Behaviour laws of households in term of location and consumtion of their dwelling

L. Clément, V. Lainez

▶ **To cite this version:**

HAL Id: hal-02165300

https://hal-lara.archives-ouvertes.fr/hal-02165300v1

Submitted on 25 Jun 2019

report

Behaviour laws
of households
in term
of location and
consumption
of their dwelling

november 1997

Organism :
CERTU

Title :
BEHAVIOUR LAWS OF HOUSEHOLDS IN TERM OF LOCATION AND CONSUMPTION OF THEIR DWELLING

Sub-tittle :	Language :
	English

Author :	Date of publication :
L. CLEMENT (Certu, Département Mobilité)	
Assisted by :	
V. LAINEZ (Certu / Université Lyon II)	November 1997

Primilary remark :
This report was made by the CERTU, which is working in the land-use transport field in relation with an european project called ESTEEM, program JOULE, directed by the DGXII.

Abstract :
The aim of this report is to give some explanation about the behaviour laws of the households in term of location and consumption of their dwelling, in an urban area (city of Lyon, France). The location is considered here in relation with the choice of removing and the choice of the dwelling. We try to valid the assertions we present by data collected in different surveys. The work is based on a revealed preferences survey, carried out in 1997, concerning 752 households.

Key words :	Diffusion :
Residential location, urban location, choice of dwelling, choice of location	Free

Number of pages :	Price :	Confidentiality :	Bibliography :
59	50 FRF	No	No

TABLE OF CONTENTS

CONCLUSION

INTRODUCTION

The aim of this report is to give some explanation about the behaviour laws of the households in term of location and consumption of their dwelling, in an urban area (city of Lyon, France). The location is considered here in relation with the choice of removing and the choice of the dwelling. We try to valid the assertions we present by data collected in different surveys. The work is based into a revealed preferences survey, carried out in 1997, concerning 752 households.

In a first point, we present the RP survey and the study area, followed by aspects concerning the problematic, the objective and the methodology of the work, and the presentation of the population surveyed. In a third point, we try to put in advance the characteristics of the households which could be present in the choice of the zone's location (discrete choice modelling). After this, a more detailed analysis is realised in a statistical point of view, followed by a three pages synthesis of the results. For the end, we try to explain the consumption of the household's dwelling by few others variables (with regression techniques).

I. The survey and the study area

I.1. The survey

Between February and April 1997, the Certu and the Town Planning Agency of Lyon, made a survey about the location of the households in the agglomeration of Lyon. Two parts was considered : the first consists in a revealed survey (RP), the second consists in a stated preferences survey (SP). So, two questionnaires were defined. The first was sent at 8 015 households (RP) of the study area, and the second at 752 households (SP). These 752 people were those who gave a response to the RP survey.

The first questionnaire [1] allows to make the distinction between two types of households :

- households expressing an intention of relocating.

- households not expressing any intention of relocating

Note that the second questionnaire was only sent to people of the first type.

This report concerns the analysis of the revealed survey only.

I.2. The study area

The study area is formed by 99 districts (1 250 000 inhabitants, 490 000 households, 600 000 employment (census of 1990)). The same area is used in the modelling approach made with the TRANUS system by the Certu, but at a more global level (63 zones).

Study area : the 63 internal zones used for the TRANUS system

---

[1] See annexe 1.

To have a better understanding of the location behaviour laws, who decided to make a typology of the zones of the study area [2]. For this, we used factorial analysis. Six discriminates variables, uncorrelated, were selected for each zone :

- density of buildings only (DENN)

- proportion of the land used by residential collective dwellings (RECO)

- proportion of the land used by activities (ACTI)

- proportion of white collars in the population of the zone (CADR)

- number of public equipment of sport, leisure and education, for 1 000 households (LIEU)

- distance to a highway (AUTO)

Eleven variables were used to complete the analysis.

The main results of this report are [3] :

Typology of the zones of the study area

(The two north-east external zones were not considered : due to a lack of data)

---
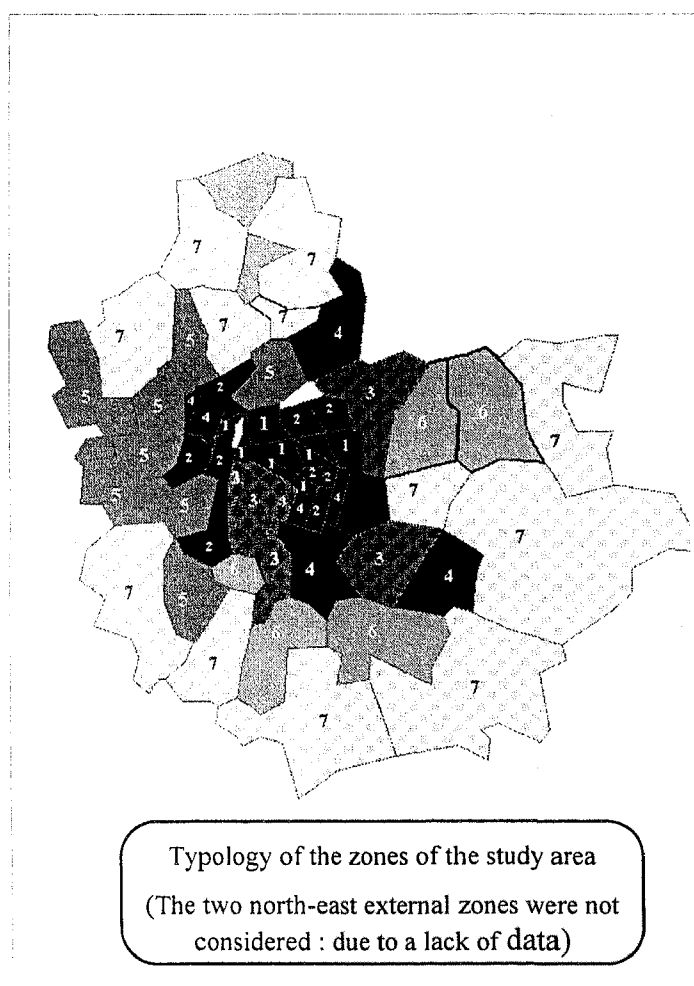
[2] BOUIS (S.), PASQUIER (E.), sous la direction de M.A. BUISSON et L. CLEMENT, *Typologie des zones consitutives du découpage de l'agglomération de Lyon. Le cas du logiciel TRANUS*, Université Lyon 2, Maîtrise MASS, Mai 1997, non paginé.

[3] To get more details, see previous report.

The characteristics of the 7 type of zones which are defined are :

Type 1 :

" Central Business District of the agglomeration. A lot of services and commercial places (little places). A lot of white collars households. "

zones for Tranus, [4]   n° 1, 2, 7, 9, 11, 22, 56, 59 and zone 3

Level of variables :

DENN	high	AUTO	very close
RECO	medium	LIEU	low
CADR	many	ACTI	medium

Type 2 :

" Near the CBD. Residential boroughs with collective buildings with more than 20 dwellings, few proportion of activities"

*   zones for Tranus,   n° 6, 14, 17, 20, 24, 26, 30, 31, 54, 58

*   Level of variables :

DENN	medium	AUTO	very close
RECO	medium	LIEU	low
CADR	normal	ACTI	medium-low

Type 3 :

"Area of employment, near the CBD, blue collar and employees, with a low level of income. A lot of foreign people and collective buildings." "

*   zones for Tranus   n°4, 13, 29, 33, 66, 75

*   Level of variables :

DENN	high	AUTO	close
RECO	low	LIEU	medium
CADR	not present	ACTI	very important

Type 4 :

" Industrial area, with a lot of blue collars and employees, with a low level of income. A lot of important collective buildings "

*   zones for Tranus   n°15, 16, 21, 23, 28, 35, 61, 62, 65

*   Level of variables :

DENN	medium	AUTO	very close
RECO	high-medium	LIEU	low
CADR	medium	ACTI	not very important

---

[4] See annex 2.

Type 5 :

" Residential borough, single family homes. A lot of white collars, with many children. A lot of green spaces and few activities"

* zones for Tranus   n°18, 38, 47, 48, 49, 51, 84, 85

* Level of variables

DENN	low	AUTO	not close
RECO	very low	LIEU	medium
CADR	very important	ACTI	low

Type 6 :

" Households with medium level of income, a lot of single family homes, few employment"

zones for Tranus   n° 79, 82, 95, and zones 41, 42, 46

* Level of variables

DENN	low	AUTO	very far
RECO	very low	LIEU	high
CADR	medium	ACTI	important

Type 7 :

" Zones far from the CBD, inhabitants with low income, no employment and activities "

Zones for Tranus   n°80, 81, 83, 86, 87, 88, 89, 90, 91, 93, 96, and zone 39

* Level of variables

DENN	very low	AUTO	far
RECO	very low	LIEU	very high
CADR	normal	ACTI	very low

To have a good statistical representation of the data, zones 3 and 4, and zones 6 and 7 were put together (5 zones were kept).

II. Problematic, objective, methodology and population surveyed

The problematic consists in two questions :

> 1. What are the variables which have an action on the residential location choice of the households ?

> 2. What are the variables which defined the "quantity" of dwelling consumed by the households (in square meters) ?

The objective was to quantify the behaviour of the households, with utility functions for the first question, and regression techniques for the second. So, their are two cases : modelling discrete choices, and modelling indiscreet choices. For this, we used the software's Hielow and Excel.

The methodology elaborated was the following :

Building of the data base (based on the RP survey).
Selection of the interesting variables for the models;
Study of correlation's
Variables put at the same scale
Calibration of models
Analysis

The results we obtained, conducted us to develop an other approach between phase 1 and phase 2. This one concerns a statistical analysis of the data base.

Population : About the type of households :

As precise below, two types of households must be considered.:

1. Households expressing an intention of relocating in the next two years **(INTD)** : they could have clear ideas about their future situation.. We keep for the analysis, this representation of the removal lie to the future : why I would, (or I will), like to remove from my zone of location ?

2. Households who are not expressing any intention of relocating **(NINTD)** : in this case, we have only kept those who have moved from their dwelling since the first of January of 1991, because they probably still have clear ideas about their recent situation. For this sub-population, we keep the relation with the past.

Population

ZONES	Number of households in the questionnaire	INTD	Responses available for INTD	N INTD	Responses available for N INTD
1	155	72	69	83	72
2	178	91	75	87	77
3,4	173	91	75	82	74
5	111	46	56	65	58
6,7	135	55	74	80	73
	752	355	348	397	354

In percentage

ZONES	intd	non intd
1	46%	54%
2	51%	49%
3,4	53%	47%
5	41%	59%
6,7	41%	59%

Note that the structure of the RP survey (distinction ownership-renter, apartment-single house, and by social category of the head of family, is appropriate with the data coming from exhaustive survey existing in Lyon).

III. Modelling the choice of zones

We present, here, the modelling of the choice of zones for the first kind of households (355 people) [5]. The variables present in the RP survey and used to elaborate models of location are the folllowing.

Variables of choice : the 5 zones (5 choices possible, see page 8)

Variables concerning the household and which can explain a part of the choice :

> live in a single family home or in a block of flats,
> property owners or not
> number of adults in the household
> number of people working in the household
> number of people in the household
> average income of the household
> age of the first person in the household

We try to calibrate utility function has :

$$U_{it} = \theta X_t + \varepsilon_{it}$$

With :

U_{it} = utility of zone i for household t

θ = parameters to be calibrate

X_t = variables concerning the household

ε_{it} = random part of the utility

So, the modelling approach concerns only the relation between the location and the characteristics of the households .[6]

All the results are not good in a statistical point of view. This is not due to the RP survey, which is good [7], but to the fact that these quantitative variables don't play any role in the location choice process of the households.

These results show that to live in a single family home, or not, is not a reason which lead people to change for an other zone, as to be home ownership or not. The number of adults, of people working, or of people in the households have also no importance. It's easy to understand : household can find large dwellings in all the zones, even if it is easy to find ones in certain zones rather than in others. The income has no action too. We think that is because the income is not a good variable : we can make the same analysis that the

---

[5] Models were also made for the type 2, and also for other discret choices as : live in a single family home or in a block of flats, to be ownership or renter. The results weren't better.

[6] Others characteristics are considered in the modelling of the SP survey.

[7] The recovery of the sample is good, and the regression models are good too.

previous one, and we can say that the income doesn't give a good idea of the patrimony of a household. The age has also no action : a young household can buy a dwelling as well as a old one, but the characteristics of this dwelling will certainly be different.

Lessons to keep :

- the quantitative approach (with the variables we have) seems not to be the good one to explain the behaviour of the households in their location process.

- the choice of this kind of variables for a SP survey is certainly not the better.

Thus, we decided to show if qualitative factors are able to explain the behaviour of the households..

IV. Statistical study of the RP survey

A statistical study of the RP survey was made to give a response to our first problematic question. It consists of a treatment of the questions about the qualitative reasons concerning the removal of the household :

why have you, or why will you, remove (IV.1.) ?

why have you, or why will you, choose this dwelling (IV.2) ?

See questions 22 and 23 of the questionnaire.

Three choices were offered among eleven possibilities for the first question and among nine possibilities for the second. The analysis we made, concerns the first choice made by households. Each time we made the distinction between the zones in competition.

IV.1. Choice of removal

Eleven possibilities were proposed at each household.

List of the criterion

1- Size of the dwelling : to have a more important one
2- Comfort : to improve comfort (ex : to have a lift...)
3- Price : because the price of my dwelling
4- Family reasons : change in the situation (child, divorce...)
5- Place of work : because a change of my place of work, to be closer to my place of work
6- To become home-ownership
7- Enjoy to live in a single family home (SFH)
8- To leave my borough
9- To live in the country
10- To live in the CBD
11- Other

We can group the previous criterion :

Criterion not concerning the zone but the dwelling : 1.

Criterion not concerning the zone nor the dwelling : 4; 6; 7

Criterion concerning the zone and the dwelling : 3; (2)

Criterion concerning the zone, not the dwelling : 5; 8; 9; 10

IV.1.1. Global results

Table A : For all the population

	ZONE 1	ZONE 2	ZONES 3,4	ZONE 5	ZONES 6,7
Size	33%	36%	33%	28%	26%
Comfort	6%	4%	2%	3%	5%
Price	4%	7%	4%	4%	7%
Family	11%	13%	14%	9%	13%
Place of work	13%	7%	8%	13%	11%
Ownership	17%	18%	13%	18%	15%
SFH	4%	4%	7%	7%	11%
Borough	5%	5%	10%	12%	6%
Other	8%	6%	9%	6%	6%
Total value	141	165	166	102	127

The first criteria concerns the size of the dwelling. After, to become home ownership, family reasons and place of work are present. These 4 criterion concern 70% of the reasons of the removal.

Table B : Households expressing an intention of relocating (INTD)

	ZONE 1	ZONE 2	ZONES 3,4	ZONE 5	ZONES 6,7
Size	33%	37%	34%	37%	26%
Comfort	7%	7%	1%	0%	9%
Price	6%	7%	3%	4%	9%
Family	17%	11%	10%	7%	11%
Place of work	8%	8%	7%	11%	11%
Ownership	18%	13%	14%	15%	9%
SFH	1%	6%	8%	4%	9%
Borough	6%	8%	14%	17%	9%
Other	4%	4%	9%	4%	6%
Total value	72	90	91	46	54

As for the general appraisal, the size of the dwelling is the more important criteria.. We show, also, the role of the need to become home ownership and of the family reasons. The borough is also an important criteria. The place of work has not an important role.

Table C : Households not expressing any intention of relocating (N INTD)

	ZONE 1	ZONE 2	ZONES 3,4	ZONE 5	ZONES 6,7
Size	32%	34%	31%	23%	26%
Comfort	6%	0%	3%	5%	1%
Price	1%	7%	5%	4%	5%
Family	6%	15%	20%	11%	15%
Place of work	17%	7%	11%	14%	11%
Ownership	16%	24%	12%	20%	19%
SFH	6%	3%	5%	9%	12%
Borough	4%	3%	4%	7%	3%
Other	12%	8%	9%	7%	7%
Total value	69	75	75	56	73

The more important criteria stay : size of the dwelling, to become home ownership, family reasons, and place of work. Nevertheless, situations are very different between the zones.

IV.1.2. Results and analysis, zone by zone

Zones of the centre of the agglomeration (1,2) :

Zone 1 : " Central Business District of the agglomeration. A lot of services and commercial places (little places). A lot of white collars households. "

Zone 2 : " Near the CBD. Residential boroughs with collective buildings with more than 20 dwellings, few proportion of activities"

We find again previous aspects. The reasons of the households to remove in centre's zones are very close. The difference concerns the place of the work in zone 1 (see table A, above). Among the 155 households inquired in zone 1, 72 would like to remove (46%), and 83 wouldn't. In zone 2, among 178 households inquired, 91 would like to remove (51%).

Households expressing an intention of relocating

Criterion about removal, zone 1

Criterion	Value
Other	4%
Borough	6%
SFH	1%
Ownership	18%
Place of W	8%
Family	17%
Price	6%
Comfort	7%
Size	33%

Criterion about removal, zone 2
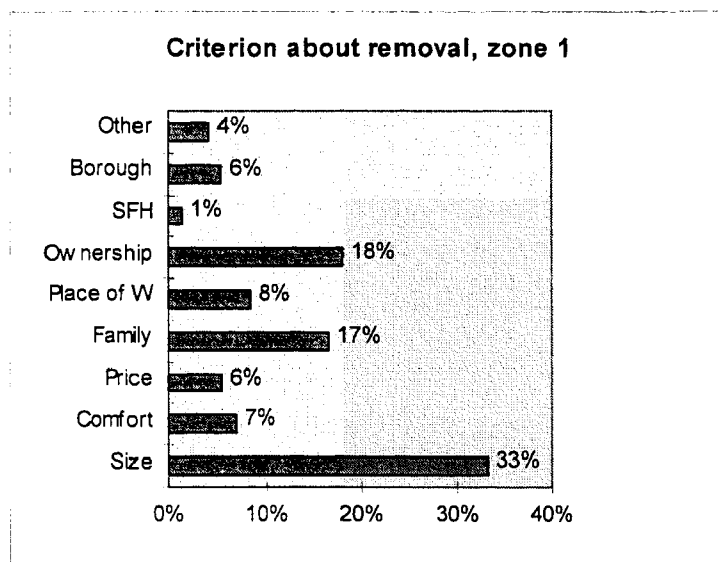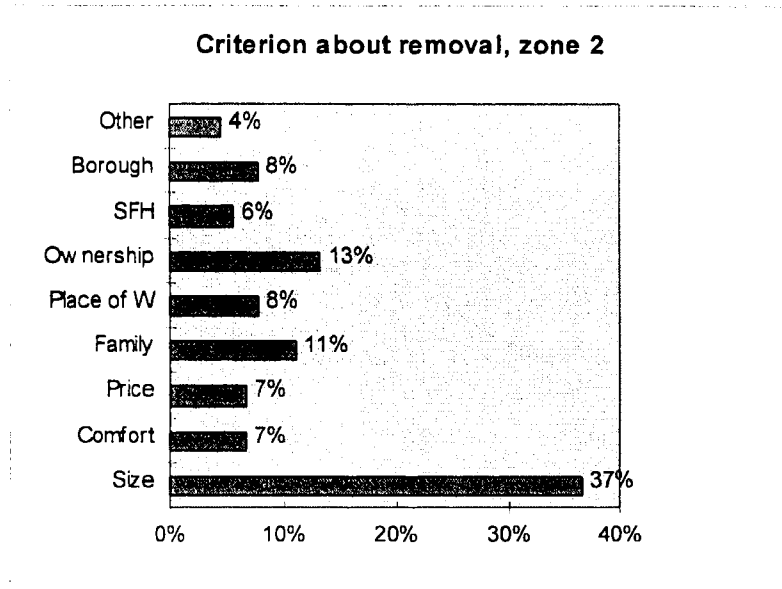
We can see the role of the criterion which are lied to the zone. The three more important criterion are : size of the dwelling, to become home ownership and family reasons. We think that this is due in great part to the characteristics of the households who live in these zones. They are young households with one or two people, who try to remove from their dwelling when there is a change in their social situation, to have a more functional and big dwelling [8]. The need to become home ownership could be explain by the quantity of dwellings to be rented : it's certainly more easy to buy a dwelling zone's far from the CBD than in the CBD (see table 1). The price of the dwellings can also put the households to remove from zone 1 to another, to become home ownership (see table 2).

Table 1. : Percentage of renters and properties in each zones

ZONES	Properties	Renters
1	33%	67%
2	38%	62%
3,4	35%	65%
5	58%	42%
6,7	67%	33%

Source : RGP 90 (INSEE)

Table 2 : Rent for 100 m² and price of the m²

ZONES	for 100m2	price of the m2
1	4498	10000
2	4247	7053
3,4	4063	7727
5	4575	8584
6,7	3672	7580

Source : Notariat, service action foncière du Grand Lyon, 1995

---

[8] More than 55% of interviewed people (head family) have more than 18 years old and under 35 years old for zone 1 (near 35% for "externals" zones 5 and 6-7).

We see, also, that the need to have a single family home is more important in zone 2. This variable take-over the gap between the two zones. Otherwise, inhabitants of zone 1 seem to be right city dwellers, because 68% of those who want to remove have the intention to stay in this zone, which is not the case for the zone 2 (40%). We think, that these people like the historical centre of the town (see table 3).

Table 3 : Percentage of households who want to stay in CBD among households who want to remove

	TOTAL	%
zone 1	72	68 %
zone 2	91	39,5%
	268	45 %

Source : enquête RP

Households not expressing any intention of relocating

As for previous people, households went in these zones because the size of their dwelling. Nevertheless, family reasons and the need to become home ownership haven't the same role than for households expressing an intention of relocating.

Criterion about removal, zone 1

Criterion	%
Other	12%
Borough	4%
SFH	6%
Ownership	16%
Place of W	17%
Family	6%
Price	1%
Comfort	6%
Size	32%
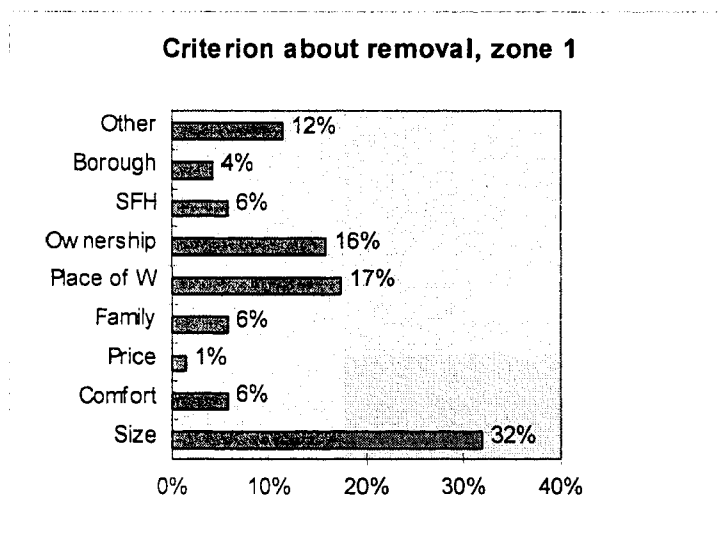
Criterion about removal, zone 2
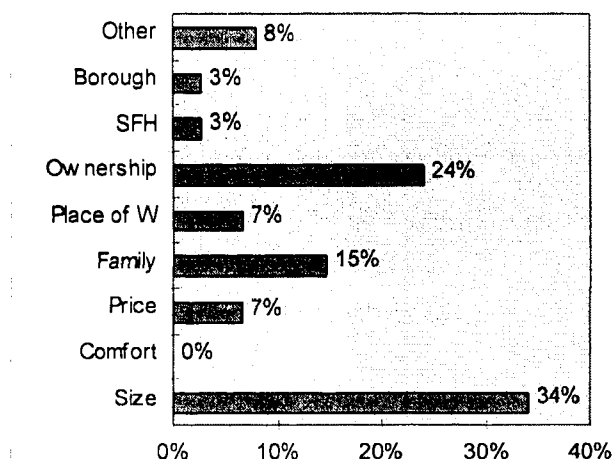
For these two zones, people have different logics. "To be closer to its place of work" is an important reason for the removal, rather than family reasons. For those who came in zone 1 : there are a lot of employments in basic and induced services (respectively 33% and 31% of the employment of the agglomeration), and in small shops (29%). See table 4.

Table 4 : Induced and basic services, and small shops, of the agglomeration, shared by zones

ZONES	Basic Services	Induced Services	Small shops
1	33%	31%	29%
2	18%	18%	18%
3,4	27%	26%	26%
5	8%	9%	9%
6,7	14%	17%	17%
	100%	100%	100%

Source : RGP 1990 (INSEE)

Otherwise, people is certainly interested by the equipment present in these zones, notably in the health field. (the percentage of old people is very important in these zones : see table 5 and 6).

Table 5 : Number of general practitioner for 1 000 household

ZONES	
1	14.33
2	9.45
3,4	7.50
5	8.46
6,7	7.93

Source : Enquête équipements INSEE 1994

Table 6 : Percentage of people who have more than 60 years in each zone

ZONES	
1	23%
2	20%
3,4	15%
5	18%
6,7	13%

Source : RGP90 (INSEE)

In zone 2, the logic is close than for previous people, but the criteria "family reasons" and "to become home ownership" are more important. The criteria "to become home ownership" has a right impact on the removal decision (for 24% of households). It seems that the opportunity to become home ownership are more important in zone 2, than in zones 1, and 3-4, at a good price (see table 2). Otherwise, always in zone 2, "family reasons" plays a more important role than the criteria "place of work". It is the opposite in zone 1. Zone 2, has a good level in services for people, especially in education, it is also near the CBD.

Table 7 : Employment in education of the agglomeration, shared by zone

ZONES	
1	17%
2	**29%**
3,4	30%
5	10%
6,7	14%
	100%

Source : RGP 1990 (INSEE)

Zones near the centre of the agglomeration (3,4) :

"Area of employment, near the CBD, blue collar and employees, with a low level of income. A lot of foreign people and collective buildings." "

These zones find their position in the framework of the general comments. Nevertheless, the "place of work" doesn't play an important role at the difference of the "borough". Among the 173 households inquired, 91 would like to remove (53%).

Households expressing an intention of relocating

Criterion about removal, zone 3,4

Other	9%
Borough	14%
SFH	8%
Ownership	14%
Place of W	7%
Family	10%
Price	3%
Comfort	1%
Size	34%

0% 10% 20% 30% 40%
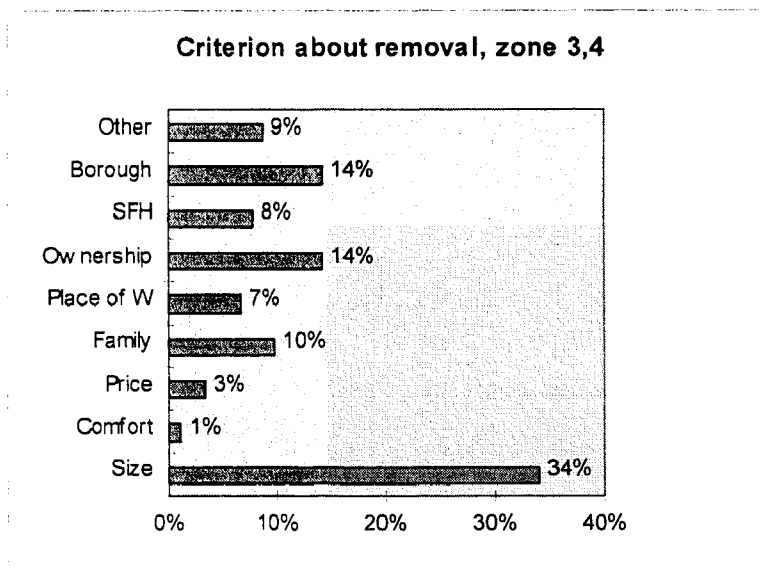
We can note :

- the importance of a criteria which not concerning the zone nor the dwelling : "to become home ownership". As in zone 1, the quantity of dwelling to be rent is high. So, the capability to buy a dwelling in these zones is lower than for those which are far from the centre (5 and 6-7; see table 1).

- the importance of a criteria concerning the zones : the borough. In these zones, there are certainly problems due to the neighbourhood and the security. We can also explain this by problems lie to the welfare : there are a lot of industries in these zones, with a lot of factories (Gerland, St Fons,...). So negative effects are important (noise, pollution,...), and boroughs not very nice (see table 8).

Table°8 : Employment in heavy basic industry of the agglomeration, shared by zone

ZONES	
1	11%
2	14%
3,4	**38%**
5	6%
6,7	32%
	100%

Source : RGP 90 (INSEE)

The public equipment can be considered as a good one. It doesn't occur in the removing decision (see table 9).

Table°9 : public equipment perceived by household in each zones

	ZONE 1	ZONE 2	ZONE 3,4	ZONE 5	ZONE 6,7
Very good equipment	93 %	70 %	**60 %**	53%	38 %
Good equipment	4 %	28 %	**35 %**	32 %	25 %
Bad equipment	3 %	2 %	**5 %**	12 %	19 %
Rural (very bad)	0.00%	0.00%	**0.00%**	3 %	18 %
	100 %	100 %	**100 %**	100 %	100 %

Source : RP survey, 1997

The place of work has no importance in these zones. As they are the place of employment of the agglomeration, households are near their place of work. These zones are also near to highways entrances.

Households not expressing any intention of relocating

Criterion about removal, zone 3,4
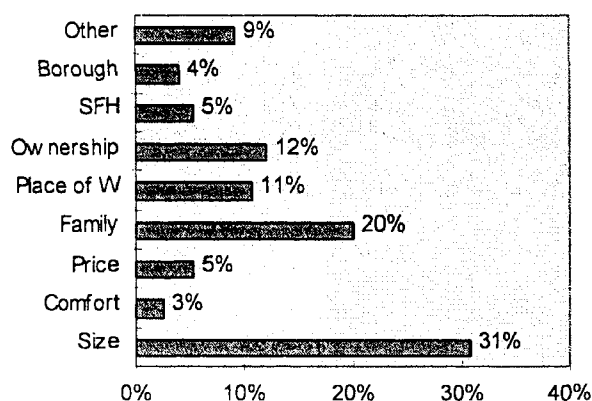
Sensitivity of these people is very different from those who want to remove, even if the first criteria stay the size of the dwelling. "Family reasons", "to become home ownership" and "the place of work" are the main criterion. The criteria "borough" is not an important one. We can explain the position of the criteria "family reasons" by the number of collective dwellings in these zones (arround 40% of buildings of the agglomeration, with more than 20 dwellings are concentrated here), with a lot of HLM (habitations à loyer modéré). These dwellings allow households with low income to live in dwelling offering a good price (see table 10 and 11).

Table 10 : Rent for 100 m2 and price of the m² (in FRF)

ZONES	rent	price of m²
1	4498	10 000
2	4247	7053
3,4	**4063**	7727
5	4575	8584
6,7	3672	7580

Source : Notariat, service action foncière du Grand Lyon, 1995

Table°11 : percentage of type of buildings with....

ZONES	1 dwelling	2 dwellings	3 to 9	10 to 19	more than 20
1	2%	9%	26%	26%	16%
2	7%	23%	26%	25%	32%
3,4	**17%**	**21%**	**22%**	**31%**	**38%**
5	18%	17%	11%	11%	9%
6,7	56%	30%	15%	8%	5%
	100%	100%	100%	100%	100%

Source : RGP 90

We think that to become home ownership is not an important criteria in these zones because the lowest level (see table 12) of incomes[9], and because the important part of people unemployed (see table 13. In zone 1 and 2 there are a lot of retired people, taking into account in these data).

Table°12 : average level of income by zone (in FRF by month)

ZONES	
1	15813
2	13088
3,4	12443
5	17387
6,7	13686

Source : households survey 1995

Table 13 : inactive people of the agglomeration shared by zone

ZONES	
1	35%
2	20%
3,4	28%
5	9%
6,7	9%
	100%

Source : RGP 90 (INSEE)

Finally, for people who have moved, the need of the place of work is certainly lie to the importance of employment in these zones (see tables 7 and 8).

Zones of residential's boroughs of the west agglomeration (5) :

" Residential borough, single family homes. A lot of white collars, with many children. A lot of green spaces and few activities"

The criteria "size of the dwelling" is more important in the others zones than here. But the criteria "to become property owner" plays an important role, as to be close to its place of work. We can see, also, that the "borough" is present, as "family reason", but at a lower level.

Among the 111 households ask in this zone, 46 want to remove (41%), and 65 don't want.

---

[9] But we see below that this variable is certainly not a good one to apprecialte the patrimony of a household.

Households expressing an intention of relocating

Criterion about removal, zone 5

Category	Percentage
Other	4%
Borough	17%
SFH	4%
Ownership	15%
Place of W	11%
Family	7%
Price	4%
Comfort	0%
Size	37%
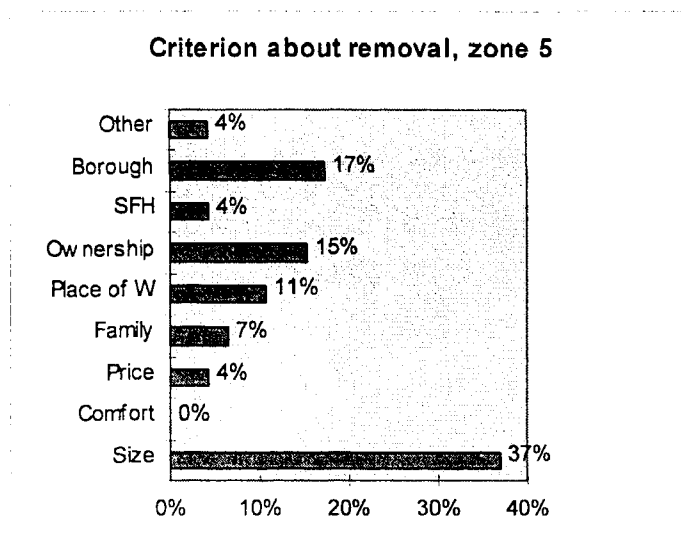
We find again the general hierarchy, but not for the criteria "borough", which is at the same level as the criteria "to become home ownership".

Here, we can put in advance criterion concerning the zone, not the dwelling The "borough" is the second choice, and to be close to is place of work is a discriminate one. Family reasons haven't a good place (we think that is due to a more important social and economic stability of the household who live in this zone).

The place of the criteria "borough" is certainly due to the disadvantages concerning the organisation of the life of the household in this "periurban" zone very spread, with a low density : the car is obligatory not only for home-work trips but also for the children's leisure. So it implies constraints for the heads of the family and it cost money (the number of person by household is high (see table 14). Problems due to the public equipment can also explain this reality : only 53% of households living in zone 5, think that the level of equipment is very good, for 93% in zone 1, 70% in zone 2 and 60% in zone 3-4 (see table 9).

Table°14 : average number of person by household in each zone

ZONES	
1	2.08
2	2.53
3,4	2.66
5	2.81
6,7	3.10

Source : households survey 1995

About the criteria "to become home ownership", phenomenon lie to the style of life, plays certainly a role. Thus, an important part of households living in this zone is dwelling's ownership (previous stability). May be this situation has an impact into households who

are renters, and who would like to become property-owner, but who are not able to pay the price of the square meter, which is at a high level (see table 10).

Table 15 : percentage of renters and home ownerships in each zone

ZONES	Ownerships	Renters
1	33%	67%
2	38%	62%
3,4	35%	65%
5	58%	42%
6,7	67%	33%

Source : RGP 90 (INSEE)

Households not expressing any intention of relocating

Criterion about removal, zone 5

Criterion	Percentage
Other	7%
Borough	7%
SFH	9%
Ownership	20%
Place of W	14%
Family	11%
Price	4%
Comfort	5%
Size	23%
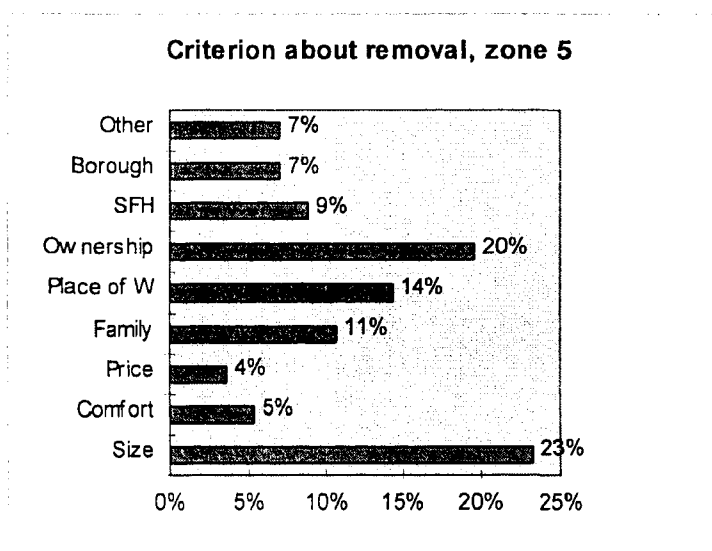
At the difference of the others zones, the size of the dwelling has a lower importance, but we find again the criterion "to become home ownership", "the place of work", "family reasons" and the "need of a house". We think that a phenomenon of "social link" has lead some households to came in zone 5, because they are white collars (see table 16). It explain certainly that many criterion have a lower importance in this zone as in others (as size of the dwelling or family reasons).

Table°16 : percentage of white collars for each zone

ZONES	
1	33%
2	22%
3,4	15%
5	38%
6,7	17%

Source : RGP 90 (INSEE)

About the criteria "to become home ownership", we can explain it by the high number of home ownership : may be opportunities are more important. Thus, has we said before, there are a lot of white collars and, also a lot of single family home in zone 5 (see table 17). Others buildings are nice and the quality of environment is good.

Table 17 : percentage of building of...for each zone

ZONES	1 dwelling	2 dwellings	3 to 9	10 to 19	more than 20	
1	3%	1%	20%	51%	25%	100%
2	7%	2%	16%	37%	38%	100%
3,4	14%	1%	11%	38%	36%	100%
5	34%	3%	12%	30%	21%	100%
6,7	64%	3%	10%	15%	9%	100%

Source : RGP 90 (INSEE)

As in zone 1, we find many households interested by the proximity of the place of work. Zone 5 is near the CBD and many "high-tech" society are located here. The criteria "need a single family home" (SFH), can be lies with previous remarks : there are a lot of single family homes and unused land is important..

Zones very far of the CBD (6,7) :

Zone 6 : " Households with medium level of income, a lot of single family homes, few employment"

Zone 7 : " Zones far from the CBD, inhabitants with low income, no employment and activities "

As in zone 5, the size of the dwelling has a lower weight than for others zones. For others criterion we are in relation with the global results, but we can see that the criteria concerning a need of a single family home is an important one (SFH). Among the 135 households ask, 55 want to remove (41%), and 80 don't want.

Households expressing an intention of relocating

Criterion about removal, zones 6,7

Criterion	%
Other	6%
Borough	9%
SFH	9%
Ownership	9%
Place of W	11%
Family	11%
Price	9%
Comfort	9%
Size	26%
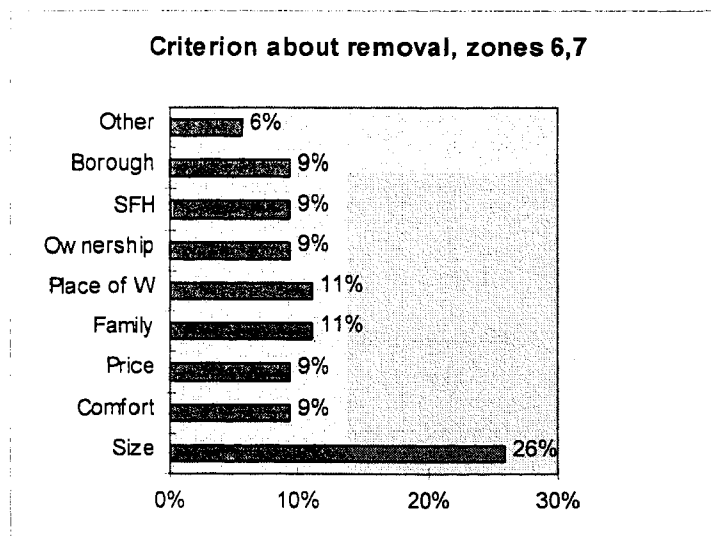
All the criterion are equally represented, even if the size of the dwelling is at the first place, but a lower level than in others zones. We can note the place of the criteria "place of work". As in zone 5, we could explain the level of the criteria "size of the dwelling" by the average area of the dwelling which is high : so, people give a lower importance on it (see table 18 [10]).

Table°18 : average area of dwellings by zone, in m²

ZONES	dwellings rented	dwellings of property owners
1	73	104
2	66	88
3,4	68	94
5	76	109
6,7	77	107

Source : Notariat, service action foncière du Grand Lyon

These zone are very far from the CBD, there have few employments only, and not a good level of public equipment : so there are trips constraints for households (see table 9). Thus, households need to have cars. The lack of public transport in this part of the agglomeration, not easy to serve, reinforce this fact. Expenditures are high : work-trips, cars ownership, children's leisure,.... So, the need to be close to he work and the family reasons play a role in the decision of the households who want to remove.

Table°19 : percentage of household which have 1 car and 2 cars or more by zone

ZONES	one car	2 or more
1	48%	14%
2	52%	18%
3,4	53%	20%
5	48%	37%
6,7	46%	41%

Source : EM 1995

---

[10] Be careful, the data for the zone 5 must be compared with those of zones 3,4. Zones 1 and 2 are zones of the centre of the agglomeration.

Households not expressing any intention of relocating

Criterion about removal, zone 6,7

Criterion	Value
Other	7%
Borough	3%
SFH	12%
Ownership	19%
Place of W	11%
Family	15%
Price	5%
Comfort	1%
Size	26%
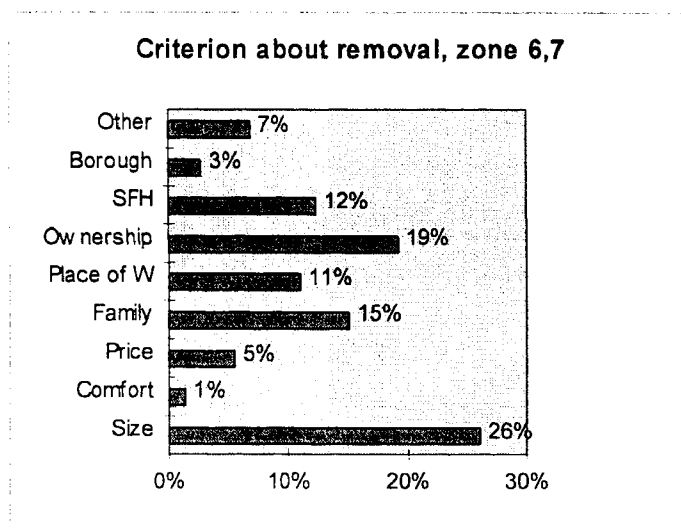
We find the same hierarchy as in zone 5, with a bigger importance in the family reasons and the need of a house. In these zones, there are a lot of houses, and a lot of land which can be used to build single family home. The rents and price of the m² for purchase are interested. So, its seems logic to have an important percentage of households who came here, because they wanted to have a single family home (see table 20 and 21).

Table 20 :percentage of individual and collective dwellings for each zone

ZONES	Individual	Collective	
1	3%	98%	100%
2	7%	93%	100%
3,4	14%	86%	100%
5	34%	66%	100%
6,7	64%	36%	100%

Source : RGP 90 (INSEE)

Table°21 : percentage of residual part in the land-use of each zone

ZONES	
1	48%
2	41%
3,4	58%
5	55%
6,7	79%

Source : Town agency of Lyon (1996)

The same analysis as the previous one, can be made for the criteria "to become home ownership" (see also table 10).

About "family reasons", we certainly find here, people who came in these zones when the household grows up (more children), to become property-owner of a house and for the quality of the environment (see table 14 : 3.10 people in average by household). So, everything seems correlated : size of the household (place in the cycle of life), good price of dwelling, big area of dwelling,.....Other explanation can be advanced (see par V of this report).

IV.2. Choice of dwelling

Seven criterion were proposed at the households :

List of the criterion :

- good quality of environment (calm, green spaces,...)
- good public transports
- comfortable dwelling
- need to be lonely
- need to be close to is place of work
- equipment : school, public equipment, shops,...
- others

IV.2.1. Global results

Table D : For all the population

	ZONE 1	ZONE 2	ZONES 3,4	ZONE 5	ZONES 6,7
Environment	36%	44%	38%	62%	51%
Public Transport	13%	6%	9%	5%	6%
Comfort of dwelling	24%	25%	21%	13%	14%
To be lonely	1%	3%	5%	3%	4%
Place of work	9%	5%	8%	6%	8%
Equipment	11%	12%	8%	10%	7%
Others	6%	5%	10%	2%	9%
Total value	144	165	165	103	127

The quality of the environment is always the first criteria, the comfort of the dwelling is the second one. We can note opposition for zones 1,2 and 3-4 and for zones 5 and 6-7, on these two aspects. Other criterion are more distributed

Table E : Households expressing an intention of relocating (INTD)

	ZONE 1	ZONE 2	ZONES 3,4	ZONE 5	ZONES 6,7
Environment	38%	40%	40%	55%	52%
Public Transport	15%	8%	9%	6%	7%
Comfort of dwelling	24%	26%	22%	8%	7%
To be lonely	0%	3%	7%	4%	6%
Place of work	7%	7%	9%	4%	13%
Equipment	11%	14%	9%	8%	9%
Others	6%	2%	5%	17%	6%
Total value	72	88	91	53	54

As for all the population, the quality of the environment is always the first criteria. It is more important in external zones. In external zones (5 and 6-7), the comfort of the dwelling is really at a lower level, which is not the case in "central" zones..

Table F : Households not expressing any intention of relocating (N INTD)

	ZONE 1	ZONE 2	ZONES 3,4	ZONE 5	ZONES 6,7
Environment	35%	51%	36%	49%	51%
Public Transport	11%	4%	10%	3%	6%
Comfort of dwelling	24%	25%	21%	13%	19%
To be lonely	3%	3%	4%	1%	3%
Place of work	11%	3%	8%	6%	4%
Equipment	11%	11%	7%	8%	6%
Others	6%	10%	15%	1%	13%
Total value	72	77	74	58	73

The results are the same than the previous.

IV.2.2. Results and analysis, zone by zone

Zones of the centre of the agglomeration (1,2) :

Zone 1 : " Central Business District of the agglomeration. A lot of services and commercial places (little places). A lot of white collars households. "

Zone 2 : " Near the CBD. Residential boroughs with collective buildings with more than 20 dwellings, few proportion of activities"

Criterion considered by the households are very close from those previously identified. We can note that the criteria "environment" is at the same level in zones 1 and 2. The criteria public transport supply PT is more important in zone 1.

Households expressing an intention of relocating

Criterion about the choice of dwelling, zone 1

Criterion	Value
Others	6%
Equipment	11%
Work	7%
Lonely	0%
Comfort	24%
PT supply	15%
Environment	38%

Criterion about the choice of dwelling, zone 2

Criterion	Value
Others	2%
Equipment	14%
Work	7%
Lonely	3%
Comfort	26%
PT supply	8%
Environment	40%
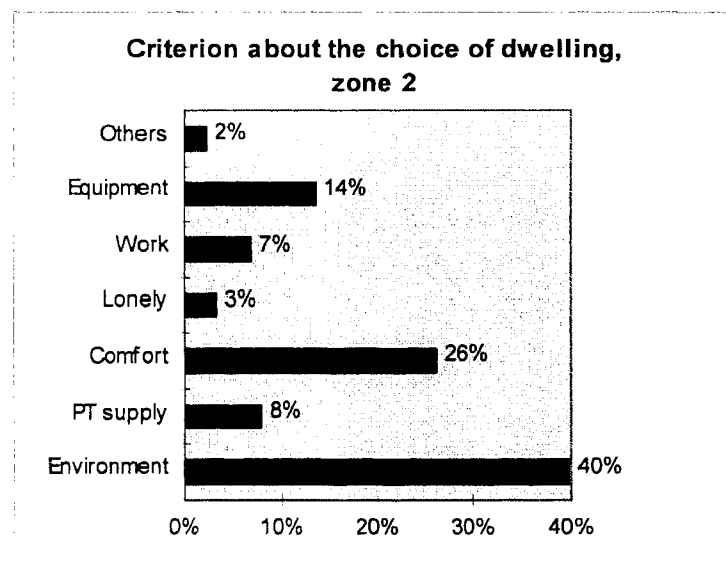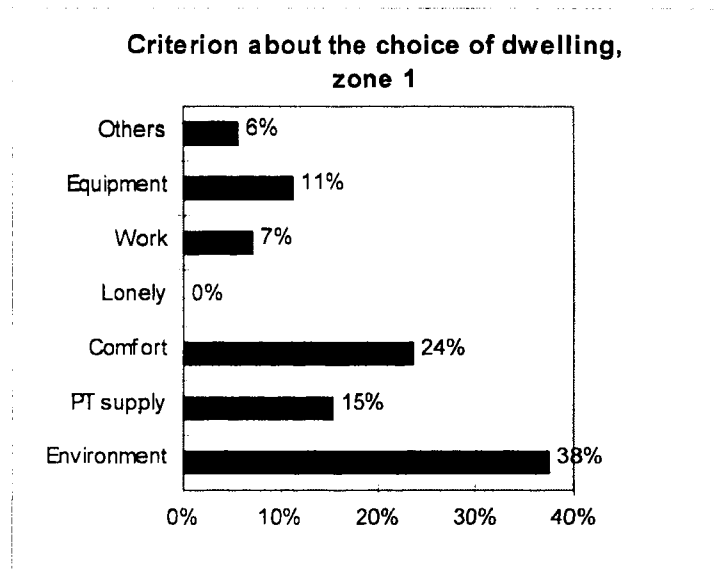
The quality of environment is the first criteria : we understand that households expressing an intention of relocating and who live in these zones tend to favour a better quality of the environment for their dwelling : for example in term of calm, of green spaces,...This aspect concerns certainly people who are sensitive to traffic noise, pollution,...problems perceived in a more accurate form when there are children in the household.

These households want to improve the comfort of their dwelling. In these zones of the centre of the agglomeration, many households are face to difficulties lie to the age of the buildings : no lift, no park, soundproofing,... So, they want to have a more comfortable and more functional dwelling.

The supply in term of equipment plays also a role. Households who live here, will certainly remove in zones where their dwelling will be close to public and household-life equipment, because they are accustomed to them.

We can note the place of the PT supply in zone 1. Households who live in this zone are close to a very good PT supply : subway, buses,...which have very good frequencies, with a good network in term of density, connexions,... So, they use it for their home-work trips, for their leisure and those of their children. Because a good PT supply, and the demographic structure of this zone, households don't have a lot of cars (see table 22). So, for the future they want to keep the advantage of the PT supply. These two last aspects explain certainly in great part why households expressing an intention of relocating from these zones to another will choice a dwelling always in zones of the centre of the agglomeration or very close to the centre (see table 23). Thus, about 70% of households who live in zone 1 would like to live in central borough of the agglomeration (Lyon and Villeurbanne). This choice concerns only 41% of the households who live in zone 2. 23% want to go in zone 3 which concerns boroughs of the west side of the agglomeration (Ecully, Tassin, Ste-Foy,...), and which are close to the centre.

Table°22 : percentage of households who have 1 car and 2 cars or more by zone

ZONES	one car	2 or more
1	48%	14%
2	52%	18%
3,4	53%	20%
5	48%	37%
6,7	46%	41%

Source : EM 1995

Table°23 : choice of future zone for households who live in zone 1

zones	% of households
01	69%
02	1%
03	11%
04	4%
05	7%
06	1%
08	1%
10	4%

Table°24 : choice of future zone for households who live in zone 2

zones	% of households
01	41%
02	2%
03	23%
04	2%
05	6%
06	8%
08	5%
09	1%
10	13%

Source : RP survey

<u>Zone number :</u>

zone 01: Lyon, Villeurbanne
zone 02 : east of Lyon (de Rillieux à St-fons)
zone 03 : west of Lyon (de Caluire à Pierre Bénite)
zone 04 : east of the agglomeration (de Jonage à St-priest)
zone 05 : south-west of the agglomeration
zone 06 : borough of the west, very far from the centre
zone 07 et 08 : borough very close the Ain
zone 09 : south-east of the agglomeration
zone 10 : others zones

Households not expressing any intention of relocating

Criterion about the choice of dwelling, zone 1

Criterion	%
Others	6%
Equipment	11%
Work	11%
Lonely	3%
Comfort	24%
PT supply	11%
Environment	35%

Criterion about the choice of dwelling, zone 2

Criterion	%
Others	10%
Equipment	11%
Work	3%
Lonely	3%
Comfort	25%
PT supply	4%
Environment	51%
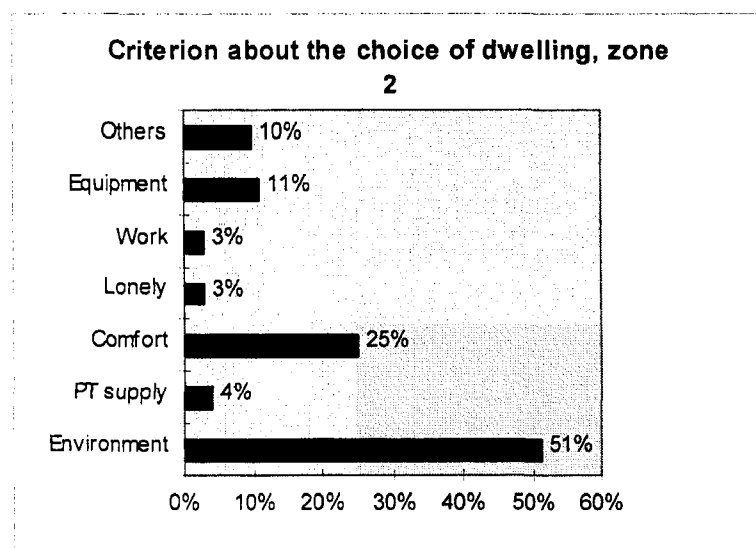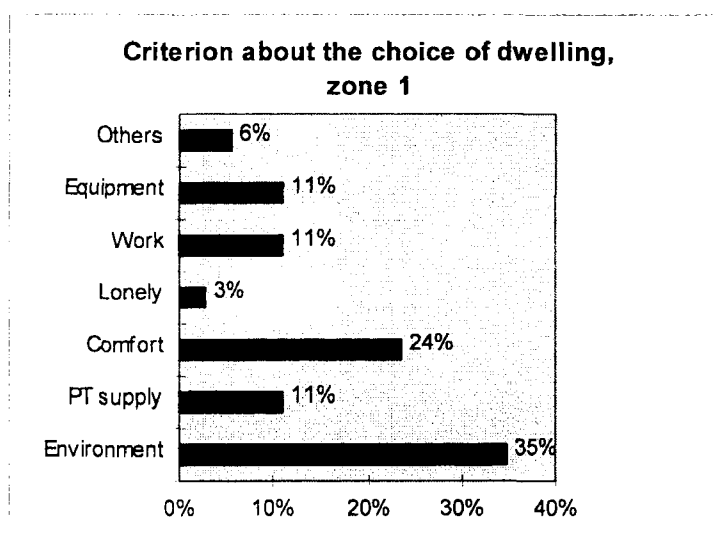
The criteria "quality of environment" is always the first. It is more important in zone 2, than in zone 1. As households think about their choice based on the past, those who came in zone 1 didn't make their choice to have green spaces, no noise,..., but to take advantage

of the public's equipment and of the PT system, or to be close to their place of work (theses criterion make 33% of the choice in zone 1 and only 18% in zone 2).

Zone 2 is a more "residential" one, even if there are few important streets (as le Cours Emile Zola for example). This quality of the environment played a role in the choice of the households. As in zone 1, households are interested by the proximity of equipment (schools, services, shops,...) of the CBD. So, these households want to take advantage of the equipment of the CBD, but without the disadvantage of the CBD (noise, lack of green spaces, etc.). See table 15 : the part of the "mixt" space is really more important in zone 1, than in zone 2.

Table°25 : land-use in each zone

ZONES	INDIV	COLL	MIXTE	ACT	
1	16%	18%	43%	23%	100%
2	30%	29%	13%	28%	100%
3,4	27%	22%	9%	42%	100%
5	71%	11%	5%	13%	100%
6,7	66%	4%	4%	25%	100%

Source : RGP 90 (INSEE)

With :

INDIV : residential individual
COLL : residential collective
MIXT : residential + shops + services...
ACT : activities

The comfort of the dwelling is an important criteria in the two zones.

Zones near the centre of the agglomeration (3,4) :

"Area of employment, near the CBD, blue collar and employees, with a low level of income. A lot of foreign people and collective buildings." "

Quality of environment is always the first criteria of the choice of the dwelling, but the comfort of the dwelling is also important.

Households expressing an intention of relocating

Criterion about the choice of dwelling, zone 3-4

Criterion	Percentage
Others	5%
Equipment	9%
Work	9%
Lonely	7%
Comfort	22%
PT supply	9%
Environment	40%
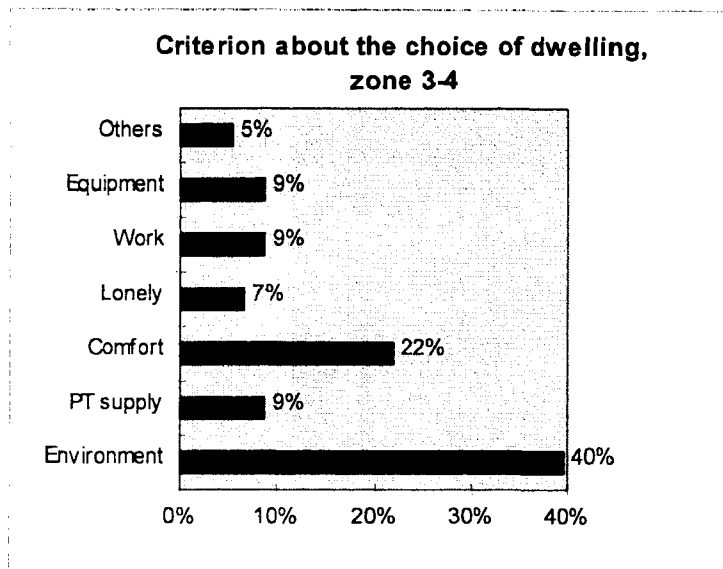
The situation is the same as in central zones, except that criterion are equally split (but not the quality of environment and the comfort of the dwelling). In these zones, quality of environment is certainly lie to the security and the neighbourhood aspects. The comfort is also an important criteria, certainly because is low here : there are a lot of buildings with more than 20 dwellings (HLM), which implies displeasure : noise, size of the dwelling,...

Table°26 : percentage of type of buildings with more than 20 dwellings shared by zone

ZONES	
1	16%
2	32%
3,4	38%
5	9%
6,7	5%
	100%

Source : RGP 90 (INSEE)

Households not expressing any intention of relocating

Criterion about the choice of dwelling, zone 3-4

Criterion	Value
Others	15%
Equipment	7%
Work	8%
Lonely	4%
Comfort	21%
PT supply	10%
Environment	38%
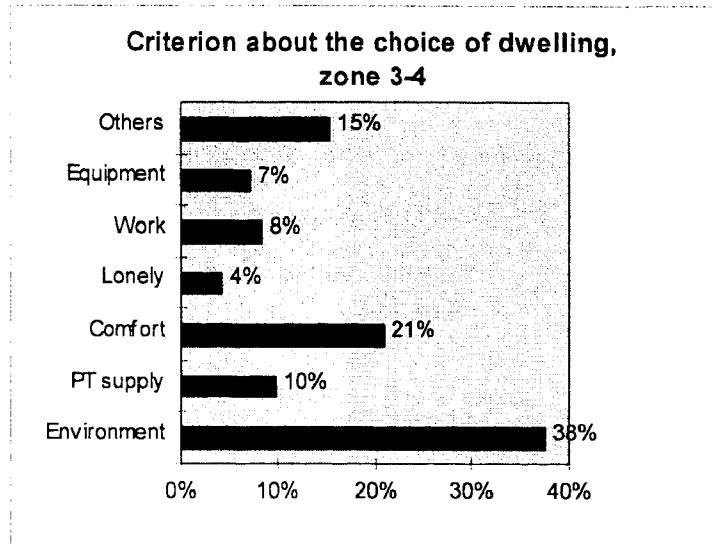
The results are closer from those of the zone 1, but not for the "equipment". The quality of the environment is the first criteria, but it has a lower level than in external zones. These zones are the industrial core of the agglomeration : there are a lot of negative external impacts (Saint-Fons, Gerland, Rillieux,...), and a lot of highways (ring, A7), which implies noise and pollution. See table 27.

Table n°27 : industrial employment shared by zone

ZONES	Heavy industry	Light industry
1	11%	15%
2	14%	21%
3,4	**38%**	**26%**
5	6%	11%
6,7	32%	27%
	100%	100%

Source : RGP 90 (INSEE)

The comfort of the dwelling plays a role, as the PT supply (as in zone 1) : many of the boroughs present in these zones have a good PT supply in term of buses and subway (line D).

Zones of residential's boroughs of the west agglomeration (5):
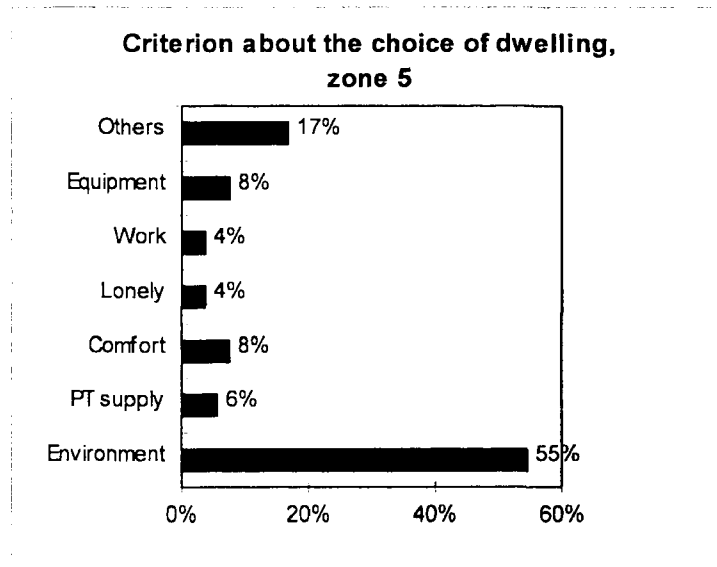
" Residential borough, single family homes. A lot of white collars, with many children. A lot of green spaces and few activities"

Quality of environment is an important criteria, others are not significant.

Households expressing an intention of relocating

Criterion about the choice of dwelling, zone 5

Criterion	%
Others	17%
Equipment	8%
Work	4%
Lonely	4%
Comfort	8%
PT supply	6%
Environment	55%

As for the general assessment, quality of environment is a very important criteria. This one define the choice of dwelling in zone 5, and in others external zones (6-7). Households living in the western agglomeration are enjoyed by the environment. So, when they want to relocate themselves, they are attached to find the same quality for their welfare (so they put it in advance). Others criterion are not very present. The comfort of the dwelling, doesn't plays an important role.

The main lesson we must kept at this level of the analysis concerns a switch between the criterion concerning the choice of dwelling for internal (1; 2; 3-4) and external zones (5 here). For the first ones, the comfort of the dwelling is one of the most important criteria : these households experience the effects of the high concentration of people and activities which lead some negatives external aspects, as precise before. They also live in ancient dwellings (no park for cars, no lift, bad insulation,...). So, the comfort of the future dwelling is considered as important. For the second ones, households are more lie to the quality of the environment, for the reasons we explain before.

Households not expressing any intention of relocating

Criterion about choice of dwelling, zone 5

Criterion	Value
Others	1%
Equipment	8%
Work	6%
Lonely	1%
Comfort	13%
PT supply	3%
Environment	49%
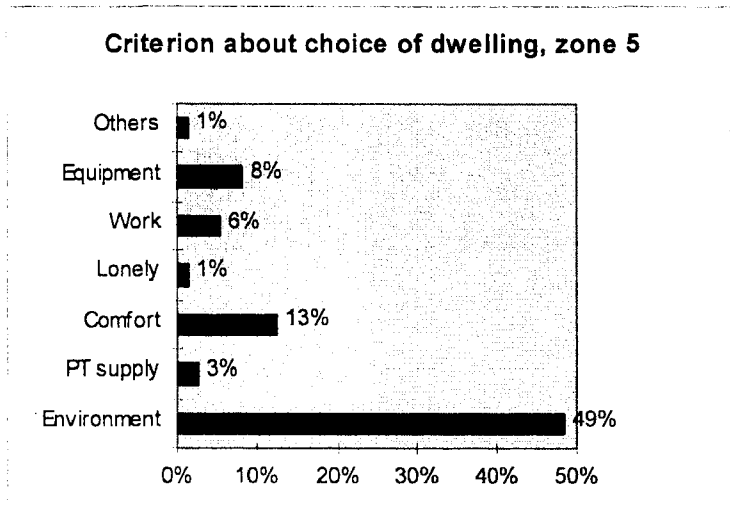
We can see, the place of the quality of the environment, which is not a surprise. The framelife is very good in these zone (calm, green spaces,...), and it is near the CBD. In this zone households are very lie to the quality of their life either by the comfort of their dwelling, certainly because this comfort is already good !

Zones very far of the CBD (6,7) :

Zone 6 : " Households with medium level of income, a lot of single family homes, few employment"

Zone 7 : " Zones far from the CBD, inhabitants with low income, no employment and activities "

The quality of the environment is still present here. The comfort of the dwelling hasn't a very important place.

Households expressing an intention of relocating

Criterion about the choice of dwelling, zone 6-7

Criterion	Value
Others	6%
Equipment	9%
Work	13%
Lonely	6%
Comfort	7%
PT supply	7%
Environment	52%
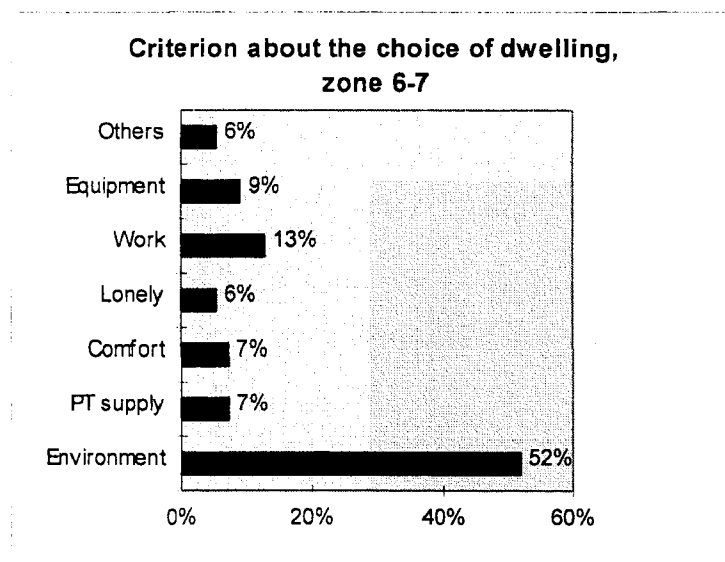
The logic of the households is the same for both zones (5 and 6-7). So, the quality of the environment is the more important criteria. The distinction concerns the place given to the criteria concerning the proximity of the work. Zones 6-7 don't give few opportunities in term of employment, even if it concentrate 32% of the employment of the heavy basic industry of the agglomeration. So, households need to go outside their zone of dwelling to go to work. For their future location, they express the need to be close to their place of work.

Table 28 : Employment shared by zones

ZONES	Heavy industry	Light industry	Basic Services	Induced Services	Small shops	Big shops	Educ.
1	11%	15%	33%	31%	29%	18%	17%
2	14%	21%	18%	18%	18%	15%	29%
3,4	38%	26%	27%	26%	26%	32%	30%
5	6%	11%	8%	9%	9%	14%	10%
6,7	32%	27%	14%	17%	17%	21%	14%
	100%	100%	100%	100%	100%	100%	100%

Source : RGP 90 (INSEE)

Households not expressing any intention of relocating

Criterion about the choice of dweling, zone 6 7

Criterion	Percentage
Others	13%
Equipment	6%
Work	4%
Lonely	3%
Comfort	19%
PT supply	6%
Environment	51%
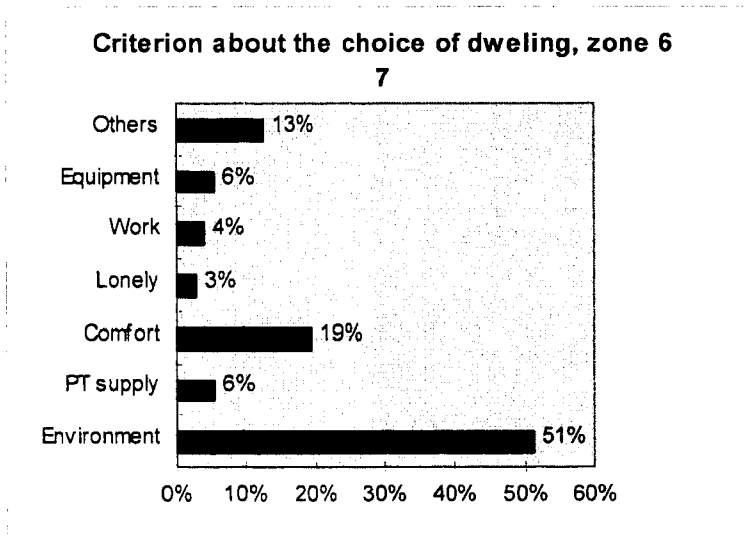
The results are the same than the previous ones, without the importance of the equipment. We find again the same logic between zones 5 and 6-7 : the place of the quality of the environment and of the comfort of the dwelling (but at an other level than for central zones). So, the real difference between these two types of zones concerns the lower importance of the public equipment : zone 6-7 has a low density, and fewer equipment than zone 5 : it seems logic that only few households say that they have choose their location (i.e. dwelling) here in relation with the equipment.

V. A CRITERION APPROACH TO ASSESS BEHAVIOUR LAWS

V.1. Reasons for changing residence

Reminder : groups of criterion :

Criterion not concerning the zone but the dwelling : 1.
Criterion not concerning the zone nor the dwelling : 4; 6; 7
Criterion concerning the zone and the dwelling : 3; (2)
Criterion concerning the zone, not the dwelling : 5; 8; 9; 10

Households expressing an intention of relocating:

Criteria not related to the geographical zone, but instead to the housing unit:

The size of the housing unit is, in all cases, the top motivation behind moving out, yet the importance of this criterion is less pronounced in the outlying peripheral zones. This phenomenon can be explained by the average surface area of housing units, which is greater in these outlying zones.

Criteria related neither to the geographical zone nor to the housing unit:

First-time home ownership comes in second place in the majority of zones; this motivational factor however remains more "diluted" in the outlying zones (6-7), most likely due to the high rate of home ownership, even among the households seeking to move out. Other motivations thereby become more sharply defined in the relocation decision-making process (for example, moving closer to the workplace). This rationale is, logically, more applicable in the city's central core where typically younger households seeking a more stable family and professional situation tend to be located. This category of resident would then be looking to get settled more permanently.

Family reasons exert a rather major influence, except in Lyons' western districts (Zone 5). The central zones (1-2) exhibit younger households seeking to relocate into more suitable housing once a child has been added to the family. In the outlying zones, problems pertaining to schools and educational facilities as well as constraints imposed by driving distances could incite some households to move out. In the western Lyons neighbourhoods, family and professional stability is perhaps stronger than in the other zones.

The desire to live in a single-family home is one of the motivations getting the least attention by households. Yet, it should be noted that this motivational factor is somewhat more distinct in the densely-populated zones near the centre (3-4) as well as in the outlying zones (6-7). In the former, the existence of many low-income, high-density housing projects most surely enhances the feeling for greater isolation, whereas in the outlying zones, a suburban residential development pattern is dominant, which likely serves as an incentive for resident households, in addition to real estate prices being attractive. In contrast, the true urbanites, those who prefer apartment living and who enjoy the amenities the city's historical centre has to offer, can be found in the central core zone.

Criteria related to the geographical zone but not to the housing unit:

Proximity to the workplace represents a significant motivation, especially within the metropolitan area's outlying zones (5-7). This feature is correlated with the limited employment opportunities available in these zones, with the exception of a few pockets, a condition which implies major constraints in terms of both trip-making and automobile-related facilities.

The "neighbourhood" criterion comes into play more decisively in the densely-populated zones near the city centre as well as in Lyons' western districts; in both of these areas, problems related to safety and neighbours have taken on greater importance in addition to the negative image created by the presence of many factories. With respect to the city's western districts, the disadvantages stemming from a peripheral location are likely felt; the car has become vital in the organisation of day-to-day life, and not exclusively for commute trips but for leisure trips as well, especially those that involve children.

Criteria related to both the geographical zone and the housing unit:

Both price and comfort play a key role in the central zones as well as in the outlying zones, and tend to get somewhat downplayed elsewhere: in the centre, this phenomenon is strongly tied to the problems arising in older buildings (the Croix-Rousse, Vaise and Saint-Jean districts). Within the densely-populated zones near the centre, households either don't seem to be placing as much emphasis on housing comfort or show satisfaction with their present level of comfort.

In Lyons' western districts, a strong share of the households fall within the socio-economic category of professionals/managers and average incomes are higher; residents generally enjoy a very high level of housing comfort. This criterion therefore does not appear critical in relocation decisions. The same result obtained in two separate zones, the centre and the western suburbs, does in effect stem from two distinctly different realities.

Concerning those households not expressing any intention of relocating:

Criteria not related to the geographical zone, but instead to the housing unit:

It's the size of the housing unit that ranks first among the reasons behind moving out in all zones, yet this observation turns out to be less pronounced in the outlying zones (5-7).

Criteria related neither to the geographical zone nor to the housing unit:

First-time home ownership has proved to be a major relocation motivation in the central residential zone (2), the western districts and the peripheral zones. These three geographical sectors do in fact account for the conurbation's most residential areas, though display varying characteristics. Attractive real estate prices play heavily in the outlying zones. In the city's western suburbs, it's undoubtedly the quality of the environment (calm, green space and open space amenity), along with proximity to the city centre, that have exerted the biggest influence on households in their relocation decisions. As for the central residential zone, real estate prices are extremely attractive for a centrally-located zone with good access to all facilities.

The desire to live in a home is, quite logically, a more distinct motivation in the urban area's most residential zones (5-7).

Family reasons also play an important role, especially within the densely-populated zones near the centre due to these zones' favourable rental markets. This feature tends to be highly emphasised by households with lower incomes looking to move out once a child has been added to the family. The limited impact of this particular motivational factor in the city's central core can be explained by the greater frequency of older couples within this zone who have moved for other reasons, such as being closer to many urban facilities or reducing commuting distances.

Criteria related to the geographical zone but not to the housing unit:

The workplace meant a lot to those households which have moved away from the urban core, as it did to those which have moved out of the densely-populated zones near the city centre. This finding is closely tied to the fact that these geographical areas comprise Lyons' employment centres.

We can note, that a "neighbourhood-specific motivation has been absent in all zones.

Criteria related to both the geographical zone and the housing unit:

Price and comfort factors are equally split across all zones, yet a major dichotomy between the two can be observed, as opposed to the case concerning households not expressing any intention of relocating. A plausible explanation appears difficult to find.

V.2. Criterion presents in the choice of housing

Households expressing an intention of relocating:

The quality of the environment is, across all zones, the number one criterion behind the choice of a future residence; however, this factor remains more pronounced in zones located furthest from the city centre (5-7). In these zones, households tend to favour environmental quality, whereas in the centrally-located zones, a split exists between environmental quality and housing comfort, the 2nd-leading criterion in relocation decisions. Households residing in outlying zones do benefit from certain environmental advantages (quiet neighbourhoods, more space, abundance of parks and recreational areas); consequently, they're likely to seek to preserve their quality of life in a subsequent residence. In the central zones, households are subjected to the negative external impacts generated by a concentration of both population and human activity (noise, lack of space, pollution, etc.) and sometimes live in housing units that are not very functional and/or in need of renovation (no elevator, lack of parking spaces, poor insulation, etc.). The comfort of their future residence thus becomes of vital importance.

Public transit service is a decision criterion that's more heavily emphasised in the city's central core; households there tend to be regular users of mass transit systems for many of their activities (both work and leisure). Moreover, their rate of automobile ownership, as a whole, is relatively low. They thereby exhibit heightened sensitivity to the advantages of public transit and seek to retain this amenity in their new location.

Isolation turns out to be a rather insignificant criterion, except in the densely-populated zones located near the centre; and this is perhaps due to problems with neighbours or safety concerns.

Proximity to the workplace is a relatively strong criterion within the area's outlying zones: job opportunities are rare, except for certain pockets. Under these conditions, some households elect to relocate in order to be closer to work.

Access to facilities plays a more significant role in the centrally-located zones (1-2). Households there do benefit from certain advantages due to the facilities available, and some would like to retain this advantage in their future housing situation.

Households not expressing any intention of relocating:

A discrepancy between the central zones (1-4) and the outlying zones (5-7) as regards the criteria pertaining to both environmental quality and housing comfort does indeed exist, yet it remains much less noticeable than for those households expressing an intention of relocating. Furthermore, the households moving into Zone 2 have favoured environmental quality, as is the case in the outlying zones. These zones (2 and 5-7) comprise the conurbation's residential districts and, as such, benefit from a better environment than do those zones home to greater economic activity (3-4) or the city's central core. In the latter, households tend to be influenced by other parameters: the level of comfort, proximity to the workplace, facilities, etc.

Access to public transit is also a criterion in choosing future housing which is, quite naturally, more pronounced in the central zone since this area has the best transit service in the entire conurbation. Similarly, proximity to the workplace has exerted a particular influence on those households moving away from the city's central core. This zone does in fact contain a large concentration of jobs, and especially in the services sector. Access to urban facilities is a criterion that's more marked in the central zones (1-2) and in the western suburbs. As for seeking a more isolated setting, this criterion is generally absent in all zones.

VI. Modelling the consumption of the dwelling

We can consider the dwelling of a household as a good : the unit consumed should be the meter square. What are the households [11] characteristics which define the variation of the meters squares used ? Do the behaviours are different between zone ?:

To give a response to these questions, some multiple regressions were built The results are very interesting.

---

[11] Take as consumers

VI.1. Results for each zone

The variables concerning the households which play a role at a global level are :

      1. the number of people by household (NPME),
      2. the average income of the household (RM)
      3. the age of the head of the household (AG1P),

The both first vary from 1 to 10 (ten classes of income), the age from 18 to 68.

The results for each zone are consigned in the table presented page 42.

With this modelling approach, **we can explain between 30% to 53%** of the variability of the square meters used by households. We have, here, good results.

If we focus on the coefficients we obtain, we can make some remarks (don't forget the scale problem lie to the different variables, and which are reflected in the coefficients) :

      - The number of people in the household plays a very important role in zone 1, and 3-4 : we can explain this situation by the facts previously defined : in zone 1, dwellings are not functional and there are a lot of young households. When the family grows up, they need to have a dwelling with a more important size : the first child occurs a big change. In zone 3-4, the problem is certainly different. It concentrate an important number of block of flat which have a lot of dwellings, supplied for people with low income. So, when the size of household grows up, they need to consume much square meters, because it's difficult for us to find a more comfortable dwelling.

      - The income plays an important role in zone 5 and 6-7. This is not a surprise. Households living in zone 5 are white collars which have an important level of income, and they live in single family home : they have certainly a good elasticity income/size of the dwelling. This is certainly due to the relation income-patrimony. As they can support an important level of effort in a financial point of view, they can buy, or rent, a more important size of dwelling, even if they don't really need to have this level of consumption. Households of zone 6-7 are also living in single family home, but they are blue collars. The size of the dwelling is certainly sensitive to the income for us, because a lot of them are home ownership (67%), as we saw it previously. They are certainly able to support an important level of effort in a financial point of view for their home, even if they have lower consumption for other goods : they certainly have'nt an important patrimony, but they certainly give an important part of their income to reimburse their house. In this zone we also have, because its the country, parents who give their home to their children.

      - The age of the head of the family plays a role in zone 2 and 5. In these zones, we find the more comfortable apartments (zone 2) and the more comfortable single family home (zone 5) of the agglomeration. Perhaps, when the age of the head family grows up, he want to have a more important size for it's dwelling, because he already have a very good level of comfort.

Regression analysis : results

	ALL ZONES	ZONE 1	ZONE 2	ZONE 3-4	ZONE 5	ZONE 6-7
Rhô Square bar	**0.44**	**0.46**	**0.53**	**0.43**	**0.44**	**0.30**
Fischer	195	66	65	65	30	30
Population	752	155	178	173	111	135
Constante	-13.88 (t = -2.65)	20.42 (t = 3.45)	-15.62 (t = -1.89)	22.54 (t = 4.45)	-33.46 (t = -2.14)	30.56 (t = 3.28)
Coefficient NPME	**7.41** (t = 8.67)	**12.62** (t = 6.10)	**6.07** (t = 4.28)	**8.19** (t = 5.81)	**6.00** (t = 2.48)	**7.28** (t = 3.76)
Coefficient RM	**7.16** (t = 12.98)	**5.38** (t = 5.28)	**5.86** (t = 5.84)	**5.98** (t = 6.83)	**9.98** (t = 5.42)	**7.28** (t = 5.47)
Coefficient AG1P	**0.96** (t = 6.82)	-	**1.22** (t = 5.38)	-	**1.25** (t = 3.29)	-

VI.2. Results for ownership and renter

The same exercise was made for ownerships and renters. As define in the next table, we can see, that for interviewed people, a distinction occurs for the two sub-population in term of characteristics of the households :

	Ownerships	Renters
Average surface	102 m²	72 m²
Average number of people in the household	3.34	2.47
Median level of income	Class 7	Class 5
Average age of the head of the family	38	34.5

We can see, that the ownership consume a more important surface, and that the size of their household is at a high level, the head of the family is also more aged.

The results are :

	Ownerships	Renters
Rhô Square bar	0.30	0.43
Fischer	64	161
Population	306	425
Constante	25.89 (t = 3.67)	21.95 (t = 7.17)
Coefficient NPME	7.08 (t = 5.36)	9.47 (t = 9.61)
Coefficient RM	7.93 (t = 8.10)	5.29 (t = 8.93)

We can see that there is a more important sensitivity lie to the size of the family for the renters than for the ownerships, and a more important sensitivity lie to the income for the ownerships than for the renters.

CONCLUSION

The analysis of the RP survey carried out by the Certu and the Town Planning Agency of Lyon between february and april 1997, allows to give some advises to the study makers, to perform their work in this field, and to give better responses at the decision makers :

- the modeling of the behaviour laws of the households in term of location will be improve by the integration of qualitative factors transformed in quantitative's ones (for example, we can give some points for the environmental quality or the comfort : people will choice a level between 0 to 20, or 0 to 10). This advice coming from the statistical analysis of the RP survey, could be, then, use for the discrete choice modelling approach.

- the distinction between Households expressing an intention of relocating and Households not expressing any intation of relocation seems to be a good one. It allows to put in advance very different important behaviour laws about the choice of removal and the choice of dwelling. This distinction have to be keep for other surveys.

- the "quantity" of dwelling used by a household could be explain near 50%, only by three variables concerning the household's characteristics. This result is good for the furtur : we should be able to find other variables to have a better explanation, for doing distinction between different kind of households, or different kind of zones.

- we can consider the results of this study as good ones. This is due, in great part, because an important analysis of the study area was made. The use of factorial analysis to obtain coherent groups of geographical zones is very important.

ANNEXES

ANNEX 1 : QUESTIONNAIRE OF THE RP SURVEY

Enquête « localisation résidentielle »

ATTENTION : CE QUESTIONNAIRE CONCERNE *VOTRE MENAGE* ET DOIT ETRE
REMPLI PAR UN ADULTE DU MENAGE (DE PREFERENCE ACTIF).

Q1. Avez-vous l'**intention de déménager** dans les 2 prochaines années ?

☐₁ Oui
☐₂ Non

↳ Si '**OUI**', avez-vous l'intention de :

☐₁ Louer
☐₂ Acheter

|⎵|v1

|⎵|v2

**Si vous avez l'intention de déménager, passez à la question Q7 ;
Sinon, passez à la question suivante (Q2).**

Q2. Avez-vous **changé de logement** depuis le 1ᵉʳ Janvier 1991 ?

☐₁ Oui
☐₂ Non

↳ Si '**OUI**', dans quelle commune se situait votre **ancien logement** ?

Commune : ....
précisez si nécessaire le numéro de département ou le pays : ....

|⎵|v3

|⎵|⎵|v4

**Si vous n'avez ni déménagé, ni l'intention de le faire, passez à la
question Q34.**

Q3. Pour votre **logement précédent**, étiez-vous :

☐₁ locataire
☐₂ propriétaire
☐₃ autre cas (précisez) : ....

|⎵|v5

Q4. Votre **logement précédent** était :

☐₁ un appartement
☐₂ une maison

|⎵|v6

Q5. A cette époque, quel était le **moyen de transport** que vous utilisiez le plus fréquemment
pour vous rendre sur votre lieu de travail ?
(Ne cochez qu'une seule case)

☐₁ voiture + transports en commun ☐₅ train
☐₂ voiture + train ☐₆ moto, mobylette
☐₃ voiture ☐₇ vélo
☐₄ transports en commun (bus, métro) ☐₈ marche à pied

↳ Si vous utilisiez la voiture, étiez-vous :

☐₁ passager
☐₂ conducteur

|⎵|v7

|⎵|v8

Q6. A cette époque, dans quelle commune **travailliez-vous** ?
Commune : ....
précisez si nécessaire le numéro de département ou le pays : ....

|⎵|⎵|v9

Concernant votre situation actuelle...

Q7. Etes-vous :

    ☐₁ *locataire*

       Quel est le montant de votre loyer (<u>charges comprises</u>)?

       .... francs par mois.

    ☐₂ *propriétaire*

       <u>Selon votre cas</u> :

          - Quel est, approximativement, le **prix d'achat** de votre logement ?

           (y compris, le prix du terrain, les droits de mutation et gros travaux)

           .... francs.

          - Quel est, approximativement, le **prix de construction** de votre logement ?

           (y compris, le prix du terrain, les droits de mutation et gros travaux)

           .... francs.

    ☐₃ *autre cas* (précisez) : ....

Q8. **Actuellement**, habitez-vous :

    ☐₁ un appartement

    ☐₂ une maison

Q9. Quelle est la **superficie habitable** de votre logement actuel : .... m²

(sans compter cour, jardin, balcon, garage, caves)

Q10. Possédez-vous un **emplacement de parking réservé** ou un **garage** ?

    ☐₁ Oui

    ☐₂ Non

  ↳ Si '**NON**', près de votre domicile, avez-vous des **difficultés à vous garer** ?

       ☐₁ Oui

       ☐₂ Non

➤ VOUS VIVEZ EN APPARTEMENT...

Q11. Votre appartement est-il un logement social ?

    ☐₁ Oui

    ☐₂ Non

Q12. L'immeuble est-il équipé d'un ascenseur ?

    ☐₁ Oui

    ☐₂ Non

Q13. Combien d'**étages** compte votre immeuble : ....étages.

v10
v11
v12
v13
v14
v15
v16
v17
v18

Q14. Votre maison est-elle :

☐₁ isolée de toute autre maison

☐₂ mitoyenne avec un ou plusieurs autres bâtiments

└─┘ v19

Q15. Avez-vous un **jardin** ou un **terrain** attenant à votre maison ?

☐₁ **Oui**

☐₂ **Non**

└─┘ v20

✎ Si **'Oui'**, quelle en est la **surface** ? .... m².

└─┴─┴─┴─┘ v21

A PROPOS DU QUARTIER OU LOTISSEMENT QUE VOUS HABITEZ ACTUELLEMENT...

- Un __Quartier__ (ou __Lotissement__) désigne un rayon de __5 à 10 minutes à pied__, autour de votre domicile -

Q16. **Actuellement**, dans quel **type de quartier** habitez-vous ?

(Ne cochez qu'<u>une seule case</u>)

☐₁ *quartier très bien équipé*

(tout type de commerces, services, établissements scolaires, sports et loisirs, transports en commun)

☐₂ *quartier moyennement équipé*

(commerces de proximité, services, transports en commun)

☐₄ *quartier faiblement équipé*

(commerces de proximité, peu de transports en commun)

☐₈ *quartier dans une zone à prédominance rurale*

└─┘ v22

Q17. **Près de chez vous**, trouvez-vous :

(Plusieurs cases peuvent être cochées)

☐₁ un arrêt de bus   ☐₄ une gare SNCF   ☐₁₆ une autoroute

☐₂ une station de métro   ☐₈ une route principale

└─┴─┘ v23

Q18. Combien de temps sépare votre **domicile** du **quartier de Bellecour** (par le moyen de transport que vous utilisez habituellement) : .... minute(s)

└─┴─┴─┘ v24

Q19. **Actuellement**, dans quelle commune travaillez-vous :

Commune : ....

N° de département ou éventuellement pays : ....

└─┴─┘ v25

Q20. Quel est le **moyen de transport** que vous utilisez <u>le plus fréquemment</u> pour vous rendre sur votre lieu de travail ?

(Ne cochez qu'<u>une seule case</u>)

☐₁ voiture + transports en commun   ☐₅ train

☐₂ voiture + train   ☐₆ moto, mobylette

☐₃ voiture   ☐₇ vélo

☐₄ transports en commun (bus, métro) ☐₈ marche à pied

└─┘ v26

✎ Si vous utilisez la <u>voiture</u>, êtes-vous :

☐₁ passager

☐₂ conducteur

└─┘ v27

Q21. Près de votre lieu de travail, avez-vous la possibilité de vous garer facilement ?

☐₁ **Oui**

☐₂ **Non**

└─┘ v28

Concernant votre déménagement ou votre intention de déménager...

Q22. Pour quelle(s) **raison(s)** aviez-vous décidé de quitter votre ancien logement; ou, pour quelle(s) raison(s) avez-vous l'intention de quitter votre logement actuel ?
(Cochez au <u>maximum 3 cases</u>, en les <u>classant</u> par ordre de préférence ; de 1 à 3)

- ☐1 pour avoir un logement plus grand
- ☐2 pour améliorer le confort (avoir un ascenseur...)
- ☐3 pour des raisons de prix du logement
- ☐4 à cause d'un changement de la situation familiale
- ☐5 suite à un changement du lieu de travail, ou pour se rapprocher du lieu de travail
- ☐6 pour devenir propriétaire
- ☐7 pour avoir une maison
- ☐8 pour changer de quartier
- ☐9 pour habiter à la campagne
- ☐10 pour habiter en centre-ville
- ☐11 autre (précisez) : ....

⊔⊥⊔ v29
⊔⊥⊔ v30
⊔⊥⊔ v31

Q23. Quel(s) **critère(s)** aviez-vous pris en compte, pour choisir votre logement actuel; ou, quel(s) critère(s) prendrez-vous en compte pour choisir votre nouveau logement ?
(Cochez au <u>maximum 3 cases</u>, en les <u>classant</u> par ordre de préférence; de 1 à 3)

- ☐1 bonne qualité de l'environnement (espaces verts, quartier calme, sans bruit....)
- ☐2 bonne desserte en transports en commun
- ☐3 quartier pourvu en équipements et services (Poste, banque...)
- ☐4 logement confortable
- ☐5 besoin d'indépendance et d'isolement
- ☐6 proximité d'une école
- ☐7 proximité du lieu de travail
- ☐8 proximité des commerces
- ☐9 autre (précisez) : ....

⊔⊔ v32
⊔⊔ v33
⊔⊔ v34

Q24. <u>En imaginant</u> que vous vouliez **louer** un nouveau logement, quel serait le <u>**loyer maximum**</u> que vous accepteriez de payer (charges comprises) ?
.... francs par mois.

⊔⊔⊔⊔⊔⊔ v35

Q25. <u>En imaginant</u> que vous vouliez **acheter** un nouveau logement, quel serait le <u>**prix d'achat maximum**</u> que vous accepteriez de payer (prix du terrain et droits de mutation compris) ?
.... francs.

⊔⊔⊔⊔⊔⊔ v36

Q26. Si **vous deviez déménager**, dans quel secteur souhaiteriez-vous aller ?
(Reportez-vous à la carte ci-jointe et <u>cochez la case de la zone choisie</u> (une seule))

☐1 A	☐3 C	☐5 E	☐7 G	☐9 I
☐2 B	☐4 D	☐6 F	☐8 H	☐10 autre

↳ Eventuellement, indiquez la **commune de préférence** :

⊔⊥⊔ v37
⊔⊥⊔ v38

Q27. Dans ce cas, auriez-vous l'intention **d'utiliser les transports en commun** (train, bus, métro) pour vous rendre sur votre lieu de travail ?

- ☐1 Oui
- ☐2 Non

⊔⊔ v39

ST-DIDIER DE-FORMANS

ST-BERNARD

TREVOUX

RANCE

TOUSSIEUX

ST-JEAN DE-THURIGNEUX

ST-MARCEL

PEYRIEUX

G.

ST-ANDRE-DE-CORCY

CIVRIEUX

PARCIEUX

MASSIEUX

GENAY

MIONNAY

STE-CROIX

PIZAY

MONTLUEL

ST-GERMAIN

NEUVILLE-S/S

MONTANAY

CURIS

F.

FLEURIEU-S/S

CAILLOUX

TRAMOYES

H.

BRESSOLLES

BELIGNEUX

POLEYMIEUX

ALBIGNY-S/S

COUZON

FONTAINES

ROCHETAILLEE

ST ROMAIN

SATHONAY VILLAGE

DAGNEUX

LA BOISSE

BALAN

LIMONEST

FONTAINES S/S

SATHONAY CAMP

COLLONGES

MIRIBEL

BEYNOST

ST-MDE-BEYNOST

NIEVROZ

THIL

TOUR-DE SALVAGNY

DARDILLY

ST-DIDIER

ST-CYR

RILLIEUX

NEYRON

JONS

MARCY L'ETOILE

CHAMPAGNE

CALUIRE

B.

CHARBONNIERES

ECULLY

C.

VAULX-EN-VELIN

JONAGE

ST-GENIS LES-OLLIERES

TASSIN

VILLEURBANNE

DECINES-CHARPIEU

MEYZIEU

PUSIGNAN

CHAPONNE

LYON

A.

D.

FRANCHEVILLE

STE-FOY

BRON

CHASSIEU

GENAS

COLOMBIER-SAUGNIEU

MULATIERE

OULLINS

CHAPONOST

PIERRE-BENITE

ST-FONS

VENISSIEUX

ST-PRIEST

ST-BONNET-DE-MURE

E.

ST-GENIS-LAVAL

ST-LAURENT-DE-MURE

BRIGNAIS

IRIGNY

FEYZIN

CORBAS

MIONS

TOUSSIEU

I.

ST-PIERRE-DE-CHANDIEU

VOURLES

CHAPLY

VERNAISON

SOLAIZE

MHONS

ST-SYMPHORIEN D'OZON

CHAPONNAY

SEREZIN

MARENNES

SIMANDRES

Concernant votre ménage...

Q28. **Combien de personnes** vivent dans votre logement (<u>vous y compris</u>) ?
(compter les membres de la famille, et toute autre personne vivant avec vous)

Nombre d'adultes : ....

Nombre d'enfants de 14 ans et moins : ....

Nombre d'enfants de 15 à 18 ans : ....

⊔ v40
⊔ v41
⊔ v42

Q29. **Parmi** les membres adultes de votre ménage, **combien occupent à ce jour un emploi** ?
.... personne(s)

⊔ v43

Q30. Votre ménage dispose-t-il d'une (ou plusieurs) **voiture(s)** ?

☐₁ Oui

☐₂ Non

↳ Si **'Oui'**, de combien de voitures dispose-t-il ? .... voiture(s).

⊔ v44
⊔⊔ v45

Q31. Quel est, actuellement, le **montant total net des revenus mensuels de votre ménage** ?
(y compris les prestations sociales)

☐₁ Moins de 2.500 F   ☐₆ de 12.500 à moins de 15.000 F

☐₂ de 2.500 à moins de 5.000 F   ☐₇ de 15.000 à moins de 20.000 F

☐₃ de 5.000 à moins de 7.500 F   ☐₈ de 20.000 à moins de 30.000 F

☐₄ de 7.500 à moins de 10.000 F   ☐₉ de 30.000 à moins de 50.000 F

☐₅ de 10.000 à moins de 12.500 F   ☐₁₀ 50.000 F et plus

⊔⊔ v46

Q32. Quelle est la **profession de la personne du ménage dont le revenu est le plus élevé** ?
(ou ancienne profession pour les retraités) Cochez l'<u>une</u> des catégories suivantes :

☐₁ Commerçant, chef d'entreprise

☐₂ Cadre, profession libérale

☐₃ Profession intermédiaire (enseignant, artisan, technicien, contremaître, santé)

☐₄ Employé de l'administration et de l'industrie

☐₅ Employé du commerce, personnel de service

☐₆ Ouvrier,

☐₇ Demandeur d'emploi

☐₈ Etudiant

☐₉ Autres (agriculteur exploitant, ouvrier agricole, inactif,...)

⊔ v47

Q33. Quels sont, pour les <u>adultes actifs</u> de votre ménage dont le <u>lieu de travail est fixe</u>, le
temps de trajet et le **moyen de transport** utilisés pour se rendre sur le lieu de travail ?

* ↳ *TC signifie : <u>Transports en Commun</u> (métro, bus)*
↳ *Pour le moyen de transport utilisé, ne cochez qu'<u>une seule case</u>*

Adultes actifs du ménage	Sexe (M / F)	Age	Durée du trajet Domicile-Travail (« porte à porte »)	Moyen de transport généralement utilisé *							
				TC	Voiture			Train	Moto, mobylette	Vélo	A pieds
					+ TC	+ train	seule				
1											
2											
3											
4											

⊔ v48
⊔⊔ v49
⊔⊔⊔ v50
⊔ v51
⊔ v52
⊔⊔ v53
⊔⊔⊔ v54
⊔ v55

Nous vous remercions d'avoir répondu à ce premier questionnaire.

Les informations recueillies grâce à votre aide nous aideront à mieux connaître vos choix
résidentiels et à réfléchir à des adaptations possibles du système de transport.
Un second questionnaire vous sera bientôt envoyé pour compléter cette information.

Concernant vos raisons de non déménagement...

- Partie réservée aux personnes n'ayant ni déménagé ces 5 dernières années, ni l'intention de le faire les 2 années à venir -

Q34. **Actuellement, êtes-vous** :

☐₁ *locataire*

Quel est le montant de votre loyer (<u>charges comprises</u>)?
.... francs par mois.

☐₂ *propriétaire*

<u>Selon votre cas</u> :
- Quel est, approximativement, le **prix d'achat** de votre logement ?
(y compris, le prix du terrain, les droits de mutation et gros travaux)
.... francs.
- Quel est, approximativement, le **prix de construction** de votre logement ?
(y compris, le prix du terrain, les droits de mutation et gros travaux)
.... francs.

☐₃ *autre cas* (précisez) : ....

⊔ v56

⊔⊔⊔⊔⊔⊔ v57

Q35. **Actuellement, habitez-vous** :

☐₁ **un appartement**
☐₂ **une maison**

⊔ v58

Q36. **Pour quelle(s) raison(s)** ne souhaitez-vous pas déménager ?
(<u>Plusieurs cases</u> peuvent être cochées)

☐₁ parce que le loyer me convient
☐₂ parce que je n'ai pas les moyens financiers pour changer de logement
☐₃ parce que je ne trouve pas d'offre de logement qui me convienne
☐₄ pour des raisons familiales
☐₅ pour des raisons professionnelles
☐₆ parce que je suis satisfait de mon logement actuel
☐₇ parce que je suis satisfait du quartier dans lequel j'habite
☐₈ parce que je suis propriétaire
☐₉ parce que je bénéficie de la gratuité de logement
☐₁₀ autre (précisez) : ....

⊔ v59
⊔ v60
⊔ v61
⊔ v62
⊔ v63
⊔ v64
⊔ v65
⊔ v66
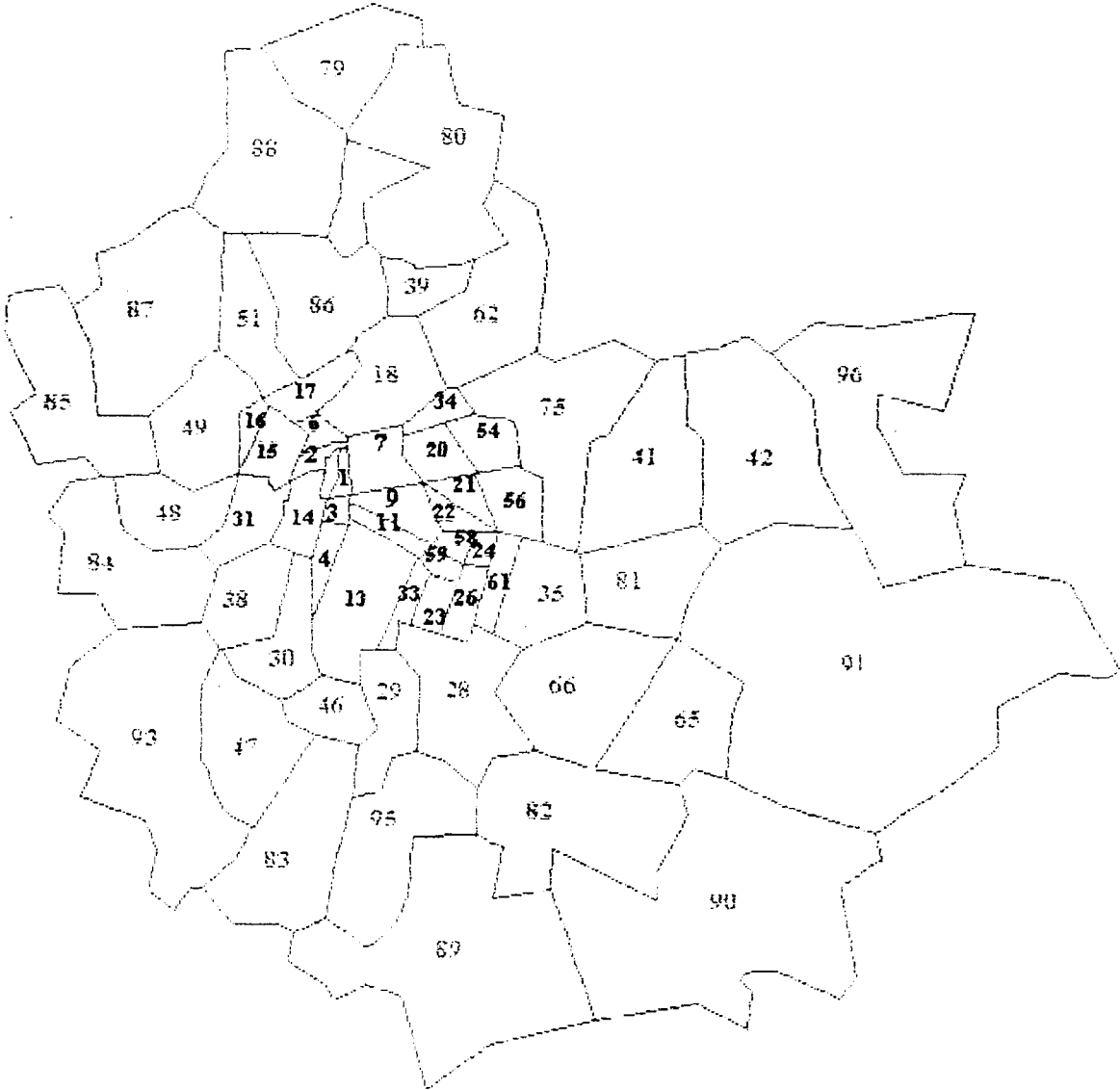⊔ v67
⊔ v68

Nous vous remercions d'avoir répondu à ce questionnaire.

ANNEX 2 : ZONES DEFINED FOR THE TRANUS SYSTEM

NUMEROTATION DES ZONES DU DECOUPAGE TRANUS

N° zone	Situation géographique
1	Lyon 2ème arr. Bellecour, rue de la République
2	Lyon 1er arr. Pentes de la Croix Rousse, La Martinière
3	Lyon 2ème arr. Victor Hugo, Carnot
4	Lyon 2ème arr. Marché, gare Perrache
5	Lyon 5ème arr. Vieux Lyon
6	Lyon 4ème arr. Croix Rousse
7	Lyon 6ème arr. Parc de la Tête d'or, Brotteaux
9	Lyon 3ème arr. Bourse du travail, Guichard, Part Dieu, Gambetta
11	Lyon 7ème arr. Saint Luc, Universités, Guillotière
13	Lyon 7ème arr. Gerland
14	Lyon 5ème arr. Fourvière, Saint just
15	Lyon 9ème arr. Vaise
16	Lyon 9ème arr. La Duchère
18	Caluire
20	Villeurbanne Charpennes
21	Villeurbanne Maisons Neuves
22	Lyon 3ème arr. Felix Faure, Lafayette
23	Lyon 8ème arr. Etats-Unis
24	Lyon 3ème arr. Grange Blanche
26	Lyon 8ème arr. Mermoz Pinel
28	Vénissieux Centre, Minguettes, Moulin à Vent, Vénissy
29	Saint-Fons
30	Oullins, La Mulatière
31	Lyon 5ème arr. Point du Jour
33	Lyon 8ème arr. Moulin à vent
34	La Doua
35	Bron Centre, Teraillon
38	Sainte Foy-lès-Lyon
39	Fontaines sur Saône, Sathonay Camp
41	Décines Prainet
42	Meyzieu Plantées, Matholian
46	Pierre Bénite
47	Saint Genis Laval
48	Tassin la Demi-lune
49	Ecully, Champagne au Mont-d'or
51	Saint Didier au mont-d'or
54	Villeurbanne Buers
56	Villeurbanne Cusset
58	Lyon 3ème arr. Albert Thomas, Montluc
59	Lyon 8ème arr. Monplaisir
61	Bron Parilly, Essarts, Genêts
62	Rillieux
65	Saint Priest Est Bel-Air
66	Saint Priest Ouest
75	Saint Jean, Laurent Bonnevay, Vaulx en Velin
79	Fleurieu, Genay, Neuville, Rocnetaillée
80	Montanay, Cailloux, Fontaines, Saint-Martin, Sathonay-Village

81	Chassieu
82	Corbas, Mions
83	Irigny, Vernaison, Charly
84	Francheville, Craponne, Saint Genis Les Ollières
85	Charbonnières, Marcy l'Etoile, La Tour de Salvagny
86	Saint-Cyr, Saint-Romain, Collonges
87	Limonest, Dardilly
88	Albigny, Couzon, Curis, Saint-Germain, Poleymieux
89	Marennes, Saint-Symphorien d'Ozon, Simandres, Sérézin
90	Saint Pierre de Chandieu, Chaponnay, Toussieu
91	Saint Bonnet de Mure
93	Chaponost, Vourles, Brignais
95	Feyzin, Solaize
96	Jonage, Jons, Pusignan

Découpage Tranus

N

Genay

St Germain
au Mont d'or

Neuville
sur Saône

Curis
au Mont d'or

Montanay

Albigny
sur Saône

Poleymieux
au Mont d'or

Fleurieu
sur Saône

Cailloux
sur Fontaines

Couzon
au Mont d'or

Saint Romain
au Mont d'or

Fontaines
Saint Martin

Sathonay
Village

Limonest

St Romain
au Mont d'or

Fontaines
sur Saône

La Tour
de
Salvagny

Saint Didier
au Mont d'or

Collonges
au Mont d'or

Sathonay
Camp

Dardilly

Saint Cyr
au Mont d'or

Rillieux
la Pape

Champagne
au Mont d'or

Caluire
et cuire

Mercy l'Etoile

Ecully

9 ème

Vaulx en Velin

Jonage

Charbonnières
Les Bains

4 ème

1 er

6 ème

Villeurbanne

Décines
Charpieu

Meyzieu

Saint Genis
les Ollières

Tassin
la demie lune

LYON

3 ème

Craponne

5 ème

2 ème

7 ème

8 ème

Bron

Chassieu

Francheville

Sainte Foy
les Lyon

Vénissieux

St Priest

Malaurent

Oullins

Pierre Bénite

St Fons

Saint Genis
Laval

Irigny

Feyzin

Corbas

Mions

Charly

Vernaison

Solaize

0 ____ 1 Km

AGENCE
D'URBANISME