



*DG Employment and
Social Affairs*

The MAPLE Project: Improving Mobility and Accessibility for People with Learning Disabilities in Europe



VP/2003/14

Public Transport for People with Cognitive Impairments: National Report for France

**Prepared for
DG Employment and Social Affairs**

**by
The MAPLE Consortium**

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Centre Technique National d'Etudes et de Recherches sur les Handicaps et les
Inadaptations (France)
Lund University, Lund Institute of Technology (Sweden)
South Kildare Community Transport (Republic of Ireland)

February 2005

DG Employment and Social Affairs

The European Year of People with Disabilities, 2003

MAPLE

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Version	1.0
Date	February 2005
Last edited	February 26th 2005
<p>This report is a product of the MAPLE Project, which is a project co-funded by the European Commission's DG for Employment and Social Affairs, as part of its activities for the European Year for People with Disabilities 2003. Sole responsibility for the content of this document lies with the authors. The European Commission is not responsible for any use that may be made of the information contained herein.</p>	



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0 INTRODUCTION

MAPLE opens a new way in thinking accessibility. People with cognitive impairments are often forgotten in this issue, but including their needs among the targets of the progress to be made, will be useful for other persons in difficulties.

Trying to gather everything which can document what constitutes and where are the real barriers which prevent these persons from using public transports, and the ways to remove them, is an important step in the way towards a more generalized concept of accessibility.

It will be shown in this document, that, in France, the question was studied about 20 years ago but with no direct effects of interesting results on actual practices. However, because the understanding of the disablement process changed and because the responsibilities of the authorities is better defined, reviewing this question would now be of interest for all involved parties, and notably the lawmakers, the norms designers, and the transport agencies in charge of accessibility.

0.1 French context

In France, People with disabilities were considered as forming a group with a sort of social unity only since 1975, when the “*Loi d’orientation en faveur des personnes handicapées*” was adopted. At that moment, two main streams of social policies on disability converged. The more visible and politically recognized stream was constructed around the medical rehabilitation approach which concerned people with physical disabilities, i.e., first of all, injured soldiers (wounded or, as an inheritance of World War 1, gas victims and respiratory deprived), but also blind people (stated for a long time as deserving help from the community) and, later coming, injured workers. The second stream of disability policies, more reserved in its social appearance, gathered, around psychiatry, people with cognitive deficits (*handicapés mentaux*), people with mental illness (*malades mentaux*) and deaf people (often assimilated to the previous subgroup because many of members of this group showed delays in academic achievement as a consequence of the refusal of sign language in the special education for deaf children). Finally “*handicap*” began an umbrella term for these completely different cultural streams.

The question of accessibility suffers from the ambiguity originated from this blended source and from the unbalance between obvious measures of compensation for clearly evaluated (physical) impairments and relatively well assessed functional limitations as consequences on the one hand, and on the other hand what is often experienced as a sort of uncomfortable necessity to cope with unexpected behaviours in reaction to apparently simple and trivial events. Based on the grounds of principles, the same commitment, accessibility, covers the needs of people with disabilities whatever impairment they have. Under such an abstract conception, the practice had more easily found its way for physical disabilities than for cognitive deficits, partly because technical and measurable solutions are comforting, but also because there was no common acceptance of a right to integration and full

participation for people with ‘deviant’ behaviours. Moreover, to some extent, people with the second type of disabilities (deafness included) and their families, shown, in this country, few willingness to claim for more accessibility.

0.2 Conceptualisation and Translation issues

Within international comparisons or cooperative work, words have a very significance. In the Disability Research field, the terms used are often connoted, and often in a bad way. The translations into English lead to dilemma: using a “politically correct” English term versus using a term which reflects the politically accepted expression in the other countries. The aim of this introductory chapter is to present the different terms used in France, which will allow to understand the meaning of the answers given to the questions asked in this research to the organisations involved in that field in France.

0.2.1 Naming and definitions of disability

In France, like in many other countries, there are different terms used in the field of disability, with some which can be used as a generic labels according to the context.

The term “*invalide*” was used until the sixties because the “*invalides de guerre*” (war injured people ; Napoleon built *Hôtel des Invalides* in Paris for them) were the majority, and because the term “*grand invalide civil*” was later extended to people with severe disability from other causes (This term and its acronym *GIC* is still used for the label given for parking priority), but also because the term used by social security for its disability benefits (for disabling illness or health conditions [“*pension d’invalidité*”], not for work injuries [“*rente d’accident du travail*”] was and still is “*invalidité*”).

At that time, the special committees which had to decide the allocation of the benefits or other kind of help related to disability, were named “*Commissions départementales d’orientation des infirmes - CDOI*”. So “*infirmes*” was also one of these outmoded terms which are often heard during conversations. Since the fifties, however a new term stands out: the term “*handicap*”, which refers not to a begging attitude (hand in cap) but to a disadvantage at the start (as in horse races). The law which generalised the employment quota, in 1957, did that for the “*travailleurs handicapés*” (disabled workers). The term “*handicap*” was progressively accepted as an umbrella term and really stated as such with the “*loi d’orientation en faveur des personnes handicapées*” which passed in 1975. Since this date “*handicap*” became the official term for the main part of the legislation. At that time, some persons, even in some legal texts were using the term “*les handicapés*”, substantive which was more and more refused by the representatives of the group, who prefer “*les personnes handicapées*”.

During the following period, the conception of disability progressively changed. As a consequence, the scaled list which was used for the assessment of the disability rate by the *COTOREPs*¹ changed in 1993, introducing a clear reference to the WHO

¹ *COTOREPs*: *Commissions techniques d’orientation et de reclassement professionnel*. They are special committees allocating some disability benefits (like the *Allocation aux adultes handicapés – AAH*) and deciding for most of the measures provided to the disabled people, including priority in transportation, special helps for acceding to employment. They were created in 1975 by the “*Loi d’orientation*” and there is at least one of these

ICIDH² published in 1980, and translated in French³. This new approach introduced some aspects of the social model of disability into the process of recognition of the disability. This social model introduces the lack of accessibility of the environment as a main cause of disability. A radical enforcement of this model states that the individuals are not disabled, they only have unique characteristics, but it is the society which causes the problem in consequence of its refusal, or reprehensible passivity, to remove physical barriers or to change the segregating attitudes. The official assessment list didn't go so far, but made the medical rating include the social conditions and environment into account. This led some author to propose "*personne en situation de handicap*", instead of "*personne handicapée*".

During this time, the WHO conducted the revision of its international classification (with different versions of what was called ICIDH-2⁴), the social model was expanded. At an international level, the disability lobbies (mainly from USA or UK) also defended two new issues: the ban of negative naming, and a full participation target (non-discrimination approach). The International Classification of Functioning, Disability and Health (ICF)⁵ was adopted in a General assembly of WHO in May 2001. It includes an environmental dimension.

Today, there is a very lively debate in France about the terms to be used. This is due to the necessary reference to the WHO ICF and to the European Union's texts, but also busted by the strong discussions around the aim to reform in depth the French legislation on disability.

Generally speaking, the most used term in France is "*personne handicapée*" (the English translation would be "handicapped person" or "disabled person", with the problem with this last term, that "disability" is also translated as "*incapacité*" (incapacity). In France, the noun "*handicap*" and the adjective "*handicapé(e)*" are not badly connoted, and the nationally representative NGOs claim for its use. On the contrary, the substantive "*un handicapé*" is banished. Some authors said that using "*une personne handicapée*", includes the fact that this person was at a disadvantage by his/her environment, and not only by his/her health conditions or disabilities, which is consistent with a social definition of disability. For them, "people with disabilities" doesn't offer the same opportunity, and automatically put the source of the problem on this person and the special need he/she has. Some people proposed "*personne en situation de handicap*", which would be a clearer naming, but this proposal wasn't accepted as an explicit formulation for the new official terms in the recent French law "*Loi pour l'égalité des droits et des chances, la participation et la citoyenneté des personnes handicapées*" (2005).

committees in each *Département*. They replaced the former *CDOIs* (*Commissions départementales d'orientation des infirmes*)

² World Health Organisation's International Classification of Impairments, Disabilities, and Handicaps.

³ The title of ICIDH was translated in French as: *Classification internationale des handicaps – Déficiences – Incapacités – Désavantages*, and published by CTNERHI & OMS (WHO in French) in 1988. The French acronym was *CIH*. The CTNERHI is the French collaborative centre for WHO International classifications for Disability issues.

⁴ In 1999, WHO presented ICIDH-2 as « International Classification of Functioning and Disability ». In French it was known as *CIH-2*.

⁵ The French translation is: *Classification internationale du fonctionnement, du handicap et de la santé* (CIF).

0.2.2 Naming and cognitive impairments

The most used term for naming the target population of MAPLE, is “*personnes handicapées mentales*”. But it covers two different realities in the French social-medical policy.

One is the intellectual impairment, which is named “*déficiência intellectuelle*” or also in a now outdated term “*debilité mentale*” (feeble mind), which is not exactly the same reality than the English term “learning disability” because, in France, the dyslexic, dysphasic children are not included into the umbrella term of “*personnes ayant une déficiência intellectuelle*” which is the target population of medical-social policy in cooperation with NGOs like UNAPEI (see below), and that means that such “dys-“ groups don’t belong to the French “disability” field.

The other population included into the umbrella term of “*personnes handicapées mentales*”, is this of “*malades mentaux*” (mentally ill) or “*personnes ayant des troubles psychiques*” which is a broader way to include also people which never had strong treatment or hospitalisation, but show some troubles or discomfort with others. These persons rather are clients for Psychiatry and Psychology and are defended by UNAFAM⁶, a NGO grouping families, but not people with mental illness themselves. There is an embryo of consumers lobby group. Time missed for contacting them.

1 PACES TOWARDS A SPECIFIC APPROACH OF ACCESSIBILITY FOR PEOPLE WITH COGNITIVE IMPAIRMENTS IN FRANCE

In France, the question of accessibility of transports for people with cognitive impairments is not a new issue, but it clearly appears that there is no continuity in the development of the thinking within this field. First of all, this issue suffered from a chaotic implementation of the accessibility policy. Being the only arbitrator as well as the owner or the principal shareholder of many main transportation companies, the French State never applied the accessibility rules with the strictness which should have been observed in such an important matter. People with cognitive impairment were firstly victims of this negligence. Moreover, the technical culture which had long time prevailed in the transportation companies did not fit with the lack of “objective” evidences for the solutions to be applied for enhancing the opportunities of access to people with cognitive impairments. So this population remains as a dead angle in accessibility issues.

1.1 Historical background

Jésus Sanchez (1989)⁷ estimated that the very first documents on accessibility for people with disabilities in France were published around 1960 and only concerning people with motor impairments and at that time about the housing. The first official

⁶ UNAFAM : *Union nationale des amis et familles de malades mentaux*.

⁷ Sanchez, J. (1989). *L’accessibilité, support concret et symbolique de l’intégration. Apports et développement*. Publications du CTNERHI (169), mai 1989, p. 24.

text tackling the issue was a single 1966 administrative billet⁸ which gave to the Public agency for social housing (HLM) the duty to formally respond to the demand of accessible flats.

However, in April 5th, 1966, the new organisation of people with disabilities ALGI⁹ organised the first colloquium on “Disability and Moving” (*Handicap et Déplacement*). It has to be stressed that, already at that time, some advocates for this progress like André Dessertine claimed that the gains of accessibility will benefit to all publics.

1.1.1 The law of 1975: The first legal principles towards the accessibility of transportation means for people with disabilities

The French Disability policy is organised since 1975 by a framework law (N° 75-534) which gives the principles to follow in different domains in order to act “in favour of people with disabilities” (*en faveur des personnes handicapées*).

A framework law with two articles on accessibility of transports

Among them, the Article N° 52 states that some decrees will take measures in order to adapt the public transport services, to progressively adjust the building norms or accessibility conditions for public transport vehicles, and to promote the creation of specialised transportation services. Another way is to facilitate the use of personal vehicle, with adaptations and a specific form “F” for the driving licence¹⁰. This article has its correspondent for buildings and all places open to the public in Article 49, notably concerning the places linked to public transports as stations, airports, connexion points....

Creation of a specific working group

In 1975 was also created a Working group on transports for people with disabilities (*Groupe de travail sur les transports au service des handicapés*¹¹).

A first study

A first study on “physically undermined and public transports” (*Diminués physiques*¹² *et transports collectifs*) was published in 1976 by the research institute on transportation (*Institut de recherches sur les transports - IRT*).

The creation of COLITRAH in 1977 as a coordinating body

⁸ *Circulaire n° 66-20 du 30 juillet 1966 relative aux programmes d’H.L.M. à usage collectif et à l’attribution de logements aux personnes âgées, personnes seules et handicapées physiques.*

⁹ ALGI : *Association pour le Logement des Grands Infirmes* was created in 1959.

¹⁰ Article 52 : « Afin de faciliter les déplacements des handicapés (quote the substantive here), des dispositions sont prises par voie réglementaire pour adapter les services de transports collectifs ou pour aménager progressivement les normes de construction des véhicules de transport collectif ou pour aménager progressivement les normes de construction des véhicules de transport collectif, ainsi que les conditions d’accès à ces véhicules ou encore pour faciliter la création et le fonctionnement de services de transport spécialisés pour les handicapés ou, à défaut, l’utilisation des véhicules individuels... »

¹¹ See the substantive here.

¹² See the wording used at that time by Disability NGOs themselves.

A coordinating body, the *Comité de liaison pour le transport des personnes handicapées (COLITRAH)* which was created by an order of August 19th, 1977, in order to permit fruitful exchanges about accessibility among transport companies, NGOs of people with disabilities and ministries involved in that field. The members were nominated by an order of November 15th, 1977.

This committee is composed by¹³:

- deputies members of the Parliament and some local councillors;
- representatives of NGOs of/for people with disabilities;
- representatives of transport companies and bus/coach makers;
- representatives of trade unions of employees of transport companies;
- experts which are well known as competent in the field of accessibility.

Progressive implementations of the legal measures

The applying conditions of article 52, were précised by the decree n° 78-1167 of December 9th, 1978¹⁴, and especially for a program of adjustment of public transport and creation of specialised transport services. Implementation of article 49 was designed by the decree n° 78-109 of February 1st, 1978¹⁵, and an order of February 29th, 1978. An adaptation program was planed in 1980¹⁶.

It can be stressed here that the term used in these decrees is “*personnes handicapées à mobilité réduite*”, term which will soon replaced by “*personnes à mobilité réduite*”, covering thus a larger population as remarked by Christiane Briaux-Trouverie (2000)¹⁷.

These texts are essentially stated as a technical approach in terms of technical norms aimed at the free circulation of wheelchair users. Jésus Sanchez (1989)¹⁸ remarked that “after the 1975 law, wheelchair, former (negative) symbol of disability, became the symbol of accessibility (signposting related to disability), as if with the recognition of difference which is attested by the adjustment of architectural norms made the handicap disappear.

¹³ According to Catherine Bachelier (1987), *Politique française pour le transport des personnes à mobilité réduite*.

¹⁴ *Décret n° 78-1167 du 9 décembre 1978. Mesures destinées à rendre accessibles aux personnes handicapées à mobilité réduite les installations ouvertes au public existantes appartenant à certaines personnes publiques et à adapter les services de transport public pour faciliter les déplacements des personnes handicapées.*

¹⁵ *Décret n° 78-109 du 1^{er} février 1978/ Mesures destinées à rendre accessibles aux personnes handicapées à mobilité réduite les installations neuves ouvertes au public.* Other texts were applied : *Décret n° 78-1167 du 9 décembre 1978, fixant les mesures destinées à rendre accessibles aux personnes handicapées à mobilité réduite les installations ouvertes au public existantes appartenant à certaines personnes publiques et à adapter les services de transport public pour faciliter les déplacements des personnes handicapées ; Arrêté du 25 janvier 1979 pris en application de l’article 5 du décret n°78-109 ; Arrêté du 26 janvier 1979 pris en application de l’article 6 du décret n°78-109 ; Arrêté du 18 avril 1980 pris en application de l’article 19 du décret n°78-109 ; Arrêté du 19 décembre 1980 pris en application des articles 16, 17 et 18 du décret n°78-109.*

¹⁶ *Arrêté du 18 avril 1980, relatif au programme d’aménagement des services et installations de transport en faveur des personnes handicapées à mobilité réduite.*

¹⁷ Christiane Briaux-Trouverie, (2000). *Les personnes handicapées et les transports : évolution de l’accessibilité dans les transports et analyse du rôle du COLITRAH durant ces 20 dernières années.* Etude réalisée pour le COLIAC, Avril 2000, p. 1.

¹⁸ Jésus Sanchez, (1989). *L’accessibilité, support concret et symbolique de l’intégration. Apports et développement.* Publications du CTNERHI (169), mai 1989, p. 14.

1.1.2 Towards a more concrete implementation of accessibility policy

The late 70's and the early 80' showed the first implementation of a progressive awareness of obstacles which prevent people with disabilities to have access to public transport.

Progressive planning

Because the real backwardness that France had in comparison with other countries concerning accessibility of public transports, things had to be made progressively. This implementation of this new policy was realised with planning decisions as the decree of January 25th, 1982¹⁹.

A specific local authority "*Commission Départementale pour l'Accessibilité*" was created by article 6 of a decree of 1978 with the mission to follow the implementation of the legal progress with a dead line for its settlement in each *Département* for March 1st, 1979²⁰. However, in 1981 less than the half of this goal was reached²¹.

Attribution of a card for "painful standing"

The order of July 30th, 1979²² created a card which permits people with disabilities to have a priority for the access of seats in public transportation means.

A benefit covering possible extra costs is also attributed to some civil servants²³, students²⁴ with disabilities which can not use public transports.

First steps in transport companies

Since 1976, *SNCF* progressively introduces new coaches with adapted places. In 1977, this company decides to make public the measure taken for people with disabilities, and also make apparent accessible walking. In January 1979, the Ministry orders *SNCF* to landmark accessible routes, to make its employees aware of disability, to give assistance and guidance in the stations, to publish a specific guidebook for people with disabilities, to create a specific information phone service, to install special information points with a "handicap" panel (at that time only the wheelchair one) on them, to equip stations with wheelchairs, escalators, adapted toilets, to adjust pavements and environment of stations, and to reserve parking lots for disabled drivers.

¹⁹ *Lois et décrets du 25 janvier 1982 sur le Plan intérimaire pour 1982-1983 (accessibilité des logements, des transports, de la voirie, des établissements recevant du public.)*.

²⁰ Décret du 1^{er} février 1978.

²¹ Selon Jean Pierron (1987). L'accessibilité : un bien-être pour tous.

²² *Arrêté du 30 juillet 1979 pour l'Attribution de la carte « station debout pénible » permettant d'utiliser les transports pour handicapés*. Completed by the *Circulaire N° 52 AS du 19 novembre 1979, relative à l'attribution de la carte « Station debout pénible »*.

²³ *Décret n° 83-588 du 1^{er} juillet 1983 instituant une allocation spéciale en faveur de certains fonctionnaires et agents de l'Etat et des établissements publics à caractère administratif de l'Etat en service à l'intérieur de la zone de compétence de l'Autorité Organisatrice des Transports Parisiens qui, en raison de l'importance de leur handicap, ne peuvent utiliser les transports en commun*.

²⁴ *Décret n°84-478 du 19 juin 1984, fixant les conditions d'application de l'article 29 de la loi n°83-663 du 22 juillet 1983 en ce qui concerne le transport des élèves et étudiants gravement handicapés*.

Some norms were adopted in order to define the conditions of accessibility of the different types of vehicles²⁵.

The development of specialised transport services

At the same time, some texts tend to regulate the development of specialised transport services, the State authorities being aware of the technical norms to be applied in order to avoid accidents or discomfort²⁶.

A place in the “LOTI” Act on transportation

In 1982, another law put, in its Article 2, the principle of a right to transportation for people with reduced mobility: the “*Loi d’Orientation des Transports Intérieurs*” n° 82-1153, of December 30th, 1982, said “*LOTI*”. Once again, this text wasn’t followed by very clear implementation. Different decrees are taken in order to implement the 1982 Act²⁷.

A first try for a signage accessible to people with cognitive impairments

For experimentation, the SNCF tested an adapted signage for people with sensory impairments or **with cognitive impairments** on a train line between Paris and Villiers-le-Bel. Nothing very clear was drawn from this experiment.

1.1.3 The Fraysse-Cazalis Report (1982) and its consequences

A report was commanded to Jacqueline Fraysse-Cazalis by the Prime Minister on the possible adjustments of public transports to the living conditions of people with persons with motor disabilities²⁸.

Aims of the mission

The aims of the mission were:

- to assess the state of the practices on accessibility of public transports and urban equipments, and to define a coherent policy for this issue;
- to gather and coordinate current actions;
- to impulse new actions;
- to make an inventory of new actions to undertake

²⁵ Arrêté du 2 juillet 1982, concernant les véhicules de transport en commun de personnes (véhicules de plus de 9 places).

²⁶ Circulaire du Ministère des Transports N° 3-4 du 18 mars 1981, concernant les normes des véhicules spécialement aménagés pour le transport des personnes handicapées en fauteuil roulant. Also the Arrêté du 2 juillet 1982 sur les Règles d’aménagement applicables aux véhicules affectés au transport des passagers handicapés en fauteuil roulant ; Arrêté du 6 juillet 1982 sur la Liste des aménagements, équipements, et accessoires des véhicules pour handicapés bénéficiant de TVA réduite ; Arrêté du 22 avril 1985, élargissant la liste des aménagements et accessoires des véhicules pour handicapés bénéficiant d’une TVA ramenée de 33.3% à 18.6%.

²⁷ Arrêté du 2 juillet 1982, relatif au transport en commun de personnes modifié par l’arrêté du 5 avril 1985 concernant le transport en autocar de tourisme des personnes couchées. Décret n°85-891 du 16 août 1985, relatif aux transports urbains de personnes et aux transports routiers non urbains de personnes.

²⁸ Jacqueline Fraysse-Cazalis (1982). Accessibilité des transports et de la ville aux personnes handicapées.

Different working groups were settled:

- A group (Dessaint*) on Financing;
- A group (Fleury*) on the legislative problems;
- A group (Flores*) on technology and research;
- A group (Gascoin*) on information and welcome;
- A group (Frybourg*) networks.

Results of the mission

The mission stressed the need of defining the notions of disability, of recognising the needs of a true choice among means of transportation, as well as of clarifying political will.

First of all, according to the report, a regular financing of accessibility would have to be provided at the local level as well at the national level. People with disabilities would benefit from cuts in tariffs of public transports. Full access to moving means would be included in the Planning provisions.

The 1982 report claimed the needs of a key person for accessibility among employees of the board of equipment of the *Département*, and of decentralised units for *COLITRAH*. At the national level, the *COLITRAH* would create a data base on technical devices used for accessibility (with the *CNFLRH*²⁹), would provide training on accessibility, and would organise research on this topic. Following the report, the Government adopted 20 measures for accessibility.

Twenty measures to improve moving of people with disabilities or reduced mobility

The measures were:

1. The participation of the Ministry of Transports to regular discussions on accessibility;
2. Inclusion of a list of actions aimed at accessibility in the annual budgets of the Ministry of Transports and of the Public transport companies;
3. Inclusion of a clause on accessibility into all conventions signed between the State and Public transport Authorities;
4. Adoption of some tariffs cuts for civil servants (done in 1983);
5. Attribution of some tariffs cuts for people accompanying persons with disabilities;
6. Progressive implementation towards total accessibility for the RER³⁰;
7. Creation of specialised transport services in connection with each RER station;
8. Creation of call services in 6 French cities;
9. Attribution of a financial aid for the conceiving of an accessible tramway car;
10. Incitation for the purchasing of accessible buses;

* The working groups were named according to the name of the chairpersons piloting them.

²⁹ *CNFLRH* : *Comité national de liaison pour la réadaptation des handicapés*.

³⁰ *RER* : *Réseau Express Régional* (High speed suburb train of Ile -de-France)

11. Adoption of a compulsory clause on accessibility for the conceiving of each new metro line;
12. Progressive implementation of accessibility for airport bus servicing;
13. Provision of at least a bus accessible to wheelchairs for moving from the airport building to the plane;
14. More reserved parking places;
15. Progressive accessibility of bus stations;
16. Publishing of a national intermodal guide on accessibility (COLITRAH 1984);
17. Provision of a special telephone number for information on accessibility;
18. Financing of research on technical devices for accessibility;
19. Appointment of a key person for accessibility among employees of the board of equipment of the *Département*;
20. Planning of a reform of COLITRAH and of its inclusion into the National Transportation Council.

Not all these measures were completed.

The mission Daufes in 1983

After the publishing the Fraysse-Cazalis report, on June 23rd, 1983, a new mission was given to Hélène Daufes: a information mission for improving moving of people with disabilities³¹. Nothing very significant was decided after this mission.

1.1.4 The 60 new Delebarre's measures in 1989

After the analysis of the situation, Michel Delebarre, Minister of Transportation and Sea affairs, and Michel Gillibert, State secretary for people with disability³², promulgated a Program of 60 measures to favour integration of people with reduced mobility into transports³³.

Rail (SNCF)

For rail transports, the measures concerns, among others, depending of the amplitude and the delay:

- total accessibility of 60 rail stations (including counters, information desks, platforms, lifts, toilets...) carried out each year, with a priority for the 20 more important stations in France;
- provision of a tactile warning device on platform edge in all *RER* stations;
- creation of an accompanying service in cooperation with *RATP* in Paris;
- provision of induction loops for people with auditory impairments in 50 rail stations;
- provision of *minitels* "Dialogue" for deaf people in 20 stations;
- attribution of tariffs cuts to people with disabilities or for their accompanying person;
- experimentation, and then generalisation of two-ways information provisions;
- purchase of 1000 embarkation facilitator devices;

³¹ « Mission d'information pour améliorer les déplacements des personnes handicapées. »

³² Secrétaire d'Etat de la Santé et de la Protection Sociale, chargé des Handicapés et Accidentés de la Vie. In France, « Secrétaire d'Etat » is hierarchically under the minister.

³³ « 60 nouvelles mesures favorisant l'insertion des personnes à mobilité réduite dans les transports. »

- creation, in cooperation with the corresponding NGOs, of a **card which would facilitate the contact of persons with cognitive impairments with public transport companies' employees** (not achieved);
- adaptation for one wheelchair (only) in one car of each *TGV* or *Eurostar* train or 1st class *corail* train;
- adjustment to accessibility for the two floor *TGV* trains;
- planning of an accessible network of public transports across the country;
- accessibility compulsive clauses in all schedules of conditions for transportation materials building;
- awareness training program for public transport companies' employees in welcoming wheelchair users, and **people with sensory or mental disability**;
- reediting of the Traveller's Guidebook³⁴ with items on accessibility;
- embossed maps of transportation networks for people with visual impairments.

Urban public transports

Concerning mainly RATP, these measures were:

- development of the service "accompanied travel" with a partnership with *SNCF*;
- creation of the "*Compagnons du Voyage*" in 1994 by *RATP* and *SNCF*, a service which provides accompanying to people with reduced mobility;
- fitting of the tactile warning device on platform edge in *RATP RER* stations;
- progressive provision of induction loops for people with auditory impairments in *RER* and metro stations;
- progressive accessibility of the whole *RER* network;
- contribution of *RATP* in the provision of a more complete network of specialised transport services or companies;
- publishing in Braille of the Guide "Disability and moving around in Île-de-France";
- improvement of the functioning of the lift-carts in some stations (given up);
- participation of *RATP* to a chain of accessible transportation means;
- **improvement of signage, taking into account people with cognitive impairments**;
- tariffs reduction for people accompanying people with disabilities;
- vocal announcement of station in the *RER* trains;
- vocal announcement of stops in buses;
- vocal announcement of stations and a warning light before door closing in the metro of *Lille*;

Diverses

- commitment of builders to complete a total accessibility of the vehicles within 5 years;
- common work with representative NGOs of/for people with disabilities about technical options used in transportation;
- awareness campaign towards local authorities, different partners, the public, in order to make the environment accessible;

³⁴ Guide Pratique du voyageur.

- publishing of some research studies on accessibility: one by CETE Méditerranée on specialised transports; one by GIHP on improving accessibility in Île-de-France.

1.1.5 The law n°91-663 on accessibility

The law n°91-663 of July 13th, 1991³⁵, determined the conditions of the accessibility of the environment of transportation, and especially the Stations. The decree n°94-86 January 26th, 1994³⁶, required for assuring the same walking way for blind people than for other travellers.

1.1.6 Many quotations, but quotations only, in a series of reports

During the last decade, many reports were written in France on behalf different authorities about accessibility of transportation means. Many of them were the assessment and proposals type. However, if people with cognitive functioning impairments are often, but not always quoted, almost nothing was developed on what has been actually done for them by transports companies or by local, regional or national authorities to improve their access to mobility.

COLITRAH 1995 assessment on the progress to make

In February 1995, Anne-Marie Idrac, State Secretary for Transports, asked the COLITRAH and the parties involved in public transports, to identify and to list in priority order the main measures to be taken to improve accessibility of public transport to people with disabilities.

Four table were produced : general measures ; rail ; bus and tramway ; air transport.

The mission Edou-Lefebvre (1996-1997)

In October 1996, the Minister of Equipment, Transport and Housing, with the Delegate Minister of Housing and the State Secretary for Transports, gave M. Emmanuel Edou and M. Jean-Jacques Lefebvre the mission to assess the level of accessibility in the field of Housing, Environment and Transports.

This mission was to identify and evaluate the barriers which hamper the development of accessibility, the connections badly realised, and specific problems. In addition with Housing and Transportation, this mission concerned the buildings open to the public, tourism, streets maintenance and public space, the functioning of the special committees on accessibility, and other questions as information, training of transportation companies' staff and architects.

An intermediate report was given to the Minister by March 25th, 1997. The final version was published in May 1997.

³⁵ *Loi n°91-663 du 13 juillet 1991 portant diverses mesures destinées à favoriser l'accessibilité aux personnes handicapées des locaux d'habitation, des lieux de travail et des installations recevant du public.*

³⁶ *Décret n°94-86 du 26 janvier 1994, relatif à l'accessibilité aux personnes handicapées des locaux d'habitation, des établissements et installations recevant du public.*

The mission Defoug-Vincenti (1998).

In charge of a concrete assessment of what is really operational among measures taken and devices provided for implementing accessibility of public transportation means for people with disabilities, Henri Defoug and Jean-Charles de Vincenti³⁷ wrote one of the most precise analysis on the Transportation and Cognitive disability issue. Nine times, in 173 pages, they quoted people with “mental disability”, among other people with disabilities without other explicit description of their specific needs, but they also pointed up:

- a particular relationship with signposting,
- a lack of information appropriate to them (2 times),
- a frequent refusal of such travellers by specialised transportation companies under the pretext that there is no available accompanying person,
- a wish about the development of an accompanying policy, but also the recognition that people with light cognitive impairment can travel unaided,
- specific problems of understanding,
- a feeling of insecurity among these people
- an inequality of treatment in comparison with other people with disabilities.

But, at the end, while some reference to this population would be expected, no word quoted people with cognitive functioning when discussing pictograms or proposals!

However, nothing was really presented on that topic in a recent (2003) report entitled “*Accessibility of transportation to people with reduced mobility*”³⁸ presented to the Prime Minister, *Geneviève Lévy*, Deputy of the *Var*, almost “forgot” people with cognitive functioning impairments.

1.1.7 Reorganisation in the advising system in 1999

The advising system changed in 1999.

The COLITRAH becomes COLIAC

In December 16th, 1999, Jean-Claude Gayssot et Louis Besson, and Michèle Demessine decided to enlarge the missions of *COLITRAH* to locations receiving public, and housing, and to change its formation consequently in a new Committee: the *COLIAC (COmité de Liaison pour l’ACcessibilité)*.

Creation of the Délégation ministérielle for accessibility

At the same time (December 16th, 1999), Jean-Claude Gayssot, Minister of Equipement, Transports and Housing, created into his ministry the new function of *Délégué ministériel à l’accessibilité*, which was in charge to control the respect of legal rules of accessibility, but also to coordinate actions led in this domain. Catherine Bachelier was named Director of this delegation.

³⁷ Defoug, H., & Vincenti, J.-C. de (1998). *Accessibilité des transports publics. Situation constatée ; Propositions d’amélioration*. Rapport d’Audit sur la disponibilité effective des équipements réalisés pour assurer l’accessibilité des personnes handicapées aux transports publics, destiné au Ministre de l’équipement, des transports et du logement. Conseil Général des Ponts et Chaussées, 173 p.

³⁸ Lévy, G. (2003). *L’accessibilité des transports aux personnes handicapées et à mobilité réduite*. (Entretiens avec Monsieur Gohet et Monsieur Filloux et Madame Pelletier). Rapport remis au Premier ministre. 133 p.

1.1.8 Towards a new framework law

In October 2004, the French Senate examined for the second time the new version of the 1975 Act revision. In its article 24, it is stated that the chain of moving, with building framework, street maintenance, fitting out of public space, transport systems and inter-modalities, is organised in order to allow its full accessibility to people with disabilities or with reduced mobility. A decree will determine the time for implementation.

However, the stations into the still existing transportation network which were functioning before the passing of the act are not subject to enforcement, but for adapted signage. In this case, alternative (specialised) transportation means have to be organised.

Each local authority has to plan an accessibility policy, which has to fit with the Plan of urban moving.

Henceforth the replacement of the elements of transportation means (train cars, buses, coaches...), has to follow the norms of accessibility.

1.2 The first observation-based research approach (1984)

Accessibility of public transports for people with cognitive impairments became a research question in France only in 1984. Before this date, there is no mention of this population or its specific problems among references to the needs of accessibility. Worse, it was said, at that time, that either these persons have insufficient autonomy skills for travelling by themselves unaccompanied, or they met no particular obstacles if they present the required level of autonomy³⁹.

The only research study which included people with cognitive impairments in an evaluation of the use of train by people with disabilities, carried out by *MOUVEMENT* for *SNCF*⁴⁰, was concluded with a questioning about the specificity of the difficulty met by this subgroup.

1.2.1 Initial question, initial response

All the credit of making this issue emerge in France as a specific one, goes to Michel Hermelin, which at that time, had two personal involvements in the question: as a father of a daughter with very severe cognitive impairments he was an advocate of people with learning disabilities as member of *UNAPEI*⁴¹; as an employee of the Regional Institute of town planning (*Institut d'aménagement et d'urbanisme de la Région Ile-de-France – IAURIF*) he was a professional of transport networks.

³⁹ RATP (1984) Les personnes handicapées et les transports en Ile-de-France : constats et propositions. Rapport ronéoté ; SNCF (1984). Les personnes handicapées et le voyage. Rapport ronéoté.

⁴⁰ MOUVEMENT & SNCF (1983). *Mobilité et représentation du voyage en train par les personnes handicapées*. Rapport ronéoté.

⁴¹ *UNAPEI*: Union Nationale des Associations de Parents et Amis de Personnes handicapées mentales (Formerly Union Nationale des Associations de Parents d'Enfants Inadaptés). The main French NGO of Parents of people with cognitive impairments.

It was during a meeting of the *COLITRAH*, in 1983, that Michel Hermelin, as a representative of *UNAPEI*, asked to the other members of this committee, why there is no taking in account of the group of people with cognitive impairment. The reply of the transport companies was “tell us what to do”. Consequently the *COLITRAH* created a working group on “Learning of use of public transports by people with people with cognitive impairments”⁴².

On M. Hermelin’s initiative, *UNAPEI* produced a document in which a working group described all the measures to be taken to facilitate the access to public transportation. But for the transportation companies, such a list was only idealistic description made by family representatives, from their only personal experience, without any ascertaining of its general value. They asked for a most methodical approach.

A group was formed, with Michel Hermelin (*UNAPEI & IAURIF*), Pierre Stevoux in charge of accessibility issues within *SNCF*, Agnès Leloup-Lambard in charge of accessibility issues within *RATP*, Camille Théry in charge of disability issues within *AFNOR* (*Association française de normalisation*), which is the French branch of ISO, and Dominique Velche, at that time Head of the Applied research service of *SNAPEI*⁴³.

1.2.2 Method

At this starting point, the group decided that nobody really knows the problems met by people with cognitive impairments in using public transports. It was said that the best way to discover it, would be to ask directly concerned people, and to observe, in situ, what happens (How they behave, what difficulties they meet, why, how they seek for solutions and find some...).

Sample

It was decided that the target group for this first approach will be disabled workers, because as adults and consumers⁴⁴, they can have a real interest for using public transportation unaided. For this first step, the sample would be composed by persons which were users of public transports but also with persons which rarely or never used means of transportation alone. The best way to find such diversity was to contact some of the sheltered workshops called *CAT* (*Centres d’aide par le travail*), which are special industrial (or agricultural) firms reserved to adults with a level of disability high enough to prevent them, at least for a long time, from finding or retaining a job in an ordinary environment⁴⁵.

⁴² “Apprentissage de l’utilisation des transports en commun par les personnes handicapées mentales.”

⁴³ *SNAPEI* : *Syndicat national des associations de parents d’enfants inadaptés gestionnaires d’établissements et services* is a national professional and management organisation for local NGOs mostly affiliated to *UNAPEI* managing special institutions or services.

⁴⁴ As well in ordinary or sheltered environments, in almost all cases, the French disabled workers earn at least the minimum wage.

⁴⁵ These special workshops (*CAT*) employ about 120 000 disabled workers in France, about 89 % are people with cognitive impairments. These workers should have a working capacity less than 30% of this of an ordinary worker. There was a second type of sheltered workshops for people with best work capacity (between 30% and 100%) called “*Atelier protégé*” in which were working mostly people with physical disabilities. These

Two *CAT* were contacted in order to ask for volunteers for an experimental task: experimental use of public transportation. For practical reasons, but also because *RATP* and *SNCF* were involved, it was decided that Paris transportation network had to be investigated. Workshops in the close suburbs of Paris were preferred because the functioning of transportation networks differs in suburbs.

Only one *CAT* settled in *Vitry-sur-Seine* succeeded to organise conditions for it. The other was overwhelmed at that time by production necessities.

Finally three candidates agreed with our proposal:

- “M” was a 33 year-old woman, looking younger and shy, but good looking, quietly smart and some time talkative. She recognised the letters pretty well, but she wasn’t able to read at all. “M” had often used public transports, but never alone. Her parents took her with them often for walks or drives in Paris and she had a good understanding of the space organisation of the city and she knew many monuments.
- “P” was a 30 years old woman that her stoutness made look much older. She had a two-year-old child. Her cognitive impairment was not too severe, but she had so bad former and present social living conditions, that her capacities to act properly and her motivation in doing things were reduced. She knew how to read which gave her an advantage. But she wasn’t very participative. She used ride a bus every day alone, but it was only on the same line between the sheltered workshop and home, and never more. She hadn’t any clue to the geographic form of the capital and wasn’t aware of its historical building.
- “F” was a young men (25 years old) a little bit clumsy (he had a light mobility and ambulatory problems), but very open to the world. He had seeing impairment with strongly corrective glasses. He was unable to read. He never took the metro and didn’t know Paris really⁴⁶.

The three members of the group did show a good set of diversity of skills, prerequisite knowledge and impairments.

Procedure

The procedure adopted by the research group and proposed to the candidates, was very simple. A round trip was to be done, using any kind of transport means (suburb bus, city bus, metro, *RER*⁴⁷, suburb train⁴⁸), according to the candidates’ preferences, each of them leading the group in turn and taking decisions for it, without intervention of the five “observers” who were following taking notes only. In case of real unsolved situation, the research group could give some relevant clue.

workshops changed with the law revision in 2004 for a new naming “*Entreprise adaptée*” (adapted firm) and their inclusion into ordinary work environment, instead of a “sheltered” status.

⁴⁶ The location of his sheltered workshop is less than 10 km from the south border of Paris. This lack of familiarity with the City shows the poor relationship such disabled workers are accustomed to have with their social environment. A lack of practice in the use of public transports increases this social and cultural isolation.

⁴⁷ High-speed suburban Paris métro.

⁴⁸ At that time, a large part of the suburbs trains were not included into the RER network as it is in 2004.

Only one requirement was imposed by the research group: for the first round-trip: to take a *RER* train from *GARE-DE-LYON* to *CHÂTELET-LES-HALLES*. In all cases, the location of the workshops must lead a multimodal use of transportation means (i.e. bus, suburban train, *RER*, metro). The reason of that requirement was to observe the travellers into two multimodal connection places well known for their complexity.

Of course, the candidate travellers had to choose their route among all possibilities, and then to apply their choice to the reality of the transport network in Île-de-France. The round-trip would last about 3-4 hours.

Repetition

In order to verify the results of the observation, it was decided to test again with a second, but different round-trip, about 2 months later. The requirement for this second round-trip was to see the TOUR MONTPARNASSE (highest building in Paris) and the PONT DE L'ALMA (one of the bridges of the capital city, with a 'Zouave' soldier on one of its pillars). The reason of this requirement was to use another part of *RER* (The C line) which had not been used during the first trial.

Choice of the routes and preparation of the journey

Because a very decisive part of the task consisted in choosing the routes to follow in order to go to the target places (the imposed requirement) and to come back to the sheltered workshop, the transport companies (SNCF & RATP) brought materials like different types of maps, guides, tariff lists, and other current advertisement pieces.

The research group proposed to explain the material, but only in responding to explicit demands. A step by step discovery strategy was followed:

- identification and localisation on a map of the target places
- localisation of the workshop on a map
- identification of the different transportation means available to be used between workshop and target, then from target to workshop
- discussion of their comparative qualities (cost, speed, frequency, connections...)
- decision on the most interesting route.

This stage of choice was carried out in a meeting room of the *CAT*.

Finally the three candidates made a relative complex choice for the first round trip:

- walking from workshop to bus stop
- suburb bus (N°180) from this stop (*Vitry*) to the metro (*Liberté*)
- a first line of metro (N°8) with a connection (*Reuilly-Diderot*) with the second line (N°1) to go *Gare-de-Lyon*
- *RER A (RATP)* from *Gare-de-Lyon* to *Châtelet-les-Halles*
- metro (N°4) to *Saint-Michel*
- *RER C (SNCF)*⁴⁹ to *Vitry*

⁴⁹ The *RER* has two management: one by RATP and the other by SNCF. What is important to understand is that both have different presentation of information, and different logic in managing transportation means.

- suburb bus (N°180) to the Workshop.

Many other routes were possible, but it was their choice. It was interesting to note that they did not come back just in returning on their pace, but used a more straight route.

For the second trial, the route was:

- take a bus (N°132) to *Porte d'Italie*
- metro (N°6) to the station *Montparnasse-Bienvenue* where the group had a lunch
- a bus (N°92) to *Pont-de-l'Alma* where the group had a tour on the Seine with a boat (*Bateau-Mouche*)
- a come-back to *Vitry* with *RER C (SNCF)*
- suburb bus (N°180) back to the workshop.

Actual achievement of the journey

After the meeting which permit to decide the route, the group had to leave and take the first bus, then metro lines, and RER.... Each candidate took his/her turn in leading the group.

1.2.3 Results

The results of this discovery approach were manifold. A first part came to light when preparing the journey, in comparing the options on maps. A second part was obviously the fruit of the observation during the round-trip, and especially the hesitations, the miscomprehension or the mistakes. Finally, we discovered that one of the main problem met by the persons with cognitive impairments was a **weakness of their acquisitions**.

Preparing the journey

The first finding of this research study was a **lack of knowledge of their environment** among people with cognitive impairment. At the time of this observation it was difficult to say if this lack is due to their impairment (memory problems, analysis of situations...) or to a tendency to stay at home without any attempt to investigate the space around. To some extent, it can be said that this finding reveals a lack of educational efforts in this direction (travelling) in the program of specialised institutions in France. This explanation was confirmed by further research.

Clearly, the main finding of this step of the research was a **lack of understanding** by these candidates to travel **of the logics followed by the transport companies** in the way they present the information to the consumer.

For example, in Paris, RATP and SNCF define the direction of a line by the name of the last station in that direction⁵⁰. The number (or the letter for RER) is not enough

⁵⁰ In some countries the direction can be given by the name of the part of the city which would be reached with this line (a quarter, locality...) by a cardinal point (East/west, North/South...).

because each line has at least two directions, sometimes more than two. This convention presents a disadvantage for people with cognitive impairments: they have to read nouns which have no meaning for them and that only culture permit to pronounce and memorize (great names of history, battle fields, geographical references...). Generally their reading difficulties and their learning disabilities prevent them to master this task without help or specific training.

A second problem rose when using maps in order to find their way. First of all, it was discovered that the verticality of a map (the way it has to be read) is not obvious for people who have bad reading skills: they don't have the immediate reflex to adjust this verticality with that of some of the letters in it (not all should it be remarked). The colour codes which are used to discriminate among lines have to be learned, as well as the shapes which represents the connections on the maps, the signs used. The grey blurred framework which represents the streets under the coloured frame of the public transport network seemed to be distracting for the candidates.

Concerning maps, there was another difficulty they had troubles to overcome: the link between maps of different scales. It was the case with the metro map of Paris and a map of suburb where Paris and its transport network were in centre but smaller. To follow a route from the suburbs map to Paris map and back to suburbs map took many minutes.

However, finally, after a good training, the use of the maps was mastered and, during the moving task, the travellers regularly resorted to this tool in order to verify how the travel progressed.

During the round trip

According to some generally admitted ideas, it was expected that travellers with cognitive impairment would have difficulties with ticket machines, passage way automats, or different systems of door opening. During the first round-trip, it was discovered that some machines or devices of the transportation companies, were well known by these travellers, or were, to some extent, easy to understand by them. During the second round-trip, perhaps because their mobilisation capacity failed, some difficulties occurred.

Unexpected by the research group when concerning people with impairments which are more cognitive than physical, a real uneasiness nevertheless appears when walking escalators or on a moving walkway. It was not because motor difficulties, but some problems in keeping equilibrium in a moving environment, plus an effect of the dread of being taken away without being able to control the moving. Generally if they have the choice, these travellers would prefer walking "ordinary" stairs and walkways. This finding was confirmed by further approaches (see *Gare-de-Lyon* 1.4.).

The main findings during the carrying out of the round-trips concerned the seeking und using of information. Even with a foregoing training, it seems not obvious for such travellers to translate their understanding of the route on the map to the real environment signposted with panels, colours, arrays...

The first cause of this difficulty came from the perturbations met in information processing due to an excess of messages sent by the environment, with the overwhelmed quantity of advertisements. This problem still had been illustrated in a Boudjedra's Novel⁵¹ concerning the unfortunate trip of an elderly Algerian in Paris metro. The significant information is completely swamped under junk messages. People with cognitive impairment generally have no key for discriminating among useful and subsidiary messages. Some codes of presentation have to be known before, which are hidden for them in reason of a lack of experience in moving, and also because such information often adopts a implicit form, that other travellers have progressively learned. In such a circumstance, travelling becomes very exhausting because the anxiety which always prevails when processing information. An efficient strategy in discriminating among the nature of the messages has to be acquired in order to increase their autonomy in that task.

Correlative with the difficulty presented above, people with cognitive impairments met a lack of habit with the implicit code (shape and colours of the panel, size of the letters, places used to set it...) and hierarchy rules (directions, intermediate stops, meaning of the signs, letters...) in the way information is presented by competent authorities. Usually a part of the norms adopted by transport companies, for example, are described in written documents which are distributed to consumers. But, with the stability of some information types, their presentation became a sort of implicit message. Everybody knows them, not remembering where and when he or she learned them. But it is not the case for people which had important delays in their basic acquisitions. They didn't benefit from a direct access to written information and their indirect knowledge was reduced by a lack of practice of transportation means.

So, during the carrying out of the round-trips, they often shown a sort of incapability to organise their search of the good clue which would be of interest for deciding the direction to follow to achieve the journey. One example among many, the most part of underground metro stations are indicated in the streets by a signposting with a big yellow M on it, but some, for "historical based aesthetic" have not, but are only indicated by a specific sort of balustrade around the stairs. The three travellers with cognitive impairments never saw such environment. Another time, the sign which designed the metro entrance was an older "modern art" one with the term "métro" written on it. Moreover, generally, on the metro platforms, the direction panel hang from the ceiling. Some of the travellers at task were unable to find it out of sight above their usual glance scope. For that and other implicit clues, the research group was obliged to organise an on-the-task training to help them in discriminating among messages and in identifying the different chains of panel which aim to guide the travellers.

A lack of memory seemed to increase the effects of their insufficient knowledge of transport environment. The research team had to regularly recall the names of the next station while the travellers with cognitive impairments tried to decipher the maze presented by *RATP* or *SNCF* maps. This is well known by special teachers with solve this problem in providing their pupils with written lists. No doubt that, with new technologies, there will be solutions as palm computers which can take advantage from the generalisation of the translation of information in digit form.

⁵¹ Boudjedra, R. (1975). *Topographie idéale pour une agression caractérisée*. Paris, Denoël.

During the round-trip it was also observed that the panels which give the more important information on the moving process are very often out of sight for many travellers (for example the name of bus stops which was not visible from the bus for standing people, or some equivalent situations for metro, *RER* or train stations. Outside, the connections between the different modes were not always explained. The traveller, whatever knowledge of the environment he or she has, has to develop a very efficient alternative seeking strategy. This strategy is lacking in people with cognitive impairments. That why they need special training in order to increase their autonomy.

More generally, one of the more important problems they met was link to their unstable mastering of reading skills. The observations and the discussions with the three travellers with cognitive impairments showed the cause of some of the mistake they made or the uncertainty in which they were some time in the decision making process. As far as they accepted to make an effort to read panels, which was often the only solution to find the direction, it became obvious to observers, that they only read the very first letters (3 or 4) of the word while memorising the global shape of it. For example, being in *Gare-de-Lyon RER* station, and seeking the direction for *Châtelet-les-Halles* (it was the imposed requirement), they found a list on a panel whith *CHAtelet-les-Halles*, *CHARles-de Gaulle-Etoile*, *CHAtou-Croissy*, *CHAmpigny* and *Noisy-CHAmps*. The research group called this indecision dance “CHA-CHA-CHA. They had the same problems with the countless SAINT- present in the names of streets, church or locality which gave their names to the metro or *RER* stations and bus stops.

Other problems rose in decoding the names of stations or bus stops for deciding what was significant. In compound words like “*Saint*–‘someone’”, the “*Saint*” can be generally dropped, but also like “*Porte-de*–‘somewhere’” or “*Place-de*–‘somewhere’”. For example when comparing on a map “*Porte d’Italie*” et “*Porte de Gentilly* », what is important is the “somewhere”. But it changes when comparing “*Porte d’Italie*” and “*Place d’Italie*”, because the significant clue becomes “*Porte*” or “*Place*”. With their tendency to shorten the word they will memorise, people with cognitive impairments are liable to making mistakes. Moreover, they rarely have the cultural background which allows them to switch from one mode of decoding to another if necessary.

In *RER* the servicing of each train (they can have different missions according to the schedules) were announced by a panel which takes the form of a list of the stations served by the train only or of lights put before some names in a fixed list of (all possible) stations, indicating these which would be served by the next train. Reading these lists represented a very difficult task for people with cognitive impairments. It can be stated that very few of them would be able to perform such a task appropriately. But the three travellers implemented a very interesting alternative strategy when coming back to the sheltered workshop: by previous learning (surely on the occasion of some group journeys with specialised teachers) some of them memorized that the trains which served their workshop station had a “mission code” of four letters written in front of the train’s head. At that time, very few “ordinary” travellers knew, as transportation company employees knew, that this four digit information was completely secure. Today it’s of public banal knowledge.

In addition with the mental cost ensuing from reading difficulties, the consequences were also a great length in making decisions. A part of it comes from slowing down cognitive performances themselves, but another from the uncertainty of the information given to them. But while moving, this lack of reactivity can have very negative results, particularly when people as these under observation, were unable to adopt efficient strategies to find their way again. For that reason, it can be stress that people like them, but also a lot of elderly or foreign people which share with them a length in decision making deserve a special awareness from transport company employees. To be guided on the good route can be decisive, and it has to be understood that they don't have all the tools to find their way unaided.

Finally a difficulty was observed which is not to be attributed to the cognitive impairment or the individual's characteristics: a very frequent breaking in the information chain observed in many circumstances of the journey. Sometimes, it was impossible to guess where would be placed the next panel even when no obvious direction explains it. The same direction may be presented with two arrays in opposite directions. Sometimes the bleu A on a white circle became a white A on a bleu circle, which was completely different for the three travellers with cognitive impairments. The difficulties set by this discontinuity in the design for the same information or in the guiding chain could not, for these travellers, be solved by an abstract reasoning. Such a discontinuity is disastrous for many other travellers, as it is for other travellers, and has to be corrected by the transport companies.

From a second experiment

For unexpected reasons, the candidate travellers weren't informed about the date of the second round-trip. So they weren't ready and their concentration was failing. In a really different attitude, while they were very cooperative and seemed interested the first experimental travel, they showed a resistant passivity during this second trial. A sound announce of bus stops which was encountered on a single line, seemed to have helped them to stay aware.

The first finding which was consequent to that situation was a bad recall capacity in using maps. One of them, "P" had kept the maps in her pocket, but, even for her, it was difficult to mobilize their former skill on reading and using maps. Then, it was necessary to take time to learn again. This need of retraining wasn't anticipated, and its fulfilment was too short. The result showed the part taken by motivation in the way people with cognitive impairments succeed in everyday life. They made mistakes and missed their stop many times.

At the beginning of the second round-trip, they almost took their first bus in the wrong direction. Not really ready, the group was uncertain. In the use of maps and their comparison with the mural maps or with the progress of the journey, the skills of the three travellers were also less efficient than the first time.

This observation confirmed the disastrous effect of the discontinuity in signposting or the lack of mutual references between different modes (train and metro, bus and RER, bus and metro...). It was the case all the more so when they cannot find somebody which can help them, and, for example, show them the *RER* entrance in an environment which did not permit to see it.

The ticket machines in this *SNCF* station of *RER C* were more complicated than those used the first time in the *RATP* environment. So the choice of the good buttons to push also needed a previous training session.

General findings

Some general findings can be drawn from these observations.

There is no travelling capacity for people with cognitive impairments without an appropriate training before carrying out a journey, and without a regular recall of some basic skills. This training has to make explicit many implicit rules applied by transport companies. However, it has to be kept in mind that the acquisitions from these learning sessions remain fragile and can be lost at any unexpected incident (see second experiment above).

People with cognitive impairment prefer to use surface transport, for example bus, instead of underground moving with metro, but this type of means is secure for them only if they can really check the moving along the journey by observing the environment. The problem is that the views are not always really informative. Everything that would improve the visibility of the elements having a role in the achievement of the journey would be helpful for them. But another condition exceeds the area of competence of transport companies: people with cognitive impairments should be more actively led to explore their environment.

With a real inertia in making decisions, and perhaps because of it, the three travellers showed a strong tendency to follow the main stream of other travellers in connection places taking here what could be the good way or not. This “follower” tendency, which is often reported in the literature, has to be corrected by a stimulation of their watchfulness. They can benefit from some punctual clues like sound announce or illuminated written messages (if they are short enough).

These travellers also showed a very problematic practice in seeking and reading written information. The “saint”, “cha-cha-cha” and “Porte/Place” examples (above) showed the nature of their difficulties and its consequences. For many of them, only very short messages can be memorised. It was obvious that a view of the environment can help, but only if significant clues are visible. At this moment of the research, there was no proof that pictographic information could have better results for them in achieving their travel task. Some panels attracted their attention, but other didn't.

Such a reading handicap makes them more affected victims of the discontinuity in the information chain, because it's difficult for them to find alternative ways to progress.

Otherwise, people with cognitive impairments don't have a spontaneous tendency to ask their way to other people if they get lost. They avoid the verbal contact because they met comprehension and expression problems. Their shyness caused by a severe inferiority complex comes in addition to prevent them in seeking for help.

The tiredness affecting people with cognitive impairments travelling by their own in public transport can be a source of decreasing of their vigilance which can lead to mistakes. During the round-trips, some moments of dispersal like that were observed, making necessary the intervention of the research group.

In order to avoid that people with cognitive impairments get lost, transport company employees have to be trained to make them more aware of the difficulties met by these travellers as described above, and find the good responses to the urgency situations.

This report states a methodology which permits to better delimit the difficulties encountered by people with cognitive impairments. As a new approach, it presented in a meeting of COLITRAH at May 29th, 1986.

1.3 A series of research studies on access to information

After the time for observation, came the time for analysis. Some difficulties were easy to understand, but showed no particular link with cognitive impairments. In other cases, the complexity of the situation implies that the functioning of the different elements has to be enlightened and studied for itself before understanding the whole construction. That is the case of orientation strategies in real environments, among other issues. Some time alternative strategies replace unavailable information or the incapacity to decode and use it. Determining by what kind of cognitive process these new routes could be found would be of value in creating better conditions for the use of public transports by people with cognitive impairments, as well as many other groups in difficulty. In order to document these questions, diverse research directions were investigated.

Until then there was very few publications on use of transportation by people with cognitive impairments, and a review of literature carried out in order to document this issue for an application in reply to a call for proposal (Velche, 1989), showed that, if any can be found in USA, none were questioning the cognitive prerequisites of using public transports, the only issues being preferences among transportation modes (bus versus metro) and comparative training (classroom versus in situ) procedures.

1.3.1 Cognitive issues in transportation context

The inquiry on use public transport by people with cognitive impairments, which adopted an anthropological and sociological approach, met a series of research studies carried out on mobility in the city from the cognitive psychology point of view.

Felicia Goledzinowki's first studies (1973, 1976, 1977 a & b, 1978) showed that orientation is a very complex task and especially when it is applied in underground environments. This psychologist worked with RATP on the cognitive maps used by travellers in Parisian public transports. She discovered that even RATP employees having a long professional experience have very personal space representation ("mental maps") of the metro network which does not coincide at all with its real geographical spreading. This author demonstrated that the traveller use superposed

“mental maps” which are more or less well connected with each other on an algorithmic way. When these connections do not work because important gaps with the real structure of space, the person gets lost.

Goledzinowski also stressed the importance of that she called “coded space” which is the structured framework of systematic signposting. This constructed space come to substitute for failing or inappropriate cognitive maps. This substitution works as a corrective solution only if a set of conditions are met: no ambiguity; same meaning for all; easy and quick reading; message being able of creating appropriate responses among transport users.

A second set of research carried out by Felicia Goledzinowski (1983 & 1986) questions the validity of pictograms as a better media for information than written messages. Working with a socially deprived and illiterate population, this psychologist demonstrated that many pictograms generally used in French urban environments, are not obviously decoded by them. That suggests that pictograms are not the miracle solution to overcome the effects of illiteracy.

There is another danger: that the “coded space” proposed by transport companies completely obliterates personal cognitive maps and prevent transport users to build them. Consequently, breaks in information chain (discontinuity) leave travellers without resort.

Being informed by *RATP* about the existence of such a work, we tried to extract the core of this cognitive approach for applying its results to understanding the difficulties met by people with cognitive impairments⁵².

1.3.2 Preferences of workers with cognitive impairments in choosing among the different modes of transportation

At the same time, under the impulsion of Michel Hermelin, two research studies were carried out on the use of public transport by people with cognitive impairments working in sheltered workshops located in a close west suburbs of *Paris (Colombes)*.

The first one was a description of the actual use of public transport by such disabled workers for their daily home-work round trip or their moving for leisure and a inquiry about their preference among different means existing in their environment⁵³. It was clearly demonstrated that these travellers preferred ride by bus, event if train or metro were available, preference which confirms the hypothesis of a neat need of visual control on the environment while moving, condition which is uneasy to fulfil in from a train and impossible from metro.

A second research study, using an ethological approach and individual interviews, investigated the motivation and the strategies of moving around of workers of 3

⁵² Velche, D., & Goledzinovski, F. (1989). La ville comme milieu de vie : difficultés dans les transports et fractures dans les représentations spatiales. In *Savoir-Faire et technologies nouvelles : intégrer dans la vie, dans la ville, l'homme réparé*. Vanves, CTNERHI, 17-34.

⁵³ ADAPEI des Hauts-de-Seine, Hermelin, M., Goldszer, N., & Goldszer, R. (1985). *Les déplacements des travailleurs handicapés mentaux des CAT des Hauts-de-Seine (enquêtes menées en 83-84)*. Document ronéoté.

sheltered workshops (CAT) of the same suburb⁵⁴. This work showed two main decisive factors for using public transport services: a good symbolic access (good understanding of written words and signposting), and confidence (in oneself and in the environment).

1.3.3 Specificity of information processing in travellers with cognitive impairments in comparison with other travellers.

Still involved in a first interest for this subgroup of travellers with disabilities, the research agency MOUVEMENT carried out a review of literature and an interview inquiry on the specificity of the difficulties met by people with cognitive impairments⁵⁵. This work showed, once again, that very few were done on this question and nothing with a rigorous methodology. The authors concluded that these difficulties can be found, more or less, according to the contexts, those of people with other types of impairments.

For these authors, the specificity of cognitive impairments would lay in the accumulation of handicapping situation, instead of a specific form of difficulties. However, no systematic checking of these findings was carried out.

1.4 An systematic evaluation of the use of pictograms

As it was stated in the works previously presented, access to information is a crucial step in mastering the task of moving with public transports. For people with cognitive impairments, which often encounter difficulties with reading, this issue can be determining. For many authors, it is obvious that iconic forms (pictures, drawing, pictograms...) would favourably replace wording. For a long time, initially in order to make drivers to take rapid decisions, transport companies have a familiarity with pictographic panels. This use was generalised to public through car driving and different signposting necessities. The solution seemed easy to find: replacing the complex sentences by a new pictographic code which would be easier to understand by illiterate travellers. However, better documented works like those of Felicia Goledzinowski (see above) or Lery & Journet⁵⁶ showed that some conditions have to be met for enabling this form of messages to be understood. "What will be the results for people with cognitive impairments?" was the next question we tried to document at this step.

1.4.1 Questions

A research study was undertaken in order to verify if, in the case of using public transports by people with cognitive impairments unaided, the signage usually presented to travellers by transport companies is clear enough for such travellers and/or if its understanding by them depends from the type of presentation of

⁵⁴ Hermelin, M., IAURIF, UNAPEI, et al. (1986). *Transports collectifs et personnes handicapées mentales*. Document ronéoté, décembre 1986.

⁵⁵ MOUVEMENT (1987). *Les concepts de communication et d'information dans les transports en commun. Analyse comparative des usagers handicapés mentaux et des autres usagers*. Rapport de recherche, avril 1987.

⁵⁶ Leroy, C., & Journet, N. (1987). Des signaux vite et bien vus. *Science et Vie*, 158, mars 1987, 104-107.

information, meaning written versus pictographic, simple versus complex, one mode only versus multimodal ...

Many questions were asked then:

- How do people with cognitive impairments understand the panels currently used by the transport companies in France, not only in *Île-de-France* (around Paris) but also in other parts of the country?
- Is there presentation rules of panels which serve as discriminatory factors in the way these travellers with cognitive impairments can understand and use them in order to make their decisions in moving tasks?
- What are the effects on the understanding of such pictographic or written panels by people with cognitive impairments of the interactions between the content of their message and the immediate environment?

1.4.2 Method

According to this set of questions, a step by step approach was applied. The method adopted was a series of tasks of recognition of signage, in changing the conditions of its presentation, and putting the results in the recognition tasks in regard with other cognitive performances of a group of persons with cognitive impairments representative of the diversity of the profiles and needs of such a population.

Tasks

The first task was to interpret (try to explain) 47 panels, some presenting only written messages (like "*Voie 1*" ou "*Sortie Taxis Autobus Métro*"), other panels being only pictographic expression (arrays, stairs with an outline figure descending, symbolised taxi, telephon receiver...), and a third part of panels with mixed forms. These panels were presented for interpretation on paper cards in a random drawing.

The second task was to interpret a set of slides (depending of the local context) in which many of the previous panels are presented with a significant background (the environment shown by the slide). This task serves to explore to what extent a visual background, even if partial, can help people with cognitive impairments in understanding the meaning of the panel's message.

The third task was a carrying out of a real unusual round-trip with the encountering of the same panels that subjects had to interpret, perhaps in using the real context, if they can, to understand their meaning.

In parallel with these interpretation tasks, all volunteers with cognitive impairments were subjected to cognitive tests, some extracted from standardised batteries, other especially devised for the research. These tests serve to describe the cognitive capacities that these persons can mobilise or the difficulties they can meet. One of the aims of this part of the research was to identify, if possible, the source of the difficulties in mastering orientation in using information given by transport companies.

Subjects

In order to overcome the risk of individual subjectivity a special attention was paid to the constitution of the sample to which this methodology had to be applied⁵⁷. The subjects were 81, 43 males and 38 females. Some were adults working in sheltered workshops (62), other were adolescents attending special training schools (19). The average age was 26.4 (standard deviation 8.1).

First of all it was important to generalise the findings of the former approach to other regions of France, because Paris represents an unique place, with its own transportation rules (a unique cooperation between *RATP* and *SNCF*). Otherwise, it was decided to diversify the special institutions involved in the research study because it was clear that the institutional functioning and the related educational options could have a significant effect on the level of autonomy of the persons. Consequently, the subjects came from 7 locations: 4 in Île de France and 3 from Alsace (East of France, on the border with Germany).

Because the living conditions of the persons can have an effect on their practice of public transports, it was important to have a representative range of diverse situations. So, 55 subjects were chosen as living with their parents (even adults), 19 in a special housing accommodation, 5 had their own home, 2 other situations.

According to WHO standards, at that time, 14 were classified as moderately retarded, 33 mildly retarded and 18 borderline (data available for only 65 subjects). The WAIS test gave a 61.0 average (sd =15.9). Their performances to the Rey-Osterrieth figure showed a significant fail in processing information. They also showed insufficient performances in visual-spatial tasks as assessed by the Raven Matrix test.

As it is relatively frequent in this population, in addition with these cognitive impairments, many subjects had other impairments: 20 had language impairments, 11 visual impairments, 7 motor impairments, 1 hearing impairments. It showed that cognitive impairments are not always isolated.

Among skills, the reading capacity was one of the factors which appeared determining for the travel task. A diversity of the level of mastering such a skill was to preserve. Finally among 81 subjects, 31 only were able to read in French at an useful level, 17 had difficulties in reading, 7 could recognise some isolated words, 12 can recognise only some letters, not all, and 14 had no reading capacity at all.

Among subjects, 20 can't recognise the 10 digit numbers and only 13 had a basic mastering of numbers' meaning; 37 were able to read the hand of a watch and 46 a digital watch, and only 17 to calculate time duration.

Because it was supposed to be another determining factor for success in travelling: the familiarity with public transportation and especially the daily use from home to work and back. Among the subjects, 46 had a daily practice of these transportation means: more than 50% rode in a bus, and many in addition with train or RER; more than 50% had at least a connection; they generally travelled alone, 3 were accompanied and 2 in group. Among others, 24 subjects (30%) were taken by

⁵⁷ See the details in Velche, D. (1991). Evaluation des modalités de traitement de l'information dans l'utilisation des transports en commun par les personnes ayant une déficience intellectuelle. *Handicaps et Inadaptations – Les Cahiers du CTNERHI*, 55-56, 149-192.

special bus services, and 9 only walked; the others used bicycles or were driven by their parents.

1.4.3 Results

The different tasks weren't completed for the same number of persons: the interpretation of panels was completed for 81 and the interpretation of slides for 59; the in-situ trips were performed by 47 individuals.

Interpretation of panels on paper cards

The first result concerned the way the panels are understood. Only 27 of them were completely decoded by the majority of the subjects with cognitive impairments, this mean being increased by 10 units if a partial recognition is recorded. No one was completely recognised by all subjects. The best scores were for the pictographic panels representing a single phone receiver in blue on white, saying "telephone box" (68 completely + 10 partially interpreted) and the panel with a cigarette in a red with crossbar banning circle meaning "no smoking" (73+3). At the other end, the lowest score is observed for the strictly pictographic panel "lost property", which represents an umbrella and a glove with a question mark, with only 4 complete and 19 partial recognition, but 57 persons not understanding this panel. The "information" panel with an "i" on it was completely decoded by only 4 persons and partially (they did not link the letter to the word "information") by 19 persons⁵⁸.

The contents of the panels (from strictly written to strictly pictographic, going through mixed messages) have a significant effect of the way they were understood. The only pictographic panels were fully identified at 42.5%, while mainly written panels met a 50% score. The performances were higher for the panels with pictographic and written messages (54.3%) and the panels with directional message (array, stairs, escalators...) (60.6%)⁵⁹.

Different factors played in the way people with cognitive impairments recognised the panels⁶⁰.

Globally expressed by the WAIS test (65 subjects), the cognitive impairments had significant effects on the performance in the recognition of the panels on paper cards. In average, the numbers of totally recognised panels were: 15.1 for individuals with moderate retardation (sd=9.5), 26.2 for individuals with mildly retardation (sd=10.7), 38.2 for borderline individuals (sd=12.4).

The reading capacity was also determining: an average of 33.6 recognised panels by subjects with good reading capacities (sd=9.0), 32.6 for people with reading difficulties (sd=8.7), 22.9 for people with only some words (sd=10.5), 16.7 for only some letters, 14.0 for no reading capacity (10.9) (in comparison with the 26.5 for all).

⁵⁸ See details in Table 14 in Velche (1991) op. cit..

⁵⁹ See Velche, D. (1992) Access to signage information and use of transportation systems by mentally disabled people. In M. Dejeannes & J.P. Medevielle (Eds.), *Mobility and Transport for Elderly and Disabled Persons. Proceedings of the 6th International Conference 92*. Lyon, INRETS, 1992, 30 bis (1), p. 483.

⁶⁰ See Velche, D. (1992), op. cit., pp. 481-485.

Other reading performances (reading of numbers, reading of watches, calculation of duration) had the same effects.

In contrary with some a priori expectations, the use of public transports in daily round-trips did not imply better performances in recognising panels. The average numbers were 28.5 for users (sd=10.2), and 25.6 for non users (sd=13.7) (no significant difference).

Two other factors had practically no effect on the identification of panels on paper cards: subject age and gender. Globally, the educational program of institutions seemed play a role because the level of results differs from one institution to the other.

A more in-depth analysis showed that the 16 strictly pictographic panels are less well interpreted (42.5%) than the 8 only written panels (50.0%), the 7 panels with some information on written form, other on pictographic form (54.3%), or the 16 directional panels (60.6%). But it was also clear in this analysis that even for the strictly pictographic form, the reading capacity had a significant effect on the recognition performance (from 25.0% when no reading capacity to 50.0% for good readers). In other terms, the interpretation of strict pictograms was linked with reading capacity because of the complexity of the syntax has a role in them. It should also be observed that reading level is not the only pertinent discriminating factor. Other parameters for controlling communication social codes play an important role. Formal cognitive tests are more discriminating. The panels are better identified by those who obtained a good score during these tests.

The analysis of each individualised panel showed that the identification of pictographic signs presented different level of difficulties according to the complexity and the content of their message. Pictograms giving a concrete representation of the objects clearly linked to the message were more easily identified than others. The abstract messages produced with many signs, even concrete (for examples: the panel “luggage lockers” which represents a suitcase in a rectangular frame surmounted by a key; the panel “buffet” with a fork and a knife⁶¹; the panel “waiting room” which represents a sitting person with a suitcase and a clock above them⁶²) were badly understood. To some extent, directly abstract messages (“no smoking” [with 73 total + 3 partial], or “no entry” [with 56 + 6]), while well known, found better performances.

Interpretation of slides

The slide interpretation task was carried out with only 56 subjects. About just over 50% of the slides were completely described. The reading capacity significantly increased the performance in this task⁶³, while previous use of transportation didn't⁶⁴.

⁶¹ These strictly pictographic panels were both totally interpreted by 47 subjects and partial by 19 others, which is not so bad, but the level of the performance were positively correlated with reading capacities.

⁶² In this case, the reading capacity had no effect but the level of total recognition was low (30 subjects + 23 for partial recognition).

⁶³ From 16.5 (sd=14.4) slides correctly described in average by people with no reading capacity to 82.7 (sd=15.2) for fluent readers.

⁶⁴ An average of 55.7 (sd=31.6) for user, versus a 52.3 (sd=29.8) for non users.

Some pictograms which proved to be very difficult to identify on paper cards, such as “information” (only 10% of subjects had identified it) or “waiting room” (37%), were more easily interpreted when shown on slides which presented a meaningful environment in the background. Other signs like “luggage lockers” or “buffet” were also easier to understand when presented in context (58%).

In-situ trips

During the 47 trips which were carried out, it was clear that the real context helped, because about 83% of the travellers correctly identified and interpreted the panels they encountered in meaningful environment. The subjects with low performances were non readers with moderate mental retardation. Many of them made up with their failing in interpreting information by asking other passengers. In 40% of the cases, research observers who followed them had to intervene to stimulate attention and put the disabled traveller in the right direction, with no relation to the level of mental retardation. About ten of them proved to be very passive, most of them were unable to read. No effect from a previous use of transportation was observed.

1.4.4 Conclusions

Are pictograms likely to help travellers who, due to their cognitive impairments, have reading difficulties? This research study showed that it depends on the nature of these pictograms, not only on their form, their complexity, but also on whether they are familiar or not to the person, i.e. referring to their practice of urban space, not only to their use of public transports. It also depends on the ability of the subjects to understand the meaning of the pictographic messages delivered by the signs. The performance recorded depended on the cumulated effects of some cognitive prerequisites and previous knowledge of all or a part of the message delivered. Nevertheless it seems that in absence of any additional indication, a complex or abstract pictographic message can hardly be deciphered if not previously known. Pictograms cannot thus be used as an alternative to written message, because they aren't better understood. However, their presence in a compound panel, adding written text and correspondent pictogram, is helpful to those who didn't learn to master reading.

When pictograms are used as condensate information and read by people who know their meaning for having previously learnt it, they can easily be used for helping people with cognitive impairments to be autonomous in using public transports. But if it would be expected that such a message would be more easily decoded by users not previously initiated, the results of this study showed that it is not the case.

Signage is ruled by formal codes which are generally implicit. This study led to the conclusion that it was useless to remove the implicit of the message by using non verbal communication modes. On the contrary, it seems that verbal presentation allows understanding more often than only pictographic signs, especially when the picture represented is not directly related to a well known concrete object (i.e. telephone receiver). Consequently, in the future, in order to develop the autonomous use of public transports by people with cognitive impairments, but also by other

people with difficulties, it will be necessary to plan a systematic explanation of usual pictograms and usual written information.

Travellers with cognitive impairments will have more difficulties than others travellers, to know whether they are following the right route. A low mental flexibility, associated with a lower level of self confidence, can lead them to a blocked situation in case of signage failure. In such a case, the implicit of the continuum of the route should be explicated. But in addition to their search for signs, the travellers with cognitive impairments will be able to understand pictographic information only if such information and its meaning were made familiar to them. According to the finding of this study, there is no reason to think that this form of message would be more accessible to them than simple written information (i.e. very short text). But at the other hand, the observations led to the conclusion that, once known, pictograms in association with simple written messages, can be considered as a base for decision making during travel. Thus other factors are involved such as moving motivation or psychological ability to overcome temporary unexpected difficulties.

1.5 Gare-de-Lyon in Paris: the proof of the importance of information

More recently, in response to a call of proposal from the Ministry of Town planning, a research team of *CTNERHI* proposed an assessment of the accessibility of a very important station in Paris: the *Gare-de-Lyon* which is also a multimodal pole of connection in the transport network of Paris and its suburbs⁶⁵.

1.5.1 Questions

As the analysis of accessibility of transports and its conditions made progress, it became more and more obvious that this concept could not be limited by technical characteristics of the mode used. All the environmental context should be involved, and especially the other modes of moving around, and the connections between them.

This research study took its place into a general move towards the Universal Design approach. The question here was to check to what extent it is possible for travellers with any kind of disabilities, to find their way and to achieve a moving project needing a connection from a mode of transportation to another among all types which converge in this location.

1.5.2 Methodology

The general design of this study was to put people with impairments representing a large range of disabilities in a real situation where they ought to go from the mode with which they arrived at *Gare-de-Lyon* to the mode with which they want to continue their travel.

⁶⁵ Sanchez, J., & Velche, D. (1996). *Vécus et usages de la Gare de Lyon par des personnes handicapées*. Document ronéoté, CTNERHI. 147p. + Annexes 100 p.. This research study was carried out with the contributions of Pierre Poitou, Gisèle Lhermigny and Chantal Ajavon.

Subjects

A call for volunteers among members of specialised NGOs permit to constitute 5 groups of 6 persons according to their impairments:

- motor impairments (3 needs of wheelchair + 3 mobility disabilities) ; 3 males + 3 females
- visual impairments (2 blindness + 4 low vision) ; 2 males + 4 females
- auditory impairments (3 deafness + 3 low auditory capacity) ; 3 males + 3 females
- cognitive impairments (6 working capacity < 30%) ; 4 males + 2 females
- illiteracy (6 with unemployment) ; 3 males + 3 females.

The average age was 37 (with a minimum at 22 and a maximum at 64). 12 were working in ordinary setting, 9 in sheltered workshops, 3 were students, and 6 were unemployed.

All the volunteers have the level of autonomy high enough for allowing them to take public transports unaided and previously did it.

Tasks

The tasks proposed to the subjects were to carry out a series of 3 predetermined journeys between a point in the station to another point (almost the same for all of them⁶⁶):

- Journey 1: starting point on the platform of the metro line N°1 or the platform of RER A (for some persons, according to their provenance or the use of wheelchair), and a target point at the arriving platform of the train coming from *Marseille* at that time (the number can change) or the platform N°21 (difficult to find) if there is no train from *Marseille* listed on the arrivals screens;
- Journey 2: from the former target point to the bus stop 57 which was situated outside the station building in a street not visible from the exit doors of the station;
- Journey 3: from this bus stop to the departure platform of a suburb train (for *Grigny-centre*) with the order to get a train ticket from the ticket machine.

Only were predetermined the starting point and the target point. The volunteers had to walk freely from one to the other, choosing their route into the station building and its environment, changing from one floor to the other (The *Gare-de-Lyon* has many levels, in a complex volume, mainly situated underground).

Data collection

These courses were observed by a trained observer which had to record on a precoded form in order to precisely describe all the choices made by the traveller, his/her hesitations, his/her mistakes, the sources of information he/she takes, the sources of help he/she was seeking and obtaining. Of course the observer did not intervene at all.

⁶⁶ An adjustment of the course was made for wheelchair users concerning access to metro, because, in Paris, the metro is not accessible to wheelchairs users.

At the end of each journey the person had an interview with the observer in order to explain the choice he or she made during the journey and the difficulties met. These interviews were recorded.

1.5.3 Results for people with disabilities as a whole

The first results can be drawn for all persons with disabilities, disregarding the type of their impairments.

A need for an enlargement of the notion of accessibility

“Ramps are not enough” said some disability activists in USA. It became clear that the accessibility of public transports wasn’t only physical options, because access to information appeared determinant in the way people with disability achieved their journey. Such an observation was made for people with sensory or cognitive impairments, as well as people with motor impairments.

The achievement of the journey was determined by the possibility for the person with disability to find his or her way through the space of the station’s building. But the environment, with its comforting or stressful quality, played a fundamental role in the way the person and potential helpers could mobilise their energy to overcome the obstacles.

The notion of accessibility has to be enlarged. The others travellers are a very important source of solutions because their help can be determinant.

High failure rates and long time spent

Globally, the results in terms of performances showed low rates of success. Only 11.5% of the journeys were carried out without difficulties, while 18.4% ended in withdrawal. The other were success under conditions: success unaided but after roaming (23.0%); success after many recall of orders (3.5%); success with determining help (14.9%); success after roaming in spite of help (14.9%); success thanks to accompanying (13.8%). The average duration of the journeys was 19 minutes (from 6 to 58), differing according the N° of the course.

In average, more than 3 persons were solicited by journey, with a maximum of 16 person solicited in one journey. However, this help turned out to be determining only for 44.2% of the journeys (61.3% of the journeys with solicitation).

The use of the visual information was determining only in 20.9% of the journeys, and helping to some extent in 20.9% more cases. It was irregularly efficient in 26.7% and without effect in 9.3%. No reading capacity concerned 17.5% of the cases.

No correlation with the severity of impairments

The way people with disabilities performed in these tasks depended from the nature of their impairments:

- For people with motor impairment, 50% of the journeys were carried out with a determining help, only 11.1% without help. For 27.8% of journeys started, withdrawals were recorded.
- For people with visual impairments, 61.1% of the journeys were carried out thanks to accompanying, but some journeys (22.2%) were walked by members of this group with success after roaming.
- For people with auditory impairments, 33.3% of the journeys were carried out unaided after roaming, but the same percentage of withdrawals was observed.
- For people with cognitive disabilities, 46.7% of the journeys were carried out unaided after roaming. 20% of withdrawals were observed, but with the same percentage of success without any difficulties (the highest rate among the 5 groups).
- For people with illiteracy, 50.0% of the journeys were carried out with roaming in spite of help. Otherwise, 16.7% were performed without difficulties.

The average duration of journeys is different among groups, but this is not significant. The persons with performing faster are those with auditory impairments, the more slow are people with cognitive impairments.

There was no direct link between success and the severity of the impairments and the disabilities. For example, blind people succeed more easily than people with low vision, because they were more likely asking for help and receiving it; wheelchair users better succeeded than people walking with other mobility troubles (with canes or not).

Very few alternatives if a determining device is missing

Finally it was observed that if a necessary device (such as an escalator or a lift, as information on a screen, as a panel in direction chain, for example) was missing, there was rarely an alternative way to succeed in carrying out the journey without call for help, or using a great energy and a lot of time.

It seemed that space managers of the station didn't take in account the frequent breakdowns which occurred day after day in the different machineries and information producing system working inside the complex of *Gare-de-Lyon*.

Impossibility for “temporary not disabled” people to help others

The more important finding of this work was that, when people with disabilities were obliged to call for help, because information, a lift or a human help needed, were not provided by the transport authorities, there was no possibility for people “without” disability to help them, because the information is also missing for them.

A double-media provision of the elements necessary for carrying out a journey inside the station's space has to be secured if the transport authorities aim to reach the “accessibility for all” goal the new law decided.

1.5.4 Results for people with cognitive disabilities

Even if the group had a small size (only 6 persons), these observations were completing the findings of former research studies, in giving some clues about the specificity of the group of individuals with cognitive impairments among other people with disabilities.

With difficulties, but alone!

A very symbolic characteristic of the behaviour of the members of this group was that they wanted perform the task by themselves, without calling for help from other as far as the kept their calm. Their success occurred often after long roaming in a chaotic way and long time spent, but they were proud of doing it alone.

Rarely asking for help, when they did, they more likely solicited shopkeepers inside the station than transport companies' employees or other travellers. Perhaps it is because they fear authorities in employees and a rejection from the others consumers. They often had communication problems which didn't fit with the stress of other travellers. They only asked for directions, but not for accompanying.

Skills to be trained

Many times, the observers had to recall the orders (destination to reach). People with cognitive impairments presented some memory loss. But more generally they didn't have the 'direction for use' (*mode d'emploi*) of a complex system like a great multimodal station, and they would have to be informed before about where could be found the information.

The need of specific training was confirmed. But it was obvious that big gains could be drawn from training for enhancing the level of autonomy of many people with cognitive impairments.

Visual reassurance

They used visual clues, but in two opposite strategies.

Some of them tried to guess the direction according to the stream of travellers (once again the follower's complex), or to the form of space, referring to their own representation of how would appear the location of an information desk, a ticket machine, a stair, a lifts.... Sometimes, they had good guess, sometimes they get fooled by an inappropriate clue.

With an opposite strategy, other cognitively impaired travellers tended to focus on the information presented on the directional panels. In this case, there is a great risk that they get lost if the chain of information is broken.

Confirmation about unexpected fears

Some factors were disturbing many subjects with cognitive impairments: the noises which can interfere with announcement but also hamper other sensitive ways as

interferences; the unusual dimensions of space (too big, too long, too high...) which make people uneasy. The phobias can also be a side effect of cognitive impairment.

As already discovered, these persons tended to avoid the use of escalators or lifts. They showed a clear preference for stairs.

1.5.5 Conclusions

The results of this research study were optimistic because they showed the progress which can be made in order to make public transport more accessible. Taking into account the state of so bad performance of such a multimodal pole as Gare-de-Lyon, the way people with cognitive impairments succeeded despite so much obstacles, in reaching the targets, let think that many progress can also be made by them is thing change for a best in such environments like multimodal poles of transport connections.

1.6 Few references to cognitive disabilities in very recent official reports

As if nothing was studied about this issue, even the more recent reports present very few references to people with cognitive impairments.

1.6.1 Report Breton on security in moving for people with disabilities (2000)

The report of Eric Breton⁶⁷ tried to identify the different problems of moving for people with disabilities. The main subject of this report was the transportation of people with disabilities which were studying or working in special institutions. It studied especially special means of transportation, but not the individual moving of these people. The report also examines the share of the responsibilities for paying for transports as well of security issues. Physical disabilities are the main issue.

This report made a reference to the cognitive impairments in a historical chapter (p. 7). It says also that “the sector of transports could be a key factor of success - or failing – of the new policy of school/work integration (p. 51). It adds “It is important to know when the accompanying becomes essential (disabled young ; people with cognitive impairments...)”.

1.6.2 The TRANSDEV Report on accessibility

TRANSDEV is a transportation company which has operators in 63 conurbations and intercity lines in 42 *Départements*. It controls 72 urban transportation networks and 42 intercity networks in France but also in United Kingdom, Italy and Australia (1 billion travellers / year ; 3rd rank in France). As main operator, TRANSDEV decided to develop a global policy on accessibility. This policy is build on a partnership with local authorities and specialised NGOs. This group developed a strategy of accessibility for many networks, in purchasing accessible vehicles, providing accessibility devices

⁶⁷ Breton, E. (2000). *Sécurité des déplacements des personnes handicapées : premier bilan et perspectives*. Etude de la EURL BETECS (Jean-Louis Flahaut, Directeur), Bureau d'études de l'Association Nationale pour les Transports Educatifs de l'Enseignement Public (ANATEEP), pour le compte du Conseil National des Transports, mai 2000.

(like lift carts in many stations) or lift equipped vehicles, in training a large part of drivers to be able to help people with disabilities⁶⁸.

This organisation published a report on accessibility in 2003⁶⁹. In this report, TRANSDEV clearly listed people with cognitive disability (defined here by understanding, memory, spatial locating problems) among the target population of people with reduced mobility. However it is said that transport network can't adjust to all types of disabilities. Certain cases will only find solutions with specialised services, but special services can't replace the accessibility of a whole network.

The report stressed the importance of information for people with disabilities, including explicitly persons with cognitive impairments: "communication towards illiterate people or people with mental handicap is very difficult to conceive". In the signage, the operator refer to the pictogram S3A for people with cognitive impairments.

1.6.3 Report Thoumie on new technologies and disabilities (2004)

Among different approaches of the contributions of new technologies to the lives of people with disabilities, the report written by Philippe Thoumie⁷⁰ refer to people with cognitive impairments in two occasions only.

Some electronic devices come from cognitive rehabilitation. For example the report stresses the need for palliative technologies which would allow to compensate memory problems in every day life, like programmable "pagers" which need also preliminary training. According to the authors, some projects think about virtual reality as a tool for rehabilitation of cognitive troubles and problems of space perception.

2 MAPLE STATE OF ART SURVEY

The European initiative to examine the ways to enhance the autonomous travel capacities of people with cognitive impairments demands a systematic enquiry on the state of art in this issue. It was obvious for French researchers in the field to participate, even if such an enquiry could lead to a disappointing recording. The first result of the participation to this research study was a real revival of the interest in France for this relatively "old" issue.

2.1 Method

For practical reason (nobody trained for telephone interviews) this survey was carried out with a telephone call to explain the aim of the research, immediately followed by

⁶⁸ TRANSDEV (2003). *L'accessibilité : Un outil de développement de la mobilité. Synthèse*. TRANSDEV, Direction de la Qualité et des Services, Département Marketing Innovation, Novembre 2003, 3 p. .

⁶⁹ TRANSDEV (2003). *L'accessibilité mode d'emploi*. TRANSDEV, Direction de la Qualité et des Services, Département Marketing Innovation, Novembre 2003, 52 p. .

⁷⁰ Thoumie, P. (2004). *Recherche technologique et diffusion de l'innovation au service du handicap*. Rapport au ministre délégué Recherche et nouvelles technologies, et Secrétariat d'Etat aux personnes handicapées, Janvier 2004, p. 9 & 22.

the sending of an e-mail with an introductory message presenting MAPLE study and the questionnaire, which was attached. The return of the answer, or the transmission to other persons, were planned to be made as soon as possible.

The choice of the contacts was made by snowball process, from four different sources:

- contacts in one of the main transportation company (SNCF);
- contact with the French authority for the coordination of accessibility policies in public transportation;
- contacts with the service in charge of accessibility policy for the *Île-de-France* Region which includes *Paris*;
- contacts with the main national NGO for people with cognitive functioning impairments (*UNAPE*).

Some sent us a list of contacts, other gave us some names and telephone numbers, other spread themselves the questionnaires among their affiliated members.

At the end of the introductory message, it was proposed a direct telephone interview to all people who would rather proceed this way. Only two contacts asked for such a procedure.

2.1.1 Weakness of the method

In comparison with the telephone interview method, the weakness of the e-mail procedure used in France was that people weren't obliged to answer immediately. In fact many postponed the answer and too often forgot to give and send it. Even after a recall, too many did not respond on time.

For administrative reasons, it wasn't possible to start the survey before the summer holidays. In France that means no fruitful contact before September 1st. For many organisations it was too short for drawing the information we needed.

2.1.2 Some translation problems in the questionnaire of the survey and the retained solutions

The questionnaire designed by our Swedish colleagues Agneta Ståhl & Susanne Iwarsson had to be translated. A literal translation of the expression "cognitive impairments" by "*déficiences cognitives*" covers no common sense for people. In the French translation it was decided to use the more "ordinary" term which is used for naming people with cognitive impairments: "*les handicapés mentaux*" or "*les personnes ayant un handicap mental (ou des handicaps mentaux)*".

2.2 Organisations contacted for the survey

Using a snowball approach to gather contacts, it's difficult to claim for a representative sample of interviewees. Nevertheless, we tried to present a very diverse sample of organisations really involved or likely to be involved in this issue.

2.2.1 *Transportation companies*

- The national railway company (***Société Nationale du Chemin de Fer – SNCF***). This company operates as a quasi-monopoly for railway transportation at the national and international level. At the regional level, it shares transportation by rail (Suburban train and *RER* (high speed suburb train)) with *RATP*. The *SNCF* has published a booklet for disabled travellers (*Mémento du voyageur handicapé*) concerning the preparation for travelling. A free phone (*SNCF Accessibilité Service*) helps to gather all the information necessary to travel. Another measure taken by *SNCF* is the creation, as a partner with *RATP*, of a special service of accompanying for people with cognitive functional impairments: *Les compagnons du voyage* (see below). The regional level of *SNCF* (*Ile-de-France*) returned us a filled questionnaire [gtc_1].
- The main transportation company for Paris, the ***Régie Autonome des Transports Parisiens (RATP)*** controls almost all transportation means in the city : metro, bus, *RER* (high speed suburb train), tramway... This company has to adopt a new policy of accessibility. The majority of the measures taken by this company concerned people with motor or sensory impairments, although *RATP* was a partner in the first study on use of transportation by people with cognitive disabilities. *RATP* presents on its web site a guide for the traveller (*Guide du savoir voyager*) with a chapter on accessibility. This chapter presents an inventory of the situation for the railway, metro, *RER* and buses, as well as a list of the technical aids and services. One of the services was the special service, shared with *SNCF* of accompanying for people with cognitive functional impairments: *Les compagnons du voyage* (see below). A questionnaire was returned very late [gtc_2].
- ***TRANSDEV*** is a transportation company which has operators in 63 conurbations and intercity lines in 42 *Départements*. It controls 72 urban transportation networks and 42 intercity networks in France but also in United Kingdom, Italy and Australia (1 billion travellers / year ; 3rd rank in France). *TRANSDEV* published a report on disability in 2003 (see §1.6.2. above). A questionnaire was returned dully filled [p]. Some contacts with affiliated local companies were given.
- ***TCAR-Connex*** is a small transport company for *Rouen* (*Seine Maritime*; North-west of France) and 37 municipalities around the city. This company has a special service for people with “reduced mobility” which provides three types of help: reduced tariffs for bus and metro (2 lines metro and 35 bus lines, 3 coach lines); taxis (8 lines of collective taxis) for people with collapsible wheelchair; accessible lift-equipped minibuses. This company obviously watchful towards people with mobility impairment, accepted to answer to the survey [k].

2.2.2 *Special services for disabled people*

- As said above, *RATP* and *SNCF* created for Paris in 1993 a special service to accompany people with disabilities, and, among them many persons with cognitive functioning impairments: ***Les compagnons du voyage***. This service

is designed for helping people who want to use public transportation and not taxis or special transportation companies, but can't take them alone unaided whatever is the origin of their difficulties (young or old age, walking difficulties, seeing or hearing problems, cognitive impairments, psychological troubles or phobias...). It is not a free service but can adjust to the need: individual assistance, group guidance, in situ (big stations for example) or from door to door. This service covers only the *Ile-de-France* area, mostly inner city area of *Paris*, and has a special involvement in securing departure or arrival in the seven main train stations (for and from other regions of France or other countries). The original feature of this service is also to be used as an integration program for people with social difficulties. The new members of the staff attend a 4 week training session during which they receive awareness about citizenship and individual liberty, the laws, information on the transportation network (*SNCF, RATP*) as well on the topography of the stations and their environment, skills about the functioning of the ticket selling automats, the modality of travel information and security procedures. This training is completed by information on disability and on the consequence of some specific impairments or diseases as low vision, bad hearing or epilepsy, and how to behave in some circumstance or to cope with abnormal behaviours. Some staff are trained in French sign language. The *compagnons* have a staff of 400 members, among them about 120 are involved in accompanying. About 70 disabled children, among them 30 with cognitive functioning impairments, are accompanied from home to special or ordinary schools every morning, and back from school to home every evening. Some adults attending sheltered workshops are also clients of this service. During the day, they can be called by individuals for round trips concerning shopping or leisure, or by institution in order to go to some therapy appointments and come back. Every month, 150 to 250 persons are led to their long distance train or taken from it. (<http://www.compagnons.com>). **No response to the questionnaire**, but a long exchange by telephon.

- Historically speaking, ***the Groupement pour l'insertion des personnes handicapées physiques (GIHP)*** was one of the first in France to organise specialised transportation. It was created in 1964 and organised the first service in 1966. In 2000, the GIHP created an affiliated company for transportation: ***SYNERGIHP***. This company has many subsidiary companies in different parts of France (11 Régions + 11 Départements + 5 cities) which provide transportation services to people with reduced mobility. They offer transportation with individually adapted vehicles and trained drivers, telephone reception for reservations and other means of information, and consumer's satisfaction awareness. *SYNERGIHP* operates also as a technical expert for accessibility of vehicles to the municipalities and their local transportation companies. Because it was, from the beginning, devoted to people with physical disabilities, the responses to the demand for participating in our survey was: "**not affected by this problem**. Driving only people in wheelchairs". (<http://www.gihpnational.org>).
- The small company ***Transport des Hanges*** which is located in the far South suburb of *Paris (Maurepas ; Yvelines)* is specialised in transportation for people with "reduced mobility" (i.e. wheelchair users, people with walking

disability, elderly people...). This company has 3 minibuses and 2 monospace cars which are accessible to wheelchair users. Its main fares concern persons with physical impairments, but it works also with clients with cognitive functional impairments, including persons with Alzheimer disease. In this case, the clients are children attending to special schools, workers of sheltered workshops, and some persons with severe multiple disabilities. The contact in this company **accepted an interview by telephone** [u] and gave us new contacts.

- **OPTIBUS** is a public transport service which responds to reservation calls of people with reduced mobility in the conurbation of Lyon. Its service area is the same than the TCL (61 Municipalities around Lyon). This service is devoted to people with a motor impairment using a wheelchair, blind people, people with visual or motor impairment which is assessed by a doctor as preventing the use of public transportation. This services **refused to answer the questionnaire** because, according to the contact, its services do not concern people with cognitive functioning impairment.
- **HANDITAN** is a special door-to-door on demand transport service which is a part of **SEMITAN**, the transportation company for the whole conurbation around *Nantes* (24 municipalities). This service operates on telephone reservation (between 8:15 and 16:00 ; before 12:00 Friday for the weekend). It proposes adapted vehicles, but the users pay with the same tickets than for **SEMITAN**, and connexions with the bus and tram lines of **SEMITAN** are possible if the person is autonomous enough. This service is provided only to the persons with a 80% incapacity rate. A person accompanying this disabled person has the right of a free ride, if he or she helps the disabled person outside of the vehicle before and after the travel. When the person is not autonomous, including persons with cognitive impairments, the presence of an accompanying person is compulsory. **HANDITAN returned a filled questionnaire** [a].
- **PAM/KEOLIS (Paris Accompagnement Mobilité)** is a specialised transport company in Paris and its suburbs, which serves about 10 000 trip a month for people with disability cards, as well as for individual round-trips home-work for disabled people (mostly with cognitive impairments) working in sheltered workshops (*CAT*)⁷¹. PAM is a member of the international KEOLIS group (28.500 employees), which has worked for more than a century in certain cities, guaranteeing the smooth operating and management of their public transport services. **This company returned a questionnaire** [t].

2.2.3 Consortium and syndicate of transportation companies

- The **Union des Transports Publics (UTP)** is a professional syndicate of companies of urban transportation. **This organisation returned a filled questionnaire** [n].

⁷¹ Lambert, S. (2004). *Edito*. PAM , n°1, 20 février 2004.

- The **Syndicat des transports d'Ile-de-France (STIF)**, is an organisation set up by a consortium of the very numerous and powerful transportation companies of the big area (*Région Ile-de-France*) around *Paris*. Among its services, one is devoted to the implementation of the accessibility policy. The *STIF* has an information web site (**Infomobi**) which allows the disabled people to find what he or she needs for travelling according to four types of disability: travellers with wheelchair; travellers with visual impairment; travellers with hearing impairment; travellers with mental disability. For this last group, two options are presented: preparation for moving; accompanying. The preparation for moving page gives different contacts with transportation companies (web sites, telephone or *Minitel*). The accompanying page refers to *Les compagnons du voyage* (see below). The *STIF* **returned a filled questionnaire** [q]. This authority gave us a lot of contact addresses.
- The consortium **REUNIR les PME du transport de voyageur**, is a group of 150 independent coach companies located in 52 *départements* (18 *Régions*), gathering about 4200 vehicles. This consortium **refused to answer the survey**, writing these apologies: *"I bring you some facts, unfortunately not very attractive [f]. Because our transportation market is mainly school transportation or interurban lines in the country side, we don't operate in the field of transportation for people with reduced mobility, including people with mental deficiency, and our vehicles are not adapted to them. The companies' culture isn't thoughtful to taking the disability in account."*

2.2.4 National or regional public transport agencies

- The **Comité de liaison pour l'accessibilité des transports et du cadre bâti (COLIAC)**, is a multi-partnership organisation, which is composed with deputies, representative from the local authorities, representative from the Disability NGOs, Professionals and companies of transportation, of town planning, of building and of tourism, representative from the Trade Unions, services of the central administration, ministry of equipment, transports and housing. It replaced the *COLITRAH* (see above) and has larger competence, including now buildings (working, living and leisure places) and streets in addition to transportation means. Its aims are identifying and removing barriers which prevent people with disability, but also all citizens from accessing to all locations of the everyday life. It only has an advisory function and recommends some measures or implementation programs to apply in order to increase the level of accessibility in France. We discussed by telephone.
- The **Délégation ministérielle à l'accessibilité** is the authority within the Ministry responsible for Transportation (*Ministère de l'équipement*) which tries to coordinate the implementation of the national accessibility policy. This authority works in direct connexion with the transportation companies and their syndicates, with the local authorities organising transport in their area with diverse operators, as well as with the most representative NGOs of/for people with disabilities. **The answers given to the questionnaire** [c] are generalities because the *Délégation* has to gather and coordinate the policies of local

authorities and the actions of the transport companies. This authority gave us a lot of contact addresses.

2.2.5 Transportation boards within local authorities

- The conurbation around **Rouen** (*Agglomération rouennaise; Seine Maritime*; North-west of France) has a service with controls the implementation of the transport policy by the transport companies and especially *TCAR-Connex* (see above). The person in charge of this service **sent a response to the questionnaire** [j]
- The **city of Reims** and its conurbation (*Communauté d'Agglomération de Reims - CAR*) has two operators for its transportation network: The *Transports Urbains de Reims (TUR)* which is affiliated to the *KEOLIS* group, and a company affiliated to the *GIPH* for specialised transportation. The *GIPH* rent some accessible vehicles and helps to adapt the other vehicles. The *TUR* proposes a special card “carte diamante” which is a free pass for people with 80% to 100% invalidity rate, recognised blind people or war injured people with a 75% to 100% rate. The *CAR* **gave some responses to the questionnaire survey** [g].
- The **SYTRAL** (*syndicat mixte des transports pour le Rhône et l'agglomération lyonnaise*) is (since 1985) the authority in charge of organising the public transportation for the conurbation of **Lyon** and the *Département of Rhône*. Its board of directors is composed with 4 elected representatives from the *Lyon Municipality* and 4 elected representatives from the *Département du Rhône*. This authority mandates 2 transportation companies, the *Société lyonnaise des transports en commun (SLTC)* which operates the regular transportation network *TCL* and the *Interhône-Alpes* company which operates the *OPTIBUS* network reserved to people with “reduced mobility”. Although it was written on the web site of *SYTRAL*, under the chapter “Accessibility”, referring to the Plan of urban mobility and to the law, “Accessibility ... to public or private transportation allows their non-dependent use by every person which from time to time, experiences some discomfort due to a permanent disability (sensory, motor or cognitive impairment, ageing), temporary health condition (pregnancy, accident injury...), or exogenous circumstances (Toddlers, baby carriage...)”, the person contacted for the survey, wrote the following answer: “We don't have any specific services for people with mental disability, but only for people with physical disabilities.” But she **sent back a questionnaire dully filled** [o], with some other addresses.
- The **city of Valence** (*Drôme*; South-East of France) has a person in charge of Urban mobility. **This person return back a questionnaire dully filled** [l].
- The **Communauté Urbaine de Marseille Provence Métropole** groups 18 communes for more than 1 million inhabitants, around de city of *Marseille* (*Bouches-du-Rhône*, South of France). This local authority **returned a filled questionnaire** [b].

2.2.6 Non governmental organisations of/for people with disabilities

- The most important organisation of families of people with cognitive functional impairments (The term “handicapé mental” is still used in France) **Union Nationale des Associations de Parents et Amis de Personnes handicapées mentales (UNAPEI)** gave us a formal support for this research. It's a nation wide organisation which is the representative one for this population in front of the government. This NGO was involved since 1984, in a research studies on the use of public transportation by people with cognitive functional impairments. As a consequence of such an involvement, this organisation has managed many training sessions on use of public transportation of people with cognitive functional impairments for the staff of special schools and sheltered workshops controlled by its affiliated local organisations. **UNAPEI gave a response to our questionnaire [m]**. But this organisation also spread the questionnaire among 24 of its affiliated local organisations. **Some returned the questionnaire**.
- An institutional complex, gathering in one place located in the far suburbs of *Paris*, special schools, training centres for disabled, sheltered workshops and housing facilities for adults with cognitive functional impairments, the **Centre de la Gabrielle** managed by a mutual benefit insurance system (**Mutualité française publique**), gave us some information on a specific training program on use of public transportation. This program concerns adolescents attending a special school (*Institut médico-éducatif – IME*). This program is affected by the motivation of the young people, and structured into 4 steps: (1) a theoretical study of a simple round-trip from the IME and the shopping mall of the village (direct line bus, short length); (2) the exercise of this round-trip as many times as necessary for the young person to guide his/her teacher along the way; (3) the exercise of the bus round-trip by the young person alone, with a teacher following him or her in order to check his or her autonomy. Other more complex journeys are also exercised with a step by step method; (4) the young person does different journeys alone with a mobile phone or a telephone card which allows a remote control by the teacher. Each year, ten to twenty young people are learning the use of public transportation. **This organisation sent us a response to the questionnaire [i]**.

2.2.7 Training centres

- The training institute **IFFoPS**, was created in 1997 by a director of a company of specialised transportation (*AIHROP*). Its aim is to train “specialised” drivers (a potential clientele of 7000 drivers), and now it serves for many other companies specialised in transportation of people with every types of disabilities, and especially physical disabilities. The training program is relatively long: about 400 hours in the centre plus 140 hours in a transport company. This includes information on diverse types of disabilities, among them intellectual and mental impairments at different level, behavioural or situational problems. In a note *IFFoPS* affirms that the terms “*Disabled or with reduced mobility*” which define its fares includes “mental disability (light, mild, severe, with or without associated disability)”, among physical disabilities,

sensorial disabilities, and ageing. This training centre **sent us a response to the questionnaire** [r].

2.2.8 Others

- A research centre of the ministry in charge of transportation (Ministère de l'équipement), the **CETE Méditerranée** was contacted as member of a task force on accessibility. The response was: **this questionnaire doesn't concern us directly** [e].

2.3 Results

The results of the survey will concern :

- definitions of disabilities;
- actual use of public transports by people with cognitive impairments;
- special measures for persons with cognitive impairments, adopted or planned;
- training programmes for people with or without cognitive impairments;
- specific measures or devices for those travellers.

They will show some interest for the question and some interesting practices.

2.3.1 Interviewees' definitions of cognitive functional impairment

Disregarding the translation problems we met with the terms to be use in the questions of this survey and the solutions adopted (see above), it appears that the composition of the MAPLE target population is very diverse in the mind of interviewees.

In order to give some clues to the persons we contacted, the introductory message set some directions:

"It was decided (for this study) that no *a priori* definition of "*handicap mental*" will be given, the definition having to gather:

- (1) "*déficience intellectuelle*" (intellectual impairment), as it appears in social-medical institutions but also, as borderline, among people living, studying or working in open milieu with support;
- (2) specific cognitive problems (dysphasia, dyslexia, disorientation...)
- (3) psychic troubles more or less significant, having or not led to an hospitalisation.

Definition from the perspective of impairment

Only two of the answerers explicitly referred to this definitions and didn't go further [I]

One person [b] copies its answer on the same model: "two types of mental disabilities:

- intellectual impairment (feeble minded)
- psychic impairment (disorientation into space).

Another [p] gave a short list: “mental deficiencies, disorientation, autism...”. One [n] reduced this population to “essentially mentally impaired”.

Two groups gave more complete answers.

- some gave a social-functioning based definition,
- others a travel performance and special need perspective.
- some participated in both groups.

One person [a] said that “it’s not our professional business to define them”.

Five questionnaires [e; f; h; o; n] were without information under the question.

Definitions from the perspective of cognitive functioning

For this group, the population is mixed and presents a complex profile.

For example:

“Mental disability is very diverse and various. Its range goes from the single cognitive impairment to more severe cases.” [c]

“Mental handicaps are linked to a lowering of cognitive functions concerning comprehension, memory, decision making, spatial and time representation, reading and writing, and so on. The groups of persons with this type of mental disabilities are people with Down Syndrome, Autistic persons, intellectual impaired persons, but also people with psychic illness (schizophrenic...)”[gtc_2]

“Young intellectually impaired with associated troubles: psychomotor difficulties; language pathology, misfit behaviour...” [i]

“No simple definition: persons suffering from intellectual impairments, psychic troubles, but in all cases, the measures taken for disabled people are also useful for illiterate persons, elderly people and children travelling with public transports.” [j; k]

“Our definition of mental disability is the following: it is a reduction, more or less important of the thought, conceptualisation, communication and decision capacities, which can be compensated by a human accompanying, adapted to the severity of the person’s health condition, which is permanent and can evolve.” [m]

“The target for this service are people with difficulties in understanding written messages and maps, with orientation difficulties and who feel unrest as soon as the routine is broken.” [q]

Definition from moving practice and special needs

Other contacts decided to define the MAPLE target group on the basis of the moving performances and according to the type of help people would need in order to improve them.

They refer to their actual clients: *“Concerning transportation, these persons can not move on their own. This implies a specific accompanying. The cause is the intellectual capacity. More generally speaking, it is for each person which needs assistance for intellectual motive. This concerns mostly adults (children under 7 are excluded, and people with deteriorated brain are included).”[t].*

Another said: *“Young people driven towards sheltered workshops... I don’t know... A disability not too severe which permits a minimum of autonomy, but also children with*

multiplied severe disabilities as well as elderly people with Alzheimer disease, and autism. From 5 to 90 years”.

More : *“We see it from the perspective of moving difficulties in a complex universe like the connections ... notably in case of disruption.”* [gtc_1]

Or : *“Some times (for example, in case of Down Syndrome) it permits an autonomous use of transportation under certain conditions of training. The more important problem that meet mentally disabled people who are autonomous in their mobility are the unexpected running incidents which modify their daily journey and get their landmarks lost. Transportation systems also pose problems of use for agoraphobics as well as claustrophobics.”* [c]

But : *“Some mental disability can lead to mobility problems, but not systematically.”* [g]

2.3.2 Actual using of transportation by people with cognitive functioning impairment

Once again, all these contacts did not have the same view about the actual access of MAPLE target population to public transportation.

Optimistic positions

Some contacts gave very assertive answers which seemed to indicate that the situation is not so bad.

“Yes, and they are more and more numerous: 25% of our (specially adapted) moving are for people with intellectual impairments” [a]

“Yes, about 30%. The demand comes from the Municipality of Paris, the Région Ile-de-France, and the STIF.” [t]

“Yes, (specific) transportation for special schools, sheltered workshops and care home for people with Alzheimer disease.” [u]

A lack of data on the issue

Others are not so sure of their approach of the problem, because they have no concrete clue in the issue.

“Today, no evaluation was carried out. The investments in that question are to recents.” [l]

“Surely, but we have no statistics on that.” [n]

“Yes, but they are not listed” [gtc_1]

Some difficulties to make the idea accepted

“The taking into account of people with mental disability by the management executives responsible for accessibility of public transportation means for the local authority is less and less easy to defend at that time.” [b]

Nothing specific: regular lines or specialised transportation created for meeting other needs

A more numerous group said that people with cognitive functioning impairments can use public transportation, but only in two ways: to be able to take regular lines without any help or to be served by specialised transportation companies or services, generally provided to meet the needs of people with reduced mobility or sensory difficulties.

“People with mental disability travel with public transports using services provided to all consumers. They travel whether accompanied or by their own, according to their disability.”[c]

“Young people make their home / special school round trip with taxis. But if they are able to do it, some can use public transportation after having received a special training.” [i]

“People with mental disability who attend vocational training centres are taking public transportation network every day.” [j; k]

“People with mental disability use public transportation, some times with the help of a human accompanying (expensive for the families) or specialised transportation (expensive in France).”[m]

“Round trips for sheltered workshops are the more frequent case, whether with regular lines or with specialised services. Here raise the question of the limits between public and private transportation.” [p]

Access under precise conditions only

For others, an access to the specialised transportation services can only be given under precise conditions.

“For the specialised services provided by the local authority, the only criterion is being recognized by the special committee (COTOREP) as having at least an incapacity rate of 80%. Moreover, the applicants have to present a medical certificate. Concerning elderly people, a special assessment AGGIR, gives some information on their autonomy level.” [g]

“Many persons don’t need specialised vehicles, but could be accompanied in ordinary transports” [t]

The help of a specific service

A solution was proposed for Paris.

“Mentally disabled persons who want travel on the regional network of Ile-de-France, do it with the help of the association “Les compagnons du voyage” completely exogenous to the STIF and is not paid by it.” [q]

Abstentions

Some contacts did not answer [e; f; h; o; i]

2.3.3 Special measures for people with cognitive impairments

Other investigation than the survey itself shown that there is very few measures which can be attributed to the persons with cognitive impairments only. But some practices can be analysed as steps on the way of making the situation more favourable.

Accompanying measures

Easy to organise, but perhaps a little bit expansive, the measure of accompanying persons seems to be one of the future. It was the main solution chosen by *RATP* and *SNCF* in *Paris*. (see “*Les compagnons du voyage*”).

Other cities adopted the same measure. *Nantes* for example for specialised transportation services: “*If the autonomy level isn’t high enough, people has to be accompanied (the persons who accompany got free fare).*” [a]

For some contacts it is the only measure they know: “*Only accompanying some times*”. [p]

Better information

Another group of contacts sees a part of the solution in a better information. It was clear in a research study carried out on *Gare de Lyon*, in *Paris*⁷², that the lack of adapted information was the source of many of the difficulties encountered by travellers with different types of impairments. For a part, this improvement of information can be done by an effort to make information more clear and useful to all travellers, people with disabilities included.

“*No, the measures taken are for all public (no specificity): accessibility for all categories of travellers and more comfort for all travellers. Thus the measures planned as vocal announcement of the next stop can help people having orientation difficulties, as would do the use of a code describing the stops served by a train (code mission).*” [gtc_1]

“*We try to better welcome (these people), notably on the counters and the information points, the signposting, and all the provisions helping orientation, and to facilitate the organisation of accompanying programs by transportation operators.*” [m]

... but also exclusively for people with disability

“*In a booklet on accessibility, people with a cognitive disability are included among people with reduced mobility.*” [b]

But it can be done with a solution to the illiteracy of many of people with cognitive functioning impairments, the use of pictograms (see below). Pictogram can first of all become a sign for people in difficult situation.

“*A new standardised pictogram S3A (welcome, accompanying, accessibility) has been designed. It shows to the disoriented persons the places where they would be welcomed on an appropriate manner, well informed, and reoriented by well trained staff. Some transportation companies think about stating information counters of this type.*” [c]

⁷² Sanchez, J., & Velche, D. (1996). *Vécus et usages de la Gare de Lyon par des personnes handicapées*. Document ronéoté, CTNERHI. 147p. + Annexes 100 p.

Training for people with cognitive functioning impairments

For a reason I cannot identify, one of the main obvious way to improve the moving capacity of people with cognitive functioning impairments, their training in taking public transports, almost disappears in this survey. Only one contact (special institution) made a reference to this possibility: *“Learning of moving skills with public transportation is only one of many acts of socialisation which are developed in the special institution for each young people. It takes its place into a comprehensive program of development.”* [i]

Transport companies’ staff training

In spite of several attempts to obtain information on the training programs of large companies like *RATP* and *SNCF*, nothing gives us the probe that cognitive impairments and its consequences on moving capacities were included in such programs. Our opinion is that this question had been neglected.

But other companies did include this issue into their training sessions:

“Some transportation companies took general measures like staff training and/or human assistance”. [c]

“Not at a large scale, only one case. Information was given to the drivers. It was for a (disabled) woman which compulsively beat the other travellers, including the drivers. They should be warned about that.” [t]

Lost person’s research procedure

One of the more interesting measures taken in France for a group which has orientation problems could be a lost person’s research procedure:

“One initiative of RATP concerns not only people with cognitive functioning impairments, but also children. When such a person get lost on the RATP network (metro, buses, RER), as soon as the RATP employee of the station knows the situation, he/she contacts the centre gathering the information and the means of communication (pôle ligne). A general call is made on the whole line (so all employees are informed) and then to all lines. This procedure allows a frequent and quick finding of lost people”. [c] Note that the person responsible for the implementation of a disability policy within the *RATP* did not mention this measure when we met him.

Better design for transport environment

Other contacts insist on the need of given a better shape to the transportation environment:

“No specific measure, but a reinforced vigilance in fitting out the lines of the local transportation company or the bus stops, especially in front of the training centre for mentally disabled people, and also in the building of platforms or in making visible enough the pedestrian crossing.” [j; k]

“No specific measures. Some discussions are planned in order to design specially adapted routes.” (use of pictograms). [q]

No special measure

Many contacts said that as far as they can know, there is no specific measure taken for that issue [g; l]... even when using specialised services: “*They should be autonomous. People with Alzheimer disease, for example, are accepted only at the beginning of their troubles.*” [u]

No data

One contact remarks a real lack of data on this issue: “*We have no information on what is occurring locally concerning this issue. As I can know, there is no survey and no data collection about it.*” [n]

Abstention

No response: [e; f; h; o; r]

2.3.4 Specific measures at stake in the future?

Even if many interviewees recognise that the issue is of interest, there is little translation into acts of such opinions.

Very light clues of such a perspective

A first group refers to some decisions taken by their organisation. A regional transport authority planned to design some adapted routes which would be managed by transport companies themselves [q]. A special transport company planned the possibility to add an accompanying service in the case of such a special public [t]. For another special transport company, the measure planned is a specific training for its drivers about how coping with such travellers [u].

Nothing clear is planned by SNCF, which only refers to a procedure to follow in the case of new objectives: “*The developments are presented to a task force composed by financing and administrative supervision boards as well by NGOs duly representing all categories of people with disabilities, including those with cognitive impairments*” [gtc_1].

Incentive to take regular transportation means

For a specialised transport service the solution for this population is in regular transportation means: “*We try to incite people to go on the (regular) bus/train network*” [a].

It is not the problem

For an interviewee from a local authority, the real problem doesn't lay in the nature of the impairment: “*It seems that the 'level of disability', more than the specificity of mental disability will determine access whether to the regular network or to specialised services*” [i].

A same position is presented by a transport company: *“Presently, the OPTIBUS (specialised) service is already saturated, and at a relatively short term, it wouldn’t be specific responses to these persons. However, they can access to the regular network.”* [o].

A national transport authority commented the issue in the following way: *“At the level of the Union of Public Transport (UTP), the accessibility issue is conceptualised as a whole (no specificity).”* [n]

It is not planned

For a local authority and its transport company, *“a comprehensive assessment on the actual accessibility of public transportation network is in progress, but without specificity of cognitive impairments.”* [j & k].

It is not really efficient

For the main national NGOs, there is no reason to be satisfied with the situation: *“All these projects are in progress. Advances in that direction come at low speed for people with cognitive impairments. The legal texts about accessibility do not take this disability in account, and this doesn’t help us.”* [m].

Difficulties to find partners

But, facing this opinion, some operators remark a lack of involvement of corresponding local NGOs: *“Today, it is difficult to find serious negotiation partners on this issue. If people with physical disabilities are organised in local associations with some power, people with cognitive impairments are less well represented and do not overcome a simple sum of individualities, and this situation makes difficult a good comprehensive estimation and a consensus.”*[p].

Abstentions

Many didn’t reply. [b; c; e; f; g; h; l; r].

2.3.5 Training programs

The training of the staff to welcome people with cognitive impairments is a determining element of a voluntary policy, whether the company have regular transport services or specialised services.

Effective training in regular transport companies

For the authority in charge of coordinating the national policy, *“all the big transport companies (RATP, SNCF, Air France...) have designed staff training programs about welcoming and taking responsibility of people with disability, whatever disability it is. The video movies created by SNCF and Air France for the training of the staff concerns the needs of the diverse categories of people with disabilities received the awards for the best company film.”* [c].

For the national NGO: *“Such programs are in progress for more important operators”* [m]. But nothing is real clear on their contents: *“Such programs exist, but we have no more precise data on the topics tackled in them.”* [n]

More often there is no real involvement towards cognitive impairments: *“Two staff from the transportation service for people with reduced mobility of TCAR (a local transport company) go every 2 years to perfect their knowledge about gestures and postures in a Rehabilitation Centre. This program concerns only physical disability and not cognitive impairments.”* [j & k].

“Only evoked in the training sessions of the drivers, but not in depth”[p].

“See operators”[q].

“Yes” [u].

Effective training in specialised transport companies

The comments are more precise from specialised transport companies: *“Yes. Our Training institute was created 7 years ago, by the Director of Specialised transportation company (AIRHOP). The vocation of this training centre is to train people as “specialised drivers” for specialised transportation companies.”* [r], and *“For drivers: training on gesture and postures, plus information from professionals working with cognitive impairments.”*[a]. Or: *“The issue (mental disability) is some times evocated during the drivers’ training sessions, but not treated in depth.”*[p].

“Yes. Our training institute was created, more than 7 years ago by the director of a special transport company (AIHROP) in order to offer a quality service to consumers. The mission of our institute is to train the qualified staff to the profession of “specialised driver” for specialised transport companies.”[r].

“Yes” [gtc_1]. *“Yes, according to the cases”* [t]

“No” [u].

Nothing related about training

“I don’t know” [o]; *“See operators”* [q]

No responses [b; e; f; h; l]

A firm NO [g]

2.3.6 Specific programs for people with cognitive disabilities

The training programs can also concern staffs of specialised institutions for enable the special teachers to train people with disability to take public transports, and people with disability themselves.

Training for staff of specialised institutions

For a special institution, such a training is a determining element in a policy towards autonomy of persons with cognitive impairments: *“Some training programs are developed for the educative staff in order to improve the quality of taking in charge and access to autonomy by adolescents.”*[i].

Training of people with cognitive disabilities

RATP and SNCF formed a partnership in creating the service “*Les compagnons du voyage*” which offers accompanying of people with disabilities (excluding wheelchair users) on the regional Île-de-France transport network. “*This accompanying has a training value for daily round-trips and many clients of this service, notably people with cognitive impairments, can consequently move unaided.*” [c].

“*It is a lead for thinking for the STIF, which is not doing such thing itself*” [q]

“*This training is carried out directly in the institution*”[m].

Other interviewees are more negative: “*Not by the local authority. See NGOs or specialised training centres*”[j & k]. “*Not in our company*”[o]. “*Not as far as I know*”[p]. “*Not, as far as I can know, by SNCF staff, but an association as “Les compagnons du voyage” has as a goal to help travellers with disabilities in their moving. It can thus help people with cognitive impairments to learn a route.*” [gtc_1]. “*No. But it could be useful and it would be proper to find the centre which could carry out the training sessions.*” [t]. No [u].

Don't know: [n].

Information for people with cognitive disability

“*Information given to all travellers uses all types of media (paper, telephone, web-sites, minitel...). Specific information for people with disabilities indicates accessibility in transport system, the services provided, and the procedure to follow to benefit from them. There is no specific information for people with cognitive impairments*”[c].

“*In the institution, the adolescents and young adults can use different tools in order to get information. A computer is provided in free disposal in order to let them have access to internet unaided or with the support of a teacher. They can be informed on schedules and routes in RATP and SNCF web-sites. In each building of the institution bus and train schedules and routes are at disposal on demand with the teachers. A computerized welcome book, in free access, informs on all public transport routes around the institution*”[i].

“*This information is also given in the institution (in workshops on autonomy and preparation for social life)*”[m].

“*Almost all big transportation networks have a service on-line with a computerized route calculator.*”[n].

“*See operators. It is a lead for thinking for the STIF, which is not doing such thing itself*” [q]

Other had negative responses : “*No, as far as I know*”[p] ; “*NO*”[j; k; o; t; u] ; No response [gtc_1].

Nothing about this topic

NO: [g]

No response: [b; e; f; h; l; r]

2.3.7 Specific measures in the services

Different types of measures specially designed for people with cognitive impairments can be recorded.

Specialised transport services

“Specialised services are organised either by responsible authorities or by NGOs in many French cities. Conditions for benefit from these services differ according to the type of cases and persons with cognitive impairments can or not entitle for them.

Specific transports are organised by specialised institutions for people with cognitive impairments. These services transport only people attending to these institutions.” [c]

“Yes, transport service on call, in door-to-door form, with reservation which functions every day (1st of May included), from 6.30 am to 12.30 pm.” [g]

“For all young people who can not use public transports because their age or their specific difficulties, a transportation service is provided by collective taxis by sectors.”[i].

“It exist a service for people with reduced mobility. Access to this service depends on the examination by a medical committee (not specific to cognitive impairments)”[j & k].

“Special services concerns people with a recognition by COTOREP (Disability special committee)”[n].

“The Conseil Général du Rhône (local authority at the Département level) provides the transport for disabled children going to school”[o].

“Some networks open their specialised services to people with cognitive impairments. It depends on criteria which are often limited to people with motor disabilities”[p].

“Yes, the STIF grants associations or specialised transport centres (PAM in Paris) open to people with cognitive impairments”[q].

“... as for other categories of disabled travellers, (these services are) organised by the Départements.”[gtc_1]

“Yes” [t; u]

No meaning: response of specialised service: [a]

No response: [b; e; f; h; l; m; r]

Action plans for staff in emergency situations.

“See staff training” [c]

“A protocol and a procedure permit to help a young which has difficulties during the training for the use of public transports.”[i].

“See the transport company” (k)[j].

“Made by RATP in Paris”[m].

“This approach exists but not only for people with disabilities”[n].

“See operators”[q].

“Our training institute doesn’t provide guiding book on the behaviour to be adopted by the staff in order to manage crisis, but this issue is often got on during the lecture on psychological and social communication”[r].

“In the training programs which are followed by the staff, some documents define the appropriate behaviours. Such information is also presented in the documents of the company.” [t].

The negative : No: [a; b; g; k] ; *“Not as far as I know”[p]. “No, but some meeting occurred with the staff in order to allow these people to explain the problems met by them.” [u]*

No response: [e; f; h; l; o; gtc_1]

Bus stop announcement on board buses, trams, and trains

- In trams: [a; j; k].
- In buses: “partially”[m].

“According the last survey, this type of service exists in 14 networks and equips 3272 vehicles (among 16000 vehicles)”[n].

“The announcement system is developed on all networks. It is almost systematic on all new networks”. [c]

“The vocal announcement is more and more often installed now, but not used”[p].

“Yes, the equipments are financed by STIF and the Région Île-de-France and progressively spread out”[q].

“After a satisfying experimentation, vocal announcement and visual marking of stations in the Transiliens trains (name of the suburbs trains of Île-de-France) is in the process of being generalized. They will be provided on new trains (December 2004 for Saint-Germain – Noisy) as well as on future Train-trams.”[gtc_1].

“Yes” [g; o]

No response: [b; e; f; h; i; l; r]. No [t ; u]

Real time information for departure at bus stops

- For trams: [a; j; k]
- For buses: [j; k] ; “not often”[m].
- For connection points: [a]

These systems are in a developing way. [c]

“18 on-line information posts are put in the transportation network.”[g]

“The most part of the transport networks have such a service of information in real time, either by computer posts in stops, or via cell phone”[n].

“Yes, on 500 of the 3500 stops of the network”[o].

“In Nantes, information on-line of the coming of the vehicle via cell phones (Wap and e-mode). For trams (Nantes, Grenoble, Montpellier, Strasbourg, Orléans): actual waiting delay. For buses: link to SAIEV.” [p].

“Yes, the equipments are financed by STIF and the Région Île-de-France and progressively spread out”[q].

“Once again, after a satisfying experimentation, immediate information through screens installed in the stations and on all platforms in order to announce directly in real time the next departure of Transiliens trains is in the process of being generalised.” [gtc_1]

No response: [b; e; f; h; i; l; r]. No [t; u]

Personal assistance on board vehicles

“As far as the capacity of the service allows it”[n].

“In some specialised services”[p].

“Yes” [t; u]

The most part of answers has negative forms : “As a rule, we don’t have staff systematically present on board (of trains) apart from the train driver. However, only for security purpose, some persons (inspectors, train police constables, policemen...)”

are patrolling into trains. In the Transiliens stations (about 200 stations), staff are on duty up to the last moving train of the day.” [gtc_1]. “See operators, but as far as I can know, it doesn’t exist”[q]. No: “NO”[g] ; “No a accompanying person can travel for free. This accompanying is compulsory if the person doesn’t have the sufficient autonomy.”[a] ; “Only for air transport, and the paying service “Les compagnons du voyage” on Île-de-France transportation network”[c]. No response: [b; e; f; h; i; j; k; l; o; r] ; “No obligation means no implementation”[m].

Special help functions at ticket machines

“Human help is very developed. The adolescents and young adults benefit from an accompanying by their teacher in order to become autonomous.”[i].

“As far as the capacity of the service allows it”[n].

“In the majority of the train stations, but apart from the late hours, some staff able to sell tickets or to help people in using ticket machines are present.” [gtc_1]

“See operators, but as far as I can know, it doesn’t exist”[q].

No: [a; g; t ; u] ; “non-existence”[m]. “No as far as I know”[p].

No response: [b; e; f; h; j; k; l; o; r]

Technical help devices

“Cell phones and phone cards are at disposal for adolescents or young adults”[i].

“The most part of the transport networks have such a service of information in real time, either by computer posts in stops, or via cell phone”[n].

“In Nantes, Montpellier “MOBITRANS” is an information on-line of coming vehicle via cell phones (Wap and e-mode)”[p].

“This issue is a matter of thinking for INFOMOBI, but in a first step, it will be used for leading people with visual impairments, because the partners are not enough in progress about people with cognitive impairments”[q].

“It is in process of being studied. The implementation is planned for mid 2005 in some big stations of Île-de-France.” [gtc_1]

“A personalised information directly provided by SMS or on a pocket computer for people which solicited the service: confirmation on the wanted service, guidance, and, of course, information in emergency cases.”[gtc_1]

No: [a; g; t] ; “nothing consistent”[m]. “No. The drivers have a cell phone for security matters”[u]. No response: [b; e; f; h; j; k; l; o; r].

2.4 Conclusions

The first result of our inquiry is a disappointing one: although the question of use of public transportation by people with cognitive functioning impairments was fully debated in the ninety eighties, and some training sessions were organised at that time for the staffs of special school teachers, we can observe now a sort of inertia of passivity which leads to the incapacity for the most part of the persons contacted for the survey. The place of the target group in the official documents, legal statements or authorized reports was and is still often reduced at a simple quotation, without other precision or concrete expression.

2.4.1 Accompanying as a solution

For many transportation companies, as well as many families of people with cognitive functioning impairments, the solution can be found in developing measures of accompanying for such travellers. It offers many advantages: a preservation of the preference for ordinary transportation networks instead of specialised services, which is a principle put forward by national policy; a mastering of “always possible” abnormal behaviours which drivers or other companies’ employees are unable to cope with; a way to avoid that such travellers get lost and wander; opportunities for these people to learn progressively how to travel unaided. It is the solution chosen by *RATP* and *SNCF*.

Moreover, UNAPEI expressed the wish of “*the increase of accompanying services in public transportation at a moderate price.*”[m]. A specialised transport company had a same expectation: “*Yes, accompanying as a complementary service (is appropriate), either as following administrative measures, or as an initiative of the municipalities, or at the family’s expenses. It can be for blind people, wheelchair users, elderly people, but also for families with a mentally disabled person, concerning weekend or evening leisure. A satisfaction survey was carried out by this company which shows that 80% of interviewees claim accompanying possibilities. The question is: who will pay? For the moment, the company is unable to cover all demands.*”[u].

2.4.2 Education and training

Training would be the long term solution.

Understanding the logic of transportation companies

But the results of research shown that the prerequisite for a good training is a clarification of the implicit rules and norms used by transport companies and their translation into a language and a form which would be accessible to people with cognitive impairments.

A feeling of insecurity to be mastered

People with cognitive disability have difficulties in coping with unexpected incidents. Often, they lose to go mad when the information breaks or when the environment of the usual journey changes. Progressive training can reinforce their initiative capacity and enable them to master some minor incidents.

2.4.3 Information and assistance

Many results of former enquiries have shown that access to information is a key element for travelling, especially in multimodal journeys. It is determining for travellers with cognitive impairments as well as for other people with disability which want to move, but it is also essential for people wishing to bring some help to these travellers. Fact demonstrated that even the core of the information needed for ordinary travels is often missing.

Information badly understood

According to Defoug and de Vincenti⁷³, travellers with cognitive functioning impairments can rarely find information presented in an appropriate form to allow them to understand correctly the message. Their difficulties in understanding are not well considered by designers. Some research should be driven in order to understand the nature of the difficulties they meet before a dissemination of badly understood forms. Such a precaution would be of interest for many other groups of travellers (immigrants, children, elderly...).

The need of accompanying

Among what is proposed in order to facilitate the use of public transports by people with cognitive functioning impairments, “accompanying” is, in France, the mostly quoted solution. It is the case in the assessment and proposal reports published during the last decade⁷⁴, it is also the case for many interviewees in our common international survey.

“The point is the lack of autonomy, and then a double need of accompanying. This would imply either a resort to volunteers or the payment of accompanying persons by the community (this can not be supported by the company). The problem is the same as for children: responsibility. There is a risk for a driver which would be alone: no way to let the vehicle without control. This implies another compulsory presence” [t]

2.4.4 Pictograms and simplifying access to information

The idea that the use of pictograms would be a good way to overcome the illiteracy problems met by this population and many other travellers, is an old one. It was one of the hypotheses we checked in our work between 1988 and 1991. The results of this work, based on cognitive assessment, was reserved: a gain of understanding appears clear with simple and concrete pictograms; the understanding has to be reinforced by learning if the pictogram is composed by many elements, because there is a syntax to decode which is not directly implicit to the reader. In conclusion, there is no way of generalization of pictograms as a system of information without collateral training in their logic.

2.4.5 Special Transportation Services

More frequently than we first expected, specialised transportation companies, mainly devoted to wheelchair users, refuse to accept traveller with cognitive functioning impairments without an accompanying person. They are not at ease with potential maladjusted behaviours and thought that it isn't their drivers' duty to cope with such

⁷³ Defoug, H., & Vincenti, J.-C. de (1998). *Accessibilité des transports publics. Situation constatée ; Propositions d'amélioration*. Rapport d'Audit sur la disponibilité effective des équipements réalisés pour assurer l'accessibilité des personnes handicapées aux transports publics, destiné au Ministre de l'équipement, des transports et du logement. Conseil Général des Ponts et Chaussées, p. xxx.

⁷⁴ Defoug, H., & Vincenti, J.-C. de (1998). *Accessibilité des transports publics. Situation constatée ; Propositions d'amélioration*. Rapport d'Audit sur la disponibilité effective des équipements réalisés pour assurer l'accessibilité des personnes handicapées aux transports publics, destiné au Ministre de l'équipement, des transports et du logement. Conseil Général des Ponts et Chaussées.

problems. This is clear among interviewees answers, but also in assessment and proposals reports⁷⁵.

This issue can however have a consistent future, because the spread of Alzheimer disease. The problem is that the financing of such a service is not really stated.

2.4.6 A mildness about the question from the NGOs

The lack of partners is one of the reasons of this situation. According many interviewees, the NGOs for (not really “of”, in France) people with cognitive functioning impairments are rarely involved in an active negotiation with transportation companies in order to facilitate the access of this group to public transports. Some special schools or sheltered workshops can locally develop training programs for their students or workers, if they expect from them a better autonomy in moving, but nothing systematic is observed. This attitude is very different from this adopted by the NGOs of people with motor impairments, like *Association des Paralysés de France (APF)* which pesters the transportation companies with questions on accessibility.

It seems that those organisations for people with cognitive functioning impairments, which are, in France mostly composed by families, are more interested by protection than by a real autonomy. Some local affiliated local organisations have more dynamic policies, but nothing really planned can be observed in this country. Consequently, without active partners, the transportation companies can argue that they cannot know what measure they have to take in order to make their services more accessible to people with cognitive functioning impairments. And nothing changes...

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⁷⁵ Defoug, H., & Vincenti, J.-C. de (1998). *Accessibilité des transports publics. Situation constatée ; Propositions d'amélioration*. Rapport d'Audit sur la disponibilité effective des équipements réalisés pour assurer l'accessibilité des personnes handicapées aux transports publics, destiné au Ministre de l'équipement, des transports et du logement. Conseil Général des Ponts et Chaussées, 173 p.

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