 2007-08 almost 10 % of the respondents reported being in a disability situation.

Persons in a disability situation travel less than persons who report no difficulties. (Bakker and Van Hal, 2006; Madre and Bussière, 1996), whether in terms of the number of trips, the distances covered or daily travel time.

In addition, several factors influence the number of trips made by individuals, particularly those in disability situations: factors such as being a woman, being elderly, lacking a professional occupation, living in a rural area or belonging to a carless household may all reduce the amount individuals travel.

As the elderly have been identified as more frequently being in a situation of disability when they travel than other groups, as in others European countries, in particular in the United Kingdom (Department for Transport, 2008), the aging process which is currently taking place in developing countries may have a major impact on travel difficulties and, more generally, travel practices (Bush, 2003 and Dejoux et al. à paraitre). In this context, taking account of the difficulties and needs of elderly persons with difficulties (DETR, 2001; Ritter et al., 2002), making existing modes accessible and developing dedicated services such as "door-to-door" transport seems indispensable.

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