



**HAL**  
open science

## Survey on people with travel difficulties in France

Virginie Dejoux, Claude Marin-Lamellet

► **To cite this version:**

Virginie Dejoux, Claude Marin-Lamellet. Survey on people with travel difficulties in France. TRANSED 2010, 12th International Conference on Mobility and Transport for Elderly and Disabled Persons, Jun 2010, Hong Kong, Hong Kong SAR China. 8p. hal-00615265

**HAL Id: hal-00615265**

**<https://hal.science/hal-00615265>**

Submitted on 18 Aug 2011

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

## SURVEY ON PEOPLE WITH TRAVEL DIFFICULTIES IN FRANCE

**Dejoux, Virginie**  
INRETS-DEST<sup>1</sup>, CRIDUP<sup>2</sup>  
Site de Marne-la-Vallée. « Le Descartes 2 »  
2 rue de la Butte Verte  
93166 Noisy le grand cedex  
Phone : +33 1 45 92 55 88  
email : [virginie.dejoux@inrets.fr](mailto:virginie.dejoux@inrets.fr)

**Marin-Lamellet, Claude**  
INRETS-LESCOT<sup>3</sup>  
25 avenue François Mitterrand  
69675 Bron Cedex  
Phone : +33 4 72 14 24 45  
email : [claudemarinelamellet@inrets.fr](mailto:claudemarinelamellet@inrets.fr)

### SUMMARY

The regular population's ageing, led to a decline in mortality and birthrate may affect the mobility of the whole population. Moreover, in France since few years there is a will to fully integrate persons with disabilities into society, in particular with the passing of the law of February 2005. This law reminds the need for accessibility to the whole chain of travel at all. In this context, the knowledge of people with reduced mobility seems nowadays essential. The objective of this research is to analyze the mobility of disabled people. This research is based on the French National Survey on Transport (FNTS) conducted in France in 2007-2008 by the Ministry of Transport and the National Institute of Statistics with the scientific support of INRETS. It is the data source providing the most transverse and consistent overview of mobility, whatever the modes and the transport situations of people living in France. This study should allow us to provide a detailed knowledge of the mobility of people involved.

**Key Words** : handicap; mobility; national travel survey

### PURPOSE OF THE STUDY

Disability has been seen for a long time as a form of infirmity, but it is today more considered as the outcome of a set of environmental, political, cultural and technical obstacles (Minaire, 1992). As a consequence, social integration can no longer be perceived as a one-way process of adapting individuals to society, it also involves

---

<sup>1</sup> Institut National de Recherche sur les Transports et leur Sécurité – Département Economie et Sociologie des Transports

<sup>2</sup> Centre de Recherche de l'Institut de Démographie de l'Université Paris1

<sup>3</sup> Laboratoire Ergonomie et Sciences Cognitives pour les Transports

reshaping the environment and eliminating the obstacles for people with disability. Thus, to understand and try to compensate for disability the focus has moved from the person with disability to analyzing the disability situation, with its individual and environmental components (WHO/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). Measures that aim to improve individuals' capacities are nowadays accompanied by measures that aim to change the environment by removing any potential barriers (Ravaud and Dejeammes, 1997). Thus the difficulties encountered by people during their travel are influenced by their personal characteristics and their environment.

The demographic and social changes that are currently taking place in the developed country are likely to affect the future travel practices of the whole population. Factors such as the disappearance of local services and the increasing fragmentation of social and family networks 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.

The aim of this paper is to analyze the mobility of disabled people with disability and to compare this mobility with the patterns of those without difficulties. Mobility will be studied in term of number of trip, distance and daily travel time.

## **METHODS**

Our study is based on the last 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 is design to study the travel practices and the use of personal and public transport modes of households living in France. The national transport survey is the largest mobility survey in France, with a sample size of 20,000 households, and considers all trips irrespective of their purpose, length, duration, transport mode, or the period of year or time of day. Data collection is spread over six waves covering 12 months, in order to neutralize the seasonal variations which affects mobility (especially for long distance travel). The aim of this survey is the description of short and long distance trips made by households living in France, as well as their access to and use of public and private transport means.

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 on the basis of the difficulties they report rather than a priori by identifying their activity limitations. Therefore, situations of disability are identified on the basis of respondent's self-reported travel difficulties. 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) report difficulties when moving around outside their home. In the following analysis we differentiate people with difficulties from those without difficulty from their answer to this question.

## RESULTS

### LESS TRAVEL FOR PEOPLE WITH DISABILITY

People reporting travel difficulties make 1.8 trips per day, on average, which is almost half of those without difficulties (Table 1). Even if this difference was largely due to a higher level of immobility, those with travel difficulties still make slightly fewer trips: 3.3 trips per person per day compared with 3.9 for those reporting no difficulties. To remove the impact of immobility on the average number of trips, we take into account for next analysis only people who make a trip.

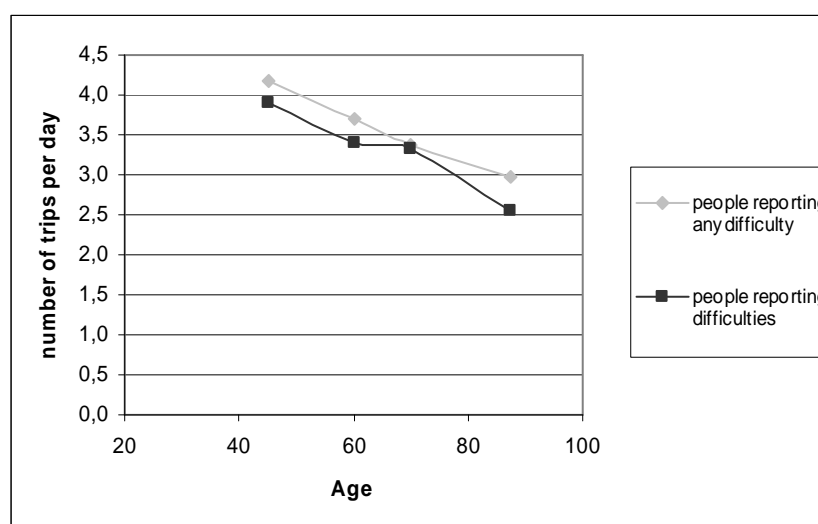
**TABLE 1 Number of trips per person per day according to their level of difficulties**

Average number of trips per day	people reporting any difficulty	people reporting difficulties	Whole population
per trip-maker	3,4	1,8	3,3
all respondents	3,9	3,3	3,9

Sources: INSEE - ENT D 2007-08

A number of sociodemographic characteristics affect travel difficulties, in particular advancing age, the lack of professional occupation, and not owning a car (Dejoux et al., 2010). It seems interesting to compare the number of trips of persons with disabilities and of the others according to these sociodemographic characteristics.

**GRAPH 1 Number of trips per person per day according to the age**



Sources: INSEE - ENT D 2007-08

The age groups used in this graph are: 35-54 years, 55-64 years, 65-74 years, 75 years and over<sup>4</sup>

<sup>4</sup> the number of people with disabilities under age 35 is too small in the sample, so we did not represent on this graph.

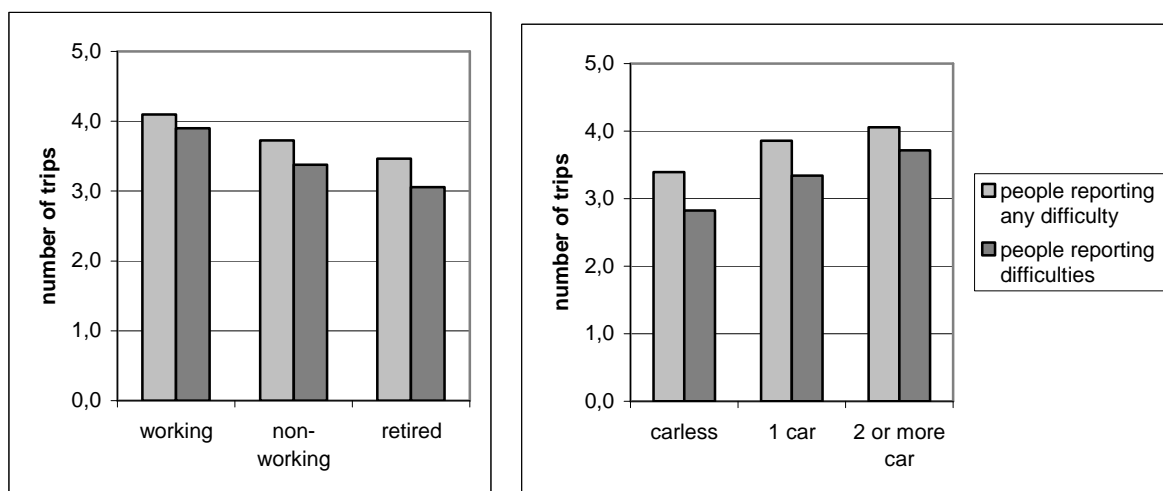
Graph 1 represents the evolution of the number of trips per day per person by age for people with and without difficulties, and it can be seen that the two curves are fairly similar. This result confirms that the number of trips per day decreases with age (Dejoux et al., à paraître) and this for people with and without difficulties.

The number of daily trips diminishes with age: it falls in the case of people with difficulties by 3.9 trips per day per person of under 45 years of age to 2.6 trips per day for the over 75 year-old. This reduction was almost similar in the case of people without difficulties whose number of trips fell from 4.2 to 3.0.

Regarding professional occupation, in the whole population, the number of trips is higher for active than inactive people and retired. Whatever the occupation, the average number of trips of people with difficulties is lower than of those not reporting difficulty (graph 2). Thus, if this difference is quite low for active people (3.9 against 4.1), it is slightly higher for inactive (3.4 against 3.7) and more for retired (3.1 against 3.5). Regarding inactive people, several hypotheses can be made: the inactive can be having severe disabilities, limiting their ability to move, or the difficulties of travel of these people are the reason for unemployment.

In the whole population, persons belonging to a non-motorized household move less than those in households with a car and even less than multi-motorized households. The motorization is indeed a very important determinant of mobility patterns. People with difficulties are moving less whatever the level of car ownership in their household (graph 2). But, the difference is greater among households non-motorized. Different factors explain these results: people with disabilities are not always able to drive a car, because of impairments (eg visual impairment) or cost of car's adaptation (eg for severe physical disabilities) and conversely the availability of a car in the household, for use either as driver or as passenger, can reduce the discomfort of people for their travel.

**GRAPH 2 Number of trips per person per day according to the professional occupation and the household car ownership**



Sources: INSEE - ENTND 2007-08

## SHORTER TRIPS FOR PEOPLE WITH DISABILITY

To study the distance of travel, we have the « crow flies » distance between the origin and destination of travel. From the table below (table 2), we can see that the trips of people reporting difficulties are shorter than those reporting no difficulty: Indeed, while about 60% of the trips of people with difficulties are performed in the same municipality, it is the case for 48% of the others.

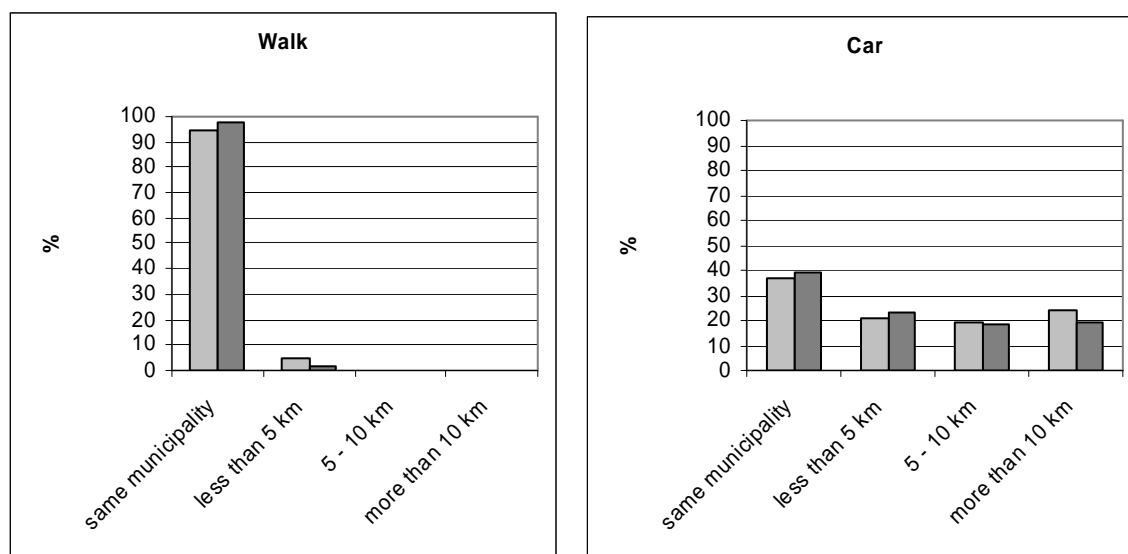
**TABLE 2 Crow flies distance between the origin and destination municipalities**

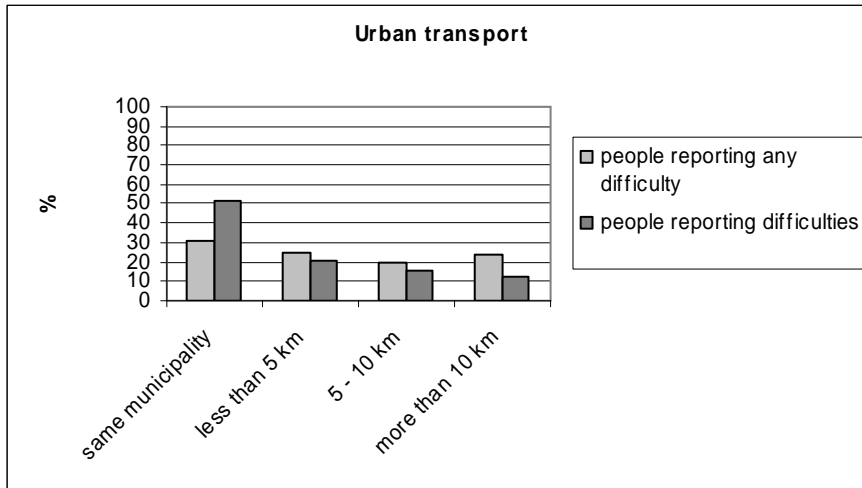
Crow flies distance	people reporting any difficulty (%)	people reporting difficulties (%)
same municipality	48,1	59,8
different municipality : less than 5 km	17,6	15,3
different municipality : 5 - 10 km	15,1	12,1
different municipality : more than 10 km	19,2	12,8

Sources: INSEE - ENTD 2007-08

Travel distance depends strongly on the transport modes; we have in a second time analysed the distribution of distances by mode (graph 3). Whatever the transport mode used, the proportion of travel for people with difficulties whose origin and destination are the same municipality is higher. However, if the distribution of travel distances is almost similar in the case of walk and car, the difference is higher for urban transport. More than half of all trips made by public transport by people with difficulties are made in the same municipality, when that is the case for 31% of trips of people reporting any difficulty.

**GRAPH 3 Crow flies distance between the origin and destination municipalities according to the transport mode**

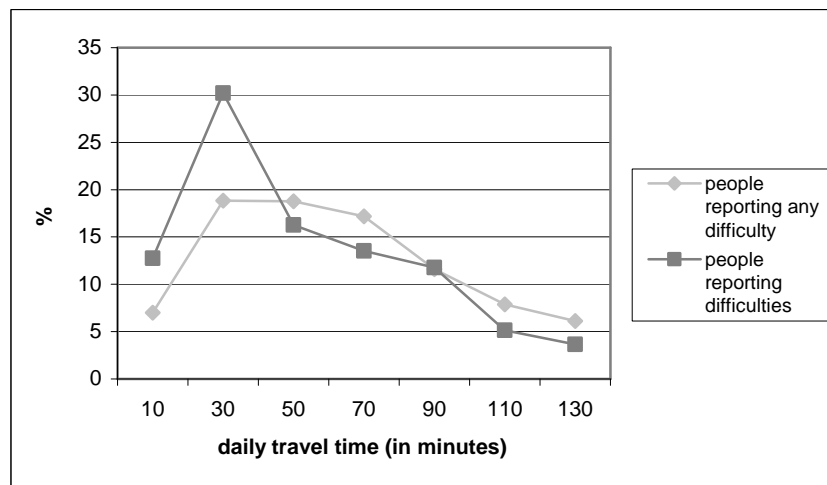




Sources: INSEE - ENT D 2007-08

Corollary to previous results, the daily travel time is lower for people with difficulties when they travel (graph 4): 43 % of these people are moved less than 30 minutes against 26% for those reporting any difficulty. Nevertheless, the daily travel time is related to the number of trips. We must therefore also analyse the travel time per trip. We observe that the trips of people with disability (18 minutes) are shorter than the trips of the others (20 minutes). We also note that trips made as a pedestrian or by transport public are longer for people with difficulties; and conversely those made by car are shorter. We can assume that the difficulties encountered during travel made as a pedestrian or by public transport extend travel time. And, as we have seen, people reporting difficulties and who have access to cars use them for shorter trips.

**GRAPH 4 Daily travel time of people with and without difficulty**



Sources: INSEE - ENT D 2007-08

**TABLE 3 Travel time per trip according to transport modes**

Average travel time per trip (minutes)	people reporting any difficulty	people reporting difficulties	Whole population
All trips	20,4	18,0	20,3
By modes			
Walk	13,8	16,1	14,0
Car	19,3	16,6	19,1
Urban transport	38,7	40,1	38,7

Sources: INSEE - ENT D 2007-08

## **CONCLUSION**

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

Our research has compared the mobility of people with difficulties to those without difficulty. People with disability travel less than people who report no difficulties (Bakker and Val Hal, 2006), whether in terms of the number of trips, distances covered or travel time.

Our study showed that age, the professional occupation and the household car ownership influence the mobility. Finally, as the elderly have been identified as more frequently being in a situation of disability when they makes trips than other groups, the ageing process which is currently taking place in developed countries should have a major impact on travel difficulties and, more generally, travel practices (Bush, 2003).

## **BIBLIOGRAPHY**

Armoogum, J., Hubert, J.-P., Bonnel, P., Madre, J.-L. (2007) Préparer la prochaine Enquête Nationale Transport avec un regard international, INRETS, DRAST, p.123.

Bakker, P ; Van Hal, J (2006). Understanding Travel Behaviour of "People with a travel-impeding handicap". 11th International Conference on Mobility and Transport for Elderly and Disabled people.

Brutel, C (2002).La population de la France métropolitaine en 2050 : un vieillissement inéluctable. Economie et statistiques. Vol.355-356.pp. 57-71

Bush, S. (2003). "Forecasting 65+ Travel: An Integration of Cohort Analysis and Travel Demand Modeling," Massachusetts Institute of Technology, Department of Civil and Environmental Engineering, Cambridge, MA, USA.



Dejoux, V., Bussière, Y., Madre, J-L., Armoogum, J. (à paraître) Projection of the daily travel of an ageing population: The Paris and Montreal case, 1975-2020. Transport Reviews.

Dejoux, V., Armoogum, J., Madre, J-L. (2010) The travel practices of disabled travellers in France, 89<sup>th</sup> Annual meeting of Transportation Research Board.

Fougeyrollas, P ; Cloutier, R ; Bergeron, H ; Cote, J ; Saint Michel, G (1998). Classification québécoise : processus de production du handicap. p. 164.

Fougeyrollas, P (1995). Documenting Environmental Factors for Preventing the Handicap Creation Process : Quebec contributions relating to ICIDIH and social participation of people with functional differences, *disabil rehabil.* pp. 145-153

Minaire, P(1992) Les modèles théoriques d'analyse du processus de handicap: applications au concept de mobilité. 6<sup>ème</sup> conférence internationale mobilité et transport des personnes âgées ou à mobilité réduite.

Minaire, P (1992). Diseases, illness and health. The critical models of the disablement process. *Bulletin of the world health organization.* pp. 373-379

Ravaud, J-F ; Dejeammes, M (1997). Recherches sur les déplacements et l'accès aux transports des personnes handicapées. In *De la déficience à la réinsertion : recherches sur les handicaps et les personnes handicapées.* pp. 147-160.

WHO/OMS (1998). International Classification of impairments; disabilities and handicap. p. 207.