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**DAILY TRAVEL AND INEQUALITIES: THE CASE OF LOW
INCOME POPULATIONS**

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ABSTRACT

The current context of increasing social and spatial disparities raises the issue of universal accessibility to the city and its services, in particular for persons on low incomes. The issue of inequalities with regard to travel, which we have considered first of all at an aggregate level using the usual travel indicators (number of trips, distance covered, travel time budget) essentially comes down to inequality in access to the car. An analysis of recent changes in urban public transport pricing policy, a survey conducted within welfare and social integration agencies in the conurbations of Lyon, Nancy and Nantes, and a series of interviews with individuals in a situation of precarity have been used to obtain a more accurate qualitative and quantitative picture of transport difficulties.

Keywords: France, daily travel, low income population, inequality, public transport pricing policy, transport assistance

1. INTRODUCTION

The issue of inequalities is not new in France. Since the 1960s and 1970s the issue of social inequality has been a central element in the debate concerning the distribution of the fruits of economic growth. The interruptions in economic growth that occurred in the 1970s and in particular the crisis and economic stagnation that occurred in the 1980s and 1990s were characterised by an increase in mass unemployment, under-employment and precarity. These “new forms of poverty” have generated a considerable body of literature on inequalities, poverty and exclusion. Many studies have been conducted in the area of health (Leclerc et al, dir., 2000), education (Maurin, 2000; Meuret, 2000) and housing and jobs (CSERC, 1997). It is, however, only since the beginning of the 1990s that these issues have been considered in the field of transport (Conseil National des Transports, 1991; A. Begag, 1995). Over the last few years, a major boost has been provided by the *Déplacements et inégalités* (Travel and inequalities) research programme launched by the French Transport Ministry. In this framework the Laboratoire d’Economie des Transports has conducted two studies, the main findings of which we shall present in this paper. The first study related to identifying and measuring inequalities with regard to personal travel (Claisse et alii, 2000), the second, conducted in collaboration with the *Agence d’Urbanisme pour le Développement de l’Agglomération Lyonnaise* (Greater Lyons Urban Development Agency) and the *Observatoire Social de Lyon* (Lyons Social Observatory) analyzed the travel practices of the poorest segments of the population in greater detail (Mignot et al., 2001).

The purpose of this article is to shed light from two angles on the question of inequalities in daily travel. The first issue we need to consider is how inequalities should be defined: we shall therefore begin by analyzing the issue of inequality and the different ways it is considered in the area of transport (Section 2). Next, based on a household survey in the Lyon conurbation, we shall present a preliminary description of differences in travel according to household income (Section 3). This quantitative approach will allow us to analyze the impact of income on levels of personal travel and travel behaviour (Claisse et alii, 2000). The analysis in Section 4 will concentrate on the conditions governing travel for the poorest segments of the population. By conducting a survey within the social welfare and insertion agencies in the three cites of Lyons, Nancy and Nantes, we have made a preliminary estimation of the demand for social assistance for daily travel among the poorest population. In addition, a series of interviews with these individuals, who are poorly covered by conventional travel surveys, provides a description of their practices and representations with regard to travel and reveals the daily difficulties in travel which can have a major influence on their ability to take part in social life, particularly work.

2. SOCIAL INEQUALITIES AND TRAVEL INEQUALITIES

The quantitative and qualitative studies that deal with social inequalities show that the mechanisms that cause them are complex and insufficiently understood. There is much discussion and many different points of view about evaluation methods, measurement and quantification issues, the use of statistics and the neutrality of qualitative or quantitative survey techniques (DREES-MIRE, 2000).

Inequalities may be understood as “*the result of unequal distribution, in the mathematical sense, of a society’s resources [...]*” (Bihr, Pfefferkorn, 1999). This is a convenient definition, but one which has certain limits. For instance, it assumes that to ensure the transition from simple differences to inequalities everything should be measured and

quantified. Other approaches interpret as inequality all of the differences that may be considered advantages or disadvantages with respect to a set scale (Girod, 1993). However, the question of how to establish such a scale remains largely unanswered and approaches can vary from one country to another, from one period of time to another and even from one individual to another in a given society and at a given moment. It would seem that the complexity of societies and the social relationships which develop within them mean that any attempt at achieving a consensual definition of inequality is bound to fail. In spite of the difficulty in establishing a consensual definition of inequality, there are a number of observations that are generally regarded as valid. Inequalities are largely caused by the play of market forces which generates material and symbolic remunerations. Inequalities are also present in the social and cultural spheres and may therefore be considered to be multi-dimensional (Bourdieu, 1979). They form a system of handicaps or of privileges that tend to be cumulative and reproduced over time. According to Tocqueville, they act as a self-maintaining process in as far as the more progress made with regard to equality, the more inequalities become intolerable and need to be eradicated, this process being thought to result in continual progress towards equality (Tocqueville, 1981).

The issue of inequalities is a large one involving a number of separate debates. How does the problem translate to the area of transport, and more precisely daily travel? The difficulty of analyzing inequality in the field of transport lies in the fact that travel is only exceptionally an end in itself. Transport is an intermediate good, required for certain economic and social activities and resulting from different lifestyles. For example, large-scale consumption of transport use can equally well be the result of a lifestyle which is constrained by the spatial dispersion of activities as the expression of a lifestyle that is not constrained by the individual's resources. Likewise, a low level of transport use may correspond to a lifestyle limited by a low income or to an unconstrained lifestyle in which the necessary destinations are nearby (Claisse et al., 2000).

To highlight inequalities in daily travel, we shall base our approach on the methodology used by Claisse et al. (2000). At an overall level, dispersion is apparent in both levels of travel and travel behaviour. The number of daily trips, distances and speeds all vary considerably around the average values. Likewise, an examination of modal practices, trip purposes or the spatial distribution of trips reveals contrasting situations. Some of these differences can be linked to the socioeconomic characteristics of individuals: age, sex, activity, etc. This transition from dispersions to differentiations which makes the observed differences intelligible, involves an analysis of the many dimensions of travel, an approach that was developed several years ago. Next, all the differentiations in levels of travel and travel behaviours resulting in advantages or disadvantages with regard to an assessment scale will be interpreted as inequalities.

It is common practice to distinguish between two types of inequalities¹: vertical inequalities which are mainly related to the distribution of incomes, and horizontal inequalities which are related to the distribution of resources and constraints within a given income class (sex, generation, residential location, etc.). Furthermore, among these inequalities it is necessary to distinguish between those which are chosen and those which are imposed. Low levels of trip-making, lower than average use of motorized modes and more local and constrained travel, which frequently affect lower income groups will be considered as "imposed inequalities". On the other hand, high levels of travel, highly

¹ In fact, in the area of transport, most authors tackle this issue from the perspective of equity and consider vertical and horizontal equity (Banister, 1994; Littman, 1999; Truelove, 1993).

motorized modal use, varied travel which cuts across spatial and temporal barriers will be interpreted as “chosen inequalities”.

3. WHAT INEQUALITIES AFFECT DAILY TRAVEL?

We should begin with a general description of travel in Lyon, which allows us to show the dispersion which occurs around average behaviour. The analysis of inequalities will, to begin with, be conducted on the basis of daily travel indicators (number of trips, distance, time), and then consider access to the car (Box 1).

Box 1: Tools and methodology for analyzing travel inequalities

The findings presented in this section are derived from the household survey conducted in the Lyon conurbation in 1994-1995. This survey took in all the trips conducted the day before the survey day, which was necessarily a weekday, by individuals aged 5 years old and over in almost selected 6,000 households. Between 1994 and 1995, about 14,000 individuals were surveyed, involving a total of more than 50,000 trips. The results were used to compute the classical indicators of travel levels: number of trips, distance covered, time spent travelling during the day and average speed of travel, either in overall terms or in a more disaggregate manner for each mode, trip purpose, origin-destination pair, etc.

All the differences which it was possible to explain by differences in the distribution of monetary resources will be considered to be inequalities. In order to overcome the problems of comparison that stem from the fact that households are of different sizes, we shall use as a standard of living indicator household income per Consumption Unit using the modified Oxford scale², and divided this into quintiles. At the time of the survey, household income was on average FF 8,200 per month per Consumption Unit (CU), varying between FF 3,113 per month per CU for the first quintile and FF 16,390 per month per CU for the last quintile³. Half of the population has less than FF 7,000 per month per CU. The standard deviation is 5,300, the coefficient of variation is almost 0.6 and the Gini coefficient is 0.3.

3.1. DISPERSION IN DAILY TRAVEL

According to the data for 1995, the inhabitants of the Lyon conurbation make, on average 3.7 trips a day which took them in all a little more than one hour. They travel approximately 14 km at an average speed of almost 13 km/h. Generally, the majority of trips are made as a car driver (41%), and almost one third are on foot. The percentage of trips made on public transport (13%) is similar to the percentage of trips as a passenger in a car (12%). The modal distribution of the distances covered emphasizes the importance of the car: 60% of the total distances covered are as the driver of a passenger car, 18% are on public transport, 15% as a car passenger and only 5% on foot. The other modes of transport (two-wheelers, non-urban public transport, etc.) account for only 1% of trips and 3% of distances.

² According to the Oxford scale as modified by the INSEE (French National Institute of Statistics and Economic Surveys), the number of CUs in a household is equal to the weighted number of adults : the first adult in the household counts as 1, the other individuals of over 14 years count as 0.5 and individuals of under 14 years count as 0.3.

³ Average income per CU is even under FF 2,500 (FF 2,437) for the 1st decile while it exceeds FF 20,000 for the 10th decile.

More than half of all trips are for highly constrained purposes (53%), and these are mainly home-to-work trips (44%), home-to-school trips (29%) and escorting trips (25%). Twenty percent of all trips are for administrative business, health reasons or shopping. The percentage of leisure trips and visiting trips is fairly small, respectively 15% and 8%. Most of the trips (61%) are intrazonal. Access to the centre, for those who do not live in it, accounts for 17% of all trips; if we eliminate those persons who do not work there either this level falls to 10%.

Dispersion in travel levels and behaviour is quite high around the average values (Table 1) and practices differ quite markedly: 13% of the population do not travel on a weekday while 12% make more than 6 trips. Of those who travel, 19% travel less than 3 km a day and 29% more than 20 km. Still with regards to those who travel, 15% travel for less than half an hour and almost half for more than one hour. The Gini coefficients⁴ are quite high and highlight the considerable concentration that affects distances (0.56), travel time budgets (0.43) and the number of trips (0.37) within the population.

Table 1: Principal indicators of average value and dispersion

	Number of trips	Distance (km)	Time budget (min)
Mean	3.7	14	63
Median value	4	9.1	55
Max / Min values	23 / 0	145 / 0	480 / 0
Standard deviation	2.6	15.3	50.5
Coefficient of variation	0.7	1.1	0.8

3.2. FEW OR NO INEQUALITIES IN DAILY TRAVEL

An individual's or a household's monetary resources are considered as being one of the explanatory factors for poverty or social inequalities. We shall analyze these in order to detect vertical inequalities in the daily travel of individuals. To achieve this, we need to relate the observed dispersions in various indicators of daily travel to income differentials. Table 2 shows travel levels and behaviours versus income quintile per consumption unit. The ratios between the extreme quintiles are amongst the most simple and intuitive indicators of inequality (Piketty, 1997), the nearer their value is to 1, the lower the level of inequality. In our case, the ratios between the extreme quintiles for levels of travel and travel time budget are close to 1, which means that the compared characteristics are relatively independent of income level.

However, as individuals' standard of living increases they travel greater distances at higher speed, using higher performance transport modes. The individuals in the last income quintile cover 1.5 times the distance and travel 1.4 times faster than those in the poorest quintile. These changes therefore reflect significantly different modal behaviours according to income, principally because access to driving increases from 37% for individuals in the first quintile to 78% for those in the last. Walking seems to be the principal mode for the poorest quintile, but even for the second quintile car driver trips become the most frequent.

⁴ The Gini coefficient provides a measure of the degree of concentration or inequality in the distribution of a good within the population. Its value varies between 0 and 1, and the lower the value the more the distribution is egalitarian.

This applies up till the last quintile – car driver trips account for more than half the trips made by wealthiest individuals.

Table 2 : Travel levels and behaviours according to the individual's quintile

	Q1	Q2	Q3	Q4	Q5	Average
% of people aged 18 years and over with access to a car as a driver	37	52	65	70	78	61
Distance home-city centre (km)	6	6.4	6.2	6	5.1	6
Distance home-to-workplace (km)	4.2	5	5.3	6.1	5.7	5.2
Travel levels						
Number of trips	3.5	3.8	3.9	4	4	3.7
Distance (km)	11	14	15	17	16	14
Time budget (min)	63	62	63	67	65	63
Speed (km/h)	10	13	14	15	14	13
Travel behaviours						
<i>Modal split (%)</i>						
Walking	44	33	29	27	26	32
Car driver	25	37	45	48	52	41
Car passenger	10	14	13	13	12	12
Public transport	19	14	11	10	9	13
<i>Trip purpose distribution (%)</i>						
Constrained activities*	53	53	54	52	53	53
Less constrained activities**	19	20	21	21	19	20
Leisure	14	14	15	16	17	15
Visits	10	10	8	8	6	8
<i>Spatial distribution (%)</i>						
To hyper-centre	14	13	16	18	26	17
Within the same ring of residence	67	64	62	56	54	61

*Commuting, escorting, mid-day meals on workdays

**Shopping, health, administrative business.

The activity schedule of individuals is relatively insensitive to income. Weekday travel is highly constrained for all individuals; however there are differences between the quintiles as regards how they use their free time. The wealthiest individuals give priority to leisure (external social life) and visits which usually involve the family circle. If we look at spatial distribution, we observe that the wealthiest individuals are marked out from the others by the high proportion of their trips involving the hyper-centre (26% of trips, i.e. more than 8 percentage points higher than persons in the fourth income quintile and 12 percentage points higher than those in the first quintile). We can characterize this as “chosen inequality”.

If we now compare the travel levels and behaviours of the poorest individuals with those of the wealthiest and remove the effect of access to driving, we can see that the inequalities, which at the overall level were already low, are even further reduced (Table 3).

Table 3: Travel levels and behaviours of individuals with and without access to the car for the extreme quintiles

	Access to a car			No access to a car			Total		
	Q1	Q5	Average	Q1	Q5	Average	Q1	Q5	Average
% of people aged 18 years and over with access to a car as a driver	100	100	100	0	0	0	37	78	61
Distance home-city centre	7	5.4	6.4	5.6	4.6	5.5	6	5.1	6
Distance home-to-workplace	6.5	6.7	6.9	3.3	3.5	3.5	4.2	5.7	5.2
Travel levels									
Number of trips	4.3	4.2	4.3	3.2	3.4	3.2	3.5	4	3.7
Distance (km)	19	19	20	8	9	9	11	16	14
Time budget (min)	71	68	69	60	59	57	63	65	63
Speed (km/h)	16	17	17	8	9	9	10	14	13
Travel behaviours									
<i>Modal split (%)</i>									
Walking	19	19	17	57	46	51	44	26	32
Car driver	72	72	73	0	0	0	25	52	41
Car passenger	4	6	5	13	27	21	10	12	12
Public transport	3	3	3	27	24	25	19	9	13
<i>Trip purpose distribution (%)</i>									
Constrained activities*	53	54	54	53	52	51	53	53	53
Less constrained activities**	18	20	20	19	17	20	19	19	20
Leisure	13	16	14	14	21	17	14	17	15
Visits	11	6	8	9	6	9	10	6	8
<i>Spatial distribution (%)</i>									
To hyper-centre	15	26	18	14	27	16	14	26	17
Within the same ring of residence	57	50	53	72	63	70	67	54	61

*Commuting, escorting, mid-day meals on workdays

**Shopping, health, administrative business

The levels of travel among the poorest individuals are comparable in all respects with those of the wealthiest, on condition a distinction is made between persons with access to a car and those without. This does not have as a corollary a difference in home-to-work distances: both among those with and without access to a car, the home-to-work distance remains the same irrespective of income. So when individuals have regular and autonomous access to a car, they use it in the same way irrespective of their income level.

Both among those with access to a car and those without, trip structure on the basis of purpose and spatial distribution is similar to that observed at the aggregate level. However, persons without access to a car travel more within the central or outer ring in which they live, irrespective of their income. Modal split is more contrasted. Among persons with access to a car it does not vary with income; however among those without access, modal use varies according to income. Walking is the principal mode for everyone; however it is

more important for the poorest individuals, who are separated from those in the last quintile by 11 percentage points. The wealthiest individuals compensate for their non-access to a car by a higher rate of car passenger trips while on the contrary the poorest persons have a greater tendency to be captives of public transport.

So, there is a high degree of homogeneity among the entire population divided into income quintiles per consumption unit with regard to the number of trips, the travel time budget and the structure of trips on the basis of major purposes. However, the wealthiest individuals differ from the others in that leisure plays a more important role for them, at the expense of visits, and by more regular access to the centre (chosen inequalities). Major differences are apparent as regards travel time budgets, distances, speeds and modal split, but in these cases the decisive factor appears to be access to a car rather than income.

These findings are backed up by other recent research (Spector, 2002). Thus research into access to the labour market (Orfeuill et al., 2001) has tried to identify which members of the workforce (qualified or lower level, etc.) live the furthest from their work. The findings show that the average duration of commuting trips (36 to 38 min) and the average distances (14 to 15 km) do not reveal any inequalities according to position on the social scale. Orfeuill has nevertheless shown that *“access to the jobs market among workers (defined as the percentage of jobs in the category which are accessible in one hour from the place of residence) is considerably lower than among executives”* (Orfeuill, 2002 : 19). This is explained in equal measure by the low concentration of workers' jobs and lower worker access to a car. Other research (Beaucire et al., 2001) dealing with access to the resources of the city in the periurban ring of the Greater Paris Region, has also concluded that situations differ little, access to rail services being the same for executives, employees and workers. Lastly, research (Amaouche et al, 2001) which explored the Northern loops of the Seine, revealed the most discriminating factor with regard to travel in this “poor” area to be unavailability of a car.

3.3. INEQUALITY OF ACCESS TO A CAR

Individual modal choice opportunities vary according to age, the trip purpose and the individual's resources, but also residential location. The more central the latter, the more attractive public transport becomes. On the other hand, the more peripheral the location, the more the car appears to be the most effective option. Of the different means of transport available to an individual, that with the greatest impact on both the levels of travel and travel behaviours is whether or not the individual drives a car. A knowledge of levels of access to this mode is therefore vital for an analysis of travel, and in particular inequalities in travel. However, whether or not an individual holds a driving licence, and even the household's level of car ownership, provide inadequate information as regards the possibility of access to a car. When the household has only one available car and two people have a driving licence, how is use of the car distributed? To overcome these methodological difficulties, at least to some extent, we have constructed a composite indicator of access to a car, which combines the household's level of car ownership, the number of licence holders in the household and individual trip frequencies as car drivers. This provides us with information about the level of regular individual access to a car as a driver (Claisse et al, 2000).

Household car ownership is widespread, and only 15% of households in the Lyon conurbation have no car. More than a third of households have two cars and 8% have three or more. Eighty percent of the population of driving age hold a licence and 61% have regular access to a car.

There are several variables which we can use to explain disparities with regard to access to a car within the population: sex, occupation, age, income, educational level, residential location, etc. Women have less frequent access to a car as a driver than men (48% compared with 73%). Likewise, the youngest and oldest individuals are over-represented among those without access. Only 37% of 18-24 year-olds have access to a car as a driver, which is explained by later and later entry into active life due to longer studies and unemployment. The low level of access to a car as a driver among the over sixties is explained by generational effects combined with the partial demotorization process which occurs at this age. In addition to sex and age, income has a significant effect on access levels: only 37% of individuals in the first quintile have access to a car as a driver as opposed to 70% in the wealthiest quintile. Variations according to residential location are also considerable. Less than one person in two living in the hypercentre (47%) has access to a car as a driver compared with almost three-quarters (73%) in the outer ring.

There are many determinants of access to a car as a driver, but they are straightforward to rank. Three fundamental determinants are particularly important: the individual's income, sex and age. Next, we can isolate the impact of each of these characteristics in order to identify what can be ascribed to income, all other things being equal. When this is done, we observe that for both men and women the access rate is always lower for the poorest quintile, but women's access to a car as a driver is more sensitive to income than men's. Women in the poorest quintile are three times less likely to have access to a car as a driver than those in the wealthiest quintile, while the ratio for men is 1.6. Likewise, whatever the individual's age, access is always higher for the wealthiest; furthermore, amongst the oldest persons the disparities between rich and poor are even greater. The effect of income on the levels of individual access to a car as a driver seems robust and permanent.

Therefore vertical inequalities do exist with regard to access to a car as a driver and these are combined with the horizontal inequalities related to sex and generation. However, while access to a car as a driver is highly dependent on the household financial resources, inequalities of access to a car as a driver are in the aggregate less marked than inequalities in income; the index of concentration is 0.2 as opposed to 0.3 for income inequalities.

3.4. AVERAGES WHICH CONCEAL CONTRASTING SITUATIONS

At an aggregate level, based on observations of travel levels and behaviours for each quintile, it is therefore difficult to reveal inequalities with regard to travel, once individuals have access to a car.

However, average travel values conceal extremely different situations. An aggregate approach to travel based on generalized surveys measures the travel of the most underprivileged persons inaccurately. This is due to, on the one hand, the diversity of the situations experienced by this highly varied fringe of the population, and on the other, the fact that their precarious position excludes them from this type of survey (lack of a fixed address, problems with understanding, availability, etc.). Thus the average figure conceals the considerable difficulties experienced by the poorest persons, either with regard to developing strategies for retaining a car or for travelling, which can only be revealed by more detailed analysis (Section 4).

These difficulties are expressed in particular in the individual's relationship with the car, as we have already mentioned. Many individuals use any possible strategy to keep and maintain their car "until the bitter end" and use their car as little as possible because having one available means it is possible to travel when needed, in particular for health reasons (Chevallier, 2001). A car also seems to be indispensable for many people undergoing

insertion, in particular those who are receiving the RMI (minimum social reinsertion allowance) and setting up a business (Briole et al., 2001). It is either directly necessary for work (in the case of those working at markets, for example) or essential for administrative business at institutions which are frequently centrally located but not close together.

For other persons, the difficulties result in a real need for financial help to be able to use public transport or any other means of travel which is appropriate to their situation. The travel and severe poverty research project (Mobilité et Grande Pauvreté, Mignot et al., 2001) essentially measured and analyzed the needs of these individuals.

4. THE TRIPS MADE BY THE MOST UNDERPRIVILEGED PERSONS

As a result of an analysis of pricing policies implemented on French public transport networks in general, the changes that have been taking place during the last ten years have been identified both with regard to pricing (differential pricing measures) and in the categories of persons eligible for the fares in question (according to income, status, age, etc.). With a view to measuring the quantitative and qualitative effects of transport policies on the travel practices of the poorest individuals, we have conducted a more detailed analysis of three networks (Nantes, Lyon and Nancy), the first with a marked policy of free travel, the second which offers very much reduced fares and the third which has no marked differential pricing policy for individuals on the lowest incomes. In each of these cities, we conducted a study within the “institutional” social insertion agencies (Communal Social Action Centres (CCASs), Youth Unemployment Action Centres, and Reception, Information and Guidance Help Desks, etc.) and the NGOs whose activities target individuals in extreme poverty (Secours Populaire, Secours Catholique, Restos du Cœur, etc.). We then conducted a more sociological analysis based on approximately twenty interviews of persons in difficulty whom we met within welfare organizations in Lyon (Box 2).

Box 2: Three surveys that complement one another

Three surveys have been conducted in the framework of the Travel and Severe Poverty research programme (Mobilité et Grande Pauvreté), the main findings of which we shall present below. A questionnaire was first of all administered to staff working at 135 social welfare and insertion agencies (local authority social services, youth unemployment action centres, charities, etc.) in Lyon, Nantes and Nancy with a view to analyzing the impact of social fare reductions, awareness and use of these reductions on the part of the agencies in question and any additional measures they take. This survey also allowed us to observe how these organizations perceive the factors that limit transport.

Next, the social workers in each agency were asked to keep a diary for a week in order to record the requests they received from the public with regard to travel. These diaries provide information about needs (the nature of the request, trip purpose, etc.) and about the sociological characteristics of the individuals making them. 2040 requests for transport help were thus recorded.

Then, with the help of 7 agencies in Lyon, a series of approximately twenty semi-directive interviews were conducted with individuals in a situation of precarity. We identified three profiles as being the most representative of the diversity of situations of precarity: young people (less than 25 years of age), men and women between 25 and 45 years of age in a precarious occupational situation, and persons with no fixed address. During the interviews, the subjects were asked to describe their travel practices during the previous week.

4.1. MORE SOCIAL FARES AND HIGHER REDUCTIONS, BUT IMPROVEMENT IS STILL REQUIRED

The fare changes that had been revealed confirm the powerful social pricing measures that were introduced in the 120 French networks we have analyzed, in particular the largest ones, during the 1990s. Growing media awareness of increasing precarity and mobilization of various types in favour of universal access to transport can explain this major change which led 22 networks to introduce large social fare reductions (free travel and/or considerable fare reductions) between 1993 and 1999. What is remarkable during the analyzed period (1993-1999) is the introduction of extremely reduced fares (a reduction of at least 75% compared with the basic fare) which are targeted at the most precarious populations and motivated by a desire for redistribution, whose beneficiaries are nevertheless considered to be customers in the full sense of the term by the transport operator. At the same time, the desire to target the most disadvantaged is obvious. Here too, more and more networks are implementing specific fares for populations with a certain status (the unemployed, those receiving the RMI, etc.) and for individuals or households who satisfy certain income criteria. Large social fare reductions are awarded to individuals or households who satisfy certain income criteria. The increased implementation of free tickets or large fare reductions particularly in the form of season tickets in order to cover all travel needs (for whatever purpose) undeniably corresponds to the expressed needs as regards assistance for transport that we have revealed in the rest of the study (see below Section 4.2). So, while previous studies have highlighted the need for low price or short distance tickets, it would appear that an extension of needs or the fact that there are many reasons in daily life for travelling, argue in favour of the introduction of free or very low cost season tickets for underprivileged persons. In addition, this type of measure would mean the individuals involved no longer need to provide justification for their fare reduction during each trip, a condition which may in certain situations lead these individuals to self-censorship as regards expressed needs.

However, this shift towards targeted policies that depend on status and income leave many individuals outside the social fare policy safety net. These persons may be excluded as a result of their status, for example the unregistered unemployed whose income may be very low or even inexistent, the young who are often ineligible for major fare reductions, or the “working poor” who are excluded because they have a job. Individuals can also be ineligible for social measures because they exceed the thresholds, which occasionally leads to an all (free transport) or nothing (no reduction) situation. Under these conditions, it is to be feared that those who do not satisfy the conditions for social fares will be subjected to increased precarity.

With regard to exclusion from social pricing measures by status or by “thresholds”, it should be possible to introduce progressive systems which will help to overcome the danger of “poverty traps”. On the grounds of both equity and effectiveness, pricing systems in which income is the only eligibility criterion for reduced fares should be favoured. A system of this type is in place in Dunkerque and, although the organizing authority has abolished free transport to replace it by very large reductions, is unanimously felt to be “fair” by users. (Ch. Harzo, F. Couty, 2000).

Lastly, we need to consider specific needs which it is difficult for general policies to meet, for example job interviews in areas with poor transport, or situations of temporary precarity. In these cases, the institutional response is inappropriate and it must be possible for welfare and social insertion agencies to intervene.

4.2. REQUESTS FOR TRANSPORT ASSISTANCE ARE MANY AND VARIED

The topic of free transport and more generally the link between transport and social exclusion are considered by urban public transport operators as well as by politicians and social welfare agencies. The agencies we have surveyed estimate that transport is a limiting factor or a major concern at any given time for, on average, slightly less than one third of the people they assist.

The 2040 requests received by the 120 welfare and social insertion agencies confirm that transport is responsible for real problems. Approximately 15% of those persons who approach a welfare, social insertion or emergency housing agency ask for help with transport. This corresponds to approximately half the level perceived by social welfare workers. This quantitative measurement of demand for transport aid is one of the principal outcomes of this research. The proportion of persons requesting such aid is sufficiently high for us to conclude that travel is a real problem for the poorest individuals. It is also true that this level is probably an underestimate, because of a lack of reliable data from both the welfare and social agencies and the individuals requesting transport assistance.

As regards the reasons for trips, the surveyed agencies seem convinced that the major difficulties relate to access to jobs or training. We have already found this in the literature relating to such requests, which are judged to be “politically correct” because they are related to social insertion. Obviously, these structures also see other purposes as important too, but very much less than the first.

Thus, the opposition between the two analyses, which in a way provided the basis for our investigation, namely on the one hand that no problems whatsoever exist as regards transport and on the other that transport difficulties present an insuperable problem, thus emerges as artificial. We have shown that transport problems constitute a real limiting factor with regard to access to jobs. On the other hand, the fact that trips are made anyway does not mean that there is no situation of inequality in which people face real difficulties.

Requests for assistance with transport do not exclusively concern transport in relation to jobs. Numerous requests reveal needs with regard to a set of other trip purposes, such as administrative business or simply daily life activities. Of course, the expression of these requests is also associated with the type of organizations studied; jobs (or more generally social insertion) are more frequently described in youth unemployment action centres or associations and a wider range of requests are made in town halls and communal social action centres (CCAS).

We can also note that the varied requests are less frequent in the conurbation of Nancy which, of the three conurbations we have studied, is that with the least developed social fares for urban transport. In this city, actual demand corresponds with perception of demand, and consists of requests for help for transport for the purposes of social insertion, jobs, training, interviews, etc.

With regard to the nature of the requested assistance, there is no doubt that the essential limiting factor is the financial difficulties of individuals. Less than 15% of requests for transport assistance appear to be linked to issues of unsuitability of the passenger transport supply, such as trips outside the city centre (within or outside the limits served by urban public transport). While supply issues are not absent and in some cases involve real concerns, most needs can be effectively met by aids, in particular social pricing for urban public transport.

Lastly, our survey confirms the high proportion of young persons, women (in particular retired women), single parent families and single persons in the most underprivileged

populations. Amongst these persons or households, although three-quarters of the persons recorded as having made requests for transport assistance are unemployed or receiving the RMI, there is also a non-negligible percentage (6%) of “poor” workers.

4.3. CONSTRAINED MODAL USE

In order to obtain a better understanding of the daily travel practices of underprivileged population groups, 22 interviews were conducted in the Lyon conurbation where a social pricing policy offering very large reductions for transport has been implemented since 1996. Amongst the interviewed persons, 9 respondents were less than 26 years of age, just 4 individuals had regular employment and 9 had no fixed address.

Travel practices show that there is a severe mismatch between their limited modal choice set and a context where spatial and temporal constraints are dominant and can only be satisfactorily met by the use of rapid transport modes, either individual or public. As one could expect from the analysis of the results of the household travel behaviour survey, car ownership is low among the respondents. Only 4 respondents have a car available to drive and 7 have neither a car nor a public transport season ticket. Walking is thus their principal mode of transport, followed by public transport. Except for a few respondents with no fixed address, for which walking is a choice and a sign of independence, use of these two modes is perceived as a constraint; walking because for populations who are under physical and psychological stress it represents an additional physical effort; public transport because its use requires a substantial payment (or if not, the risk of a fine) and its use makes users “dependent” on service irregularities (delays, unexpected cancellation of a service, strikes). Lastly, in both cases, journey times are too long compared with the car, which is particularly serious because the respondents occasionally have extremely busy activity patterns. They often need to optimize the organization of their trips which involve distant locations and fixed schedules (job search, job interviews, requests for social aid, health, but also social life).

Walking is frequently used as a mode of transport in its own right when there is no alternative. Among a population for which a car is generally unaffordable, walking replaces public transport use, for example during night-time trips outside of public transport operating times, when the person does not wish to pay for the ticket, to avoid the possibility of a fine and in order to manage one’s journey time without worrying about large public transport delays.

The respondents considered that public transport trips are expensive in relation to their income and take too long (journey time plus waiting time) but they also feel the poor level of service in some communes in the conurbation. Safety issues also feature in their statement. They refer to the behaviour of other passengers and to a feeling of exclusion which is apparent in their disagreement with the operator’s policies and the quality of service provided to some districts which is considered not to be as good (old buses, insufficient capacity, behaviour of drivers).

All the respondents do not benefit from social fares, for several reasons: there is a lack of clear and precise information on the subject, people find it difficult to consider themselves as potential beneficiaries of social fares, they cannot even afford single tickets or a low-price season ticket, they may be at the margin of the groups of beneficiaries or lastly, according to the economic calculation of some respondents (particularly the young) that fare fraud is cheaper than buying low price tickets. However, those who have a season ticket state that they feel more secure and independent as regards organizing their activities and trips as a result of not fearing a fine.

Respondents with a car make limited and rational use of it in order to reduce expenditure on maintenance and, in particular, petrol. The car is only used for trips for which there are important temporal and spatial constraints and for which the economic calculation of benefits and expenditure is sufficiently positive for the user. Car lending and being escorted by a third party are rare, and are also restricted to exceptional situations. This is on the one hand because the respondents' sociability network consists essentially of non-car owners and those with a car have financial problems buying petrol, and on the other hand because the respondents do not wish to call on their already restricted social network too frequently and become a burden.

Our analysis of interviews conducted with a small sample of individuals in a situation of precarity has shown that although at the outset they reported that they had no difficulty in travelling, in the course of the interviews many constraints, which are closely interlinked, appeared with regard to modal practices, destinations, trips purposes and durations. This population is forced to use walking and public transport, modes of transport which consume their time and, in the second case, their money. The conditions of transport which these populations experience add extra insecurity to their daily lives: to manage their budget, to limit the duration of their trips, to go to places they are unfamiliar with, with regard to the reliability of public transport services, with regard to insecurity they feel on public transport, and lastly in order to organize their activities in the way they wish. A reduction in inequalities as regards access to out-of-home activities and urban space and the creation of safeguards to protect the most underprivileged populations from social exclusion would be more easily attained by encouraging modal choice through the introduction of social public transport pricing, particularly season tickets, but also by facilitating car use for certain activities.

5. CONCLUSION

Overall, we have found little in the way of vertical inequalities with regard to daily individual travel once the inequalities that relate to access to the car have been eliminated. When individuals have access to a car, the already small inequalities that were identified at the overall level disappear. This does not mean that income has no impact on travel. It is just that it does not appear to be a principal determinant of daily urban travel. Daily travel seems to be above all affected by individual lifestyles which vary according to age, position in the household and professional activity. Inequalities with regard to travel can be identified and analysed by using an approach that makes use of social groups that are fairly homogeneous with regard to the life cycle.

Analysis of the travel practices of the most impoverished individuals encounters two problems: the individuals who are in a situation of precarity form a heterogeneous group and this group is poorly measured by classical travel surveys. Thus, given that the travel difficulties faced by the most impoverished individuals are masked by an aggregate approach, the only way of revealing these difficulties is to conduct an in-depth analysis of their travel practices. Such an analysis shows that transport represents a real daily problem for this population even if the constraints seem to be partially internalized.

Recent studies of travel inequalities lead to the inevitable conclusion that access to and use of a car is central. At the same time, it is apparent that for all poor households, even those with a car, the cost of public transport may be a factor that limits travel. Thus, if the public authorities wish to reduce travel inequalities two possible approaches emerge very clearly from this body of research:

- assisting the poorest households to gain access to a car, which is not in conflict with the desire to limit the total amount of car travel in urban areas,
- implementing powerful social pricing policies (free travel or large reductions) in the form of season tickets that permit travel for all purposes.

In addition, this research has also shown the specific nature of the transport good whose consumption seems relatively inelastic to monetary resources. Thus, transport behaves like a primary good: those on low incomes implement a whole series of strategies to maintain their consumption which is indispensable to undertake out-of-home activities. In these circumstances, it is essential to develop tools which are more appropriate for analyzing the transport conditions of those individuals with the lowest incomes.

REFERENCES

Amaouche, M.D., Estebe, Ph., Epstein, R., De Decker, M., 2001. Les politiques publiques de transport et les inégalités socio-territoriales, ACADIE, Paris.

Banister, D., 1994. Equity and acceptability questions in internalising the social costs of transport. In *Internalising the Social Costs of Transportation*, OECD European Conference of Ministers of Transport, pp. 153-171.

Beaucire, F., Berger, M., Saint-Gerand, Th., 2001. Inégalités géographiques, inégalités sociales : l'accessibilité aux ressources de la ville dans les franges péri-urbaines d'Ile-de-France, Université de Cergy-Pontoise, LADYSS, Université de Caen, Caen.

Begag, A., 1995. Espace et exclusion. Mobilités dans les quartiers périphériques d'Avignon, L'Harmattan, Paris.

Bihl, A., Pferfferkorn, R., 1999. Déchiffrer les inégalités, Syros, Paris.

Bourdieu, P., 1979. *La Distinction*, Les Editions de Minuit, Paris.

Briole, A., Lauraire, R., Rascol-Boutard, S., 2001. La mobilité des créateurs d'entreprises RMistes, Université de Montpellier, ARCE, ORBA, Montpellier.

Chevallier, M., 2001. L'usage et l'accès à l'automobile : une liberté sous contraintes pour les personnes et ménages à faibles ressources, Rapport de recherche, Lyon.

Claisse, G., Diaz Olvera, L., Klein, O., Paulo, Ch., Plat, P., Pochet, P., 2000. Des différenciations aux inégalités de motorisation des ménages, Laboratoire d'Economie des Transports, Lyon.

CNT, 1991. Transports urbains et exclusion sociale. Conseil National des Transports, Paris.

CSERC, 1997. Inégalités d'emploi et de revenu : les années 90, La documentation française, Paris.

DREES, 2000. Définir les inégalités : des principes de justice à leur représentation sociale, coll. Mire, Paris.

Girod, R., 1993. *Les inégalités sociales*, PUF, Paris.

Grignon, C., Passeron, J.C., 1989. *Le savant et le populaire. Misérabilisme et populisme en sociologie et en littérature*, Gallimard le Seuil, Paris.

Harzo, Ch., Couty, F., 2000. Evolution et adaptation de la tarification sociale dans les

transports publics de la Communauté Urbaine de Dunkerque, Etude pour la Communauté Urbaine de Dunkerque, OSL, Lyon.

Kaufman, J.C., 1985. " « S'en sortir », « pas de problème », « faire avec » : au cœur de la culture populaire (note de recherche)", *Anthropologie et Sociétés*, 9 (2), 195-201.

Leclerc, A., Fassin, D., Grandjean, H., Kaminski, M., Lang, Th., 2000. *Les inégalités sociales de santé*, La Découverte - Syros, Paris.

Litman, T., 1999. « Evaluating transportation equity », Victoria Transport Policy Institute. <http://www.vtpi.org/equity.pdf>.

Maurin, E., 2000. Ampleur et persistance de l'inégalité des chances à l'école : une analyse causale. In *Mesurer les inégalités : de la construction des indicateurs aux débats sur les interprétations*, DREES, coll Mire, Paris, pp. 79-88.

Meuret, D., 2000. « La transmission des inégalités par l'école : une approche politique », in *Mesurer les inégalités : de la construction des indicateurs aux débats sur les interprétations*, DREES, coll Mire, Paris, pp. 89-100.

Mignot, D., Rosales-Montano, S., Harzo, Ch., Clerget, M.P., Cholez, C., Cusset, J.M., Diaz Olvera, L., Deguilhem, Y., Lainez, V., Paulo, Ch., Pelot, V., 2001. *Mobilité et Grande Pauvreté*, recherche financée par le PREDIT et L'UTP, Laboratoire d'Economie des Transports - Agence d'Urbanisme pour le développement de l'agglomération lyonnaise - Observatoire Social de Lyon, Lyon.

Orfeuill, J.P., 2002. Disparités et inégalités face à la mobilité. In *Déplacements et inégalités, premières lectures*, PREDIT-PUCA, Paris, pp. 17-20.

Orfeuill, J.P., Davezies, L., Prud'homme, R., Nicot, B.H., Wenglenski, S., Zetlaoni, J., 2001. *L'accessibilité au marché du travail en Ile-de-France : inégalités entre catégories sociales et liens avec les localisations résidentielles*, CEIL - Institut d'urbanisme de Paris - Université Paris XII, Paris.

Piketty, T., 1997. *L'économie des inégalités*, La Découverte, Paris.

Spector, Th., 2002. Quelques résultats des recherches sur les inégalités de déplacement liées à la pauvreté. In *Déplacements et inégalités, premières lectures*, PREDIT-PUCA, Paris, pp. 11-16.

Tocqueville, A., 1981. *De la démocratie en Amérique*, Flammarion, Paris.

Truelove, M., 1993, « Measurement of spatial equity », *Environment and planning C*, 11, 19-34.