

Household travel surveys :

how have they
changed since
they came from
the States in the
sixties ?



Marie-Odile Gascon, Certu

Ministère de l'écologie, de l'énergie,
du développement durable et de la mer
en charge des Technologies vertes et des Négociations sur le climat
www.developpement-durable.gouv.fr

Ressources, territoires et habitats
Énergie et climat Développement durable
Prévention des risques Infrastructures, transports et mer

Présent
pour
l'avenir

From the 50s to the 70s : towards harmonisation

*Today : continuity
and changings*

*Characteristics and
results of the « Certu »
surveys*

Ressources, territoires et habitats
Énergie et climat Développement durable
Prévention des risques Infrastructures, transports et mer

**Présent
pour
l'avenir**



Marie-Odile Gascon, Certu

Ministère de l'écologie, de l'énergie,
du développement durable et de la mer
en charge des Technologies vertes et des Négociations sur le climat
www.developpement-durable.gouv.fr

From the 50s to the 70s

- ▶ 1956 : French government sends civil engineers to USA to learn about traffic studies
- ▶ Data collection become very performant to show that priority must be given to the car as the most relevant mode of transport for urban areas
- ▶ 1970 : a French congress about public transport points out that developing individual modes of transport needs heavy investments that local authorities cannot afford



1975 : harmonisation of the method

- ▶ 1971 : the administration goes back the decision to promote road traffic and begins to encourage a public transport policy (transport tax)
- ▶ Consequence : traffic surveys carried out in the 60s are now the base for a harmonised method on daily mobility (not only by car, even if they are mainly dedicated to car modelling)
- ▶ 3 surveys are carried out with a specific method and a first guidebook is published in 1975
- ▶ A grant (50% of the cost) is given if « Certu method » is used



*From the 50s to the 70s :
towards harmonisation*

*Today : continuity
and changings*

*Characteristics of the
« Certu » surveys*

Ressources, territoires et habitats
Énergie et climat Développement durable
Prévention des risques Infrastructures, transports et mer

Présent
pour
l'avenir



Marie-Odile Gascon, Certu

Ministère de l'écologie, de l'énergie,
du développement durable et de la mer
en charge des Technologies vertes et des Négociations sur le climat
www.developpement-durable.gouv.fr

A comprehensive database

- ▶ Since 1976, 100 surveys have been carried out on about 60 large urban areas, that is most of the large urban areas in the country
- ▶ Nowadays : the number of surveys required by local authorities is increasing (5 surveys per year, 2 to 3 surveys per year until 2002). However the grant has been reduced to 20 % of the total cost since 2005 !
- ▶ Data fully comparable : same questionnaire, method and definitions, as well as with NHTS
- ▶ Reliable data : a method described in detail in a guidebook, a strict control of how it is applied, throughout the data collection

A national database



Data spreading

- ▶ A standard document of results for each survey : maps, charts, tables, a wide range of data already processed
- ▶ Short synthesis on some subjects
- ▶ Raw files (detailed but anonymous information) at people' disposal, mainly researchers (no commercial use of data allowed) :
 - ▶ State does not own the data, so an authorization is needed from each local authority (in progress)
 - ▶ A network to make the link with researchers (Quetelet) and a scientific team to compile files (INRETS)



Times are changing, surveys as well

- ▶ 1999 : a smaller town asks for a survey, adapted to its budget and needs
- ▶ 2002 : a large urban area asks for a survey adapted to an area made of urban/suburban zones
 - ▶ A pilot survey for medium-sized urban areas in 2000, another for wide areas mixing towns and suburban/rural zones in 2003
 - ▶ A guidebook for medium-sized urban areas
 - ▶ 15 surveys for medium-sized urban areas carried out, a national database
 - ▶ Comparable data on the hard core of the questionnaire (definition of trips, modes, activities)
 - ▶ More and more surveys on wide areas (department) : a method is being described

Changings : telephone / face to face

Why don't we carry out the surveys on phone in urban areas ?

- ▶ Bias if we draw the sample from the phone directory : only half of the addresses can be contacted and the population is different from the other half (socio demographic and mobility)
- ▶ Dial phone numbers at random is not allowed (Cnil) + no data about localisation, criteria which discriminates most mobility patterns (loss of accuracy because of no stratification)



Phone directory incomplete

- ▶ « red list » : about 20% but same characteristics (social, mobility)
- ▶ several operators, registered people for « new ones » : less than 2/3
- ▶ several landlines in a same flat : probability of inclusion in the sample ? problem for weighting
- ▶ adding mobile phones ? only 3% registered on the phone directory
- ▶ no landline phone : previously, about 5%, now, more than 20% and 40% in some districts of big towns



Mobility of registered people / not registered ?

- ▶ Not registered people have a mobility significantly different from other people :
 - ▶ More trips and even more than those on the « France Telecom » list !
 - ▶ Higher use of public transport and walking
 - ▶ Lower car use

If not registered people were not included in the sample, car mobility would be overestimated / public transport and walking underestimated



Differences

- ▶ Not registered people more mobile in the « PTU », but less mobile in the suburbs
- ▶ Those differences are significant for car use and public transport as well
- ▶ No landline : mainly young people, students

If not registered people were not included in the sample, students would be underrepresented

- ▶ *Living more in central area*
- ▶ *More mobile*
- ▶ *Using more public transport and walking*



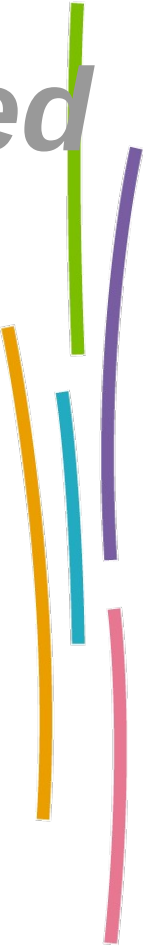
Solutions for sampling ?

- ▶ A method for including people without a landline in the sample : « next » apartment
- ▶ A face to face survey in the PTU (urban area where too many people not on the phone directory)
- ▶ A telephone survey in the suburbs and outskirts :
 - ▶ Phone directory is more complete
 - ▶ Students and young people are less numerous
 - ▶ Not registered people are less mobile but missing them have no significant impact on the figures (to be checked regularly)



The whole household interviewed

- ▶ All the members of the household surveyed :
 - ▶ A long time for interview
 - ▶ A higher cost for each interview
 - ▶ Only 1 interview carried out per day
 - ▶ A higher risk of non response
 - ▶ Cluster effect (but more important at the trip level)
 - ▶ More trips collected at each interview
 - ▶ Less travelling expenses for the interviewers for a same sample size
 - ▶ Less interviewers needed



1 or 2 people interviewed

- ▶ 1 or 2 members of the household surveyed :
 - ▶ A short time for interview
 - ▶ A lower cost for each interview
 - ▶ Several interviews carried out per day
 - ▶ A lower risk of non response ? Not for sure...
 - ▶ A lower cluster effect (but not so important at the person level)
 - ▶ Less trips collected at each interview : about half, according the average size of a household ...
 - ▶ ... or more household to be interviewed
 - ▶ More travelling expenses for the interviewers for a same sample size
 - ▶ More interviewers needed



Conclusions

- ▶ Face to face survey in the most urbanized area (the « PTU »)
- ▶ Telephone survey in suburbs (to be checked regularly) and medium sized urban areas
- ▶ Different questionnaire but same definition of a trip (segments of a trip described for large urban areas)
- ▶ The whole household interviewed

or

- ▶ 1 or 2 people interviewed : 1 in households of 1 or 2 people, 2 in the others (the best value for money, facing precision)



HTS : main characteristics

- ▶ Comparability ensured on trips collection and definitions

All the modes considered, including walking

A representative sample (1% to 2%)

- ▶ All the method described in a guidebook (English version) : HOUSEHOLD TRAVEL SURVEY “Certu standard”, Cd-Rom, April 2009
- ▶ For medium sized urban areas : the guidebook will be soon published (English and French versions)
- ▶ Certu website (questionnaires, elements of method, synthetic tables of results) :

www.certu.fr



A few results

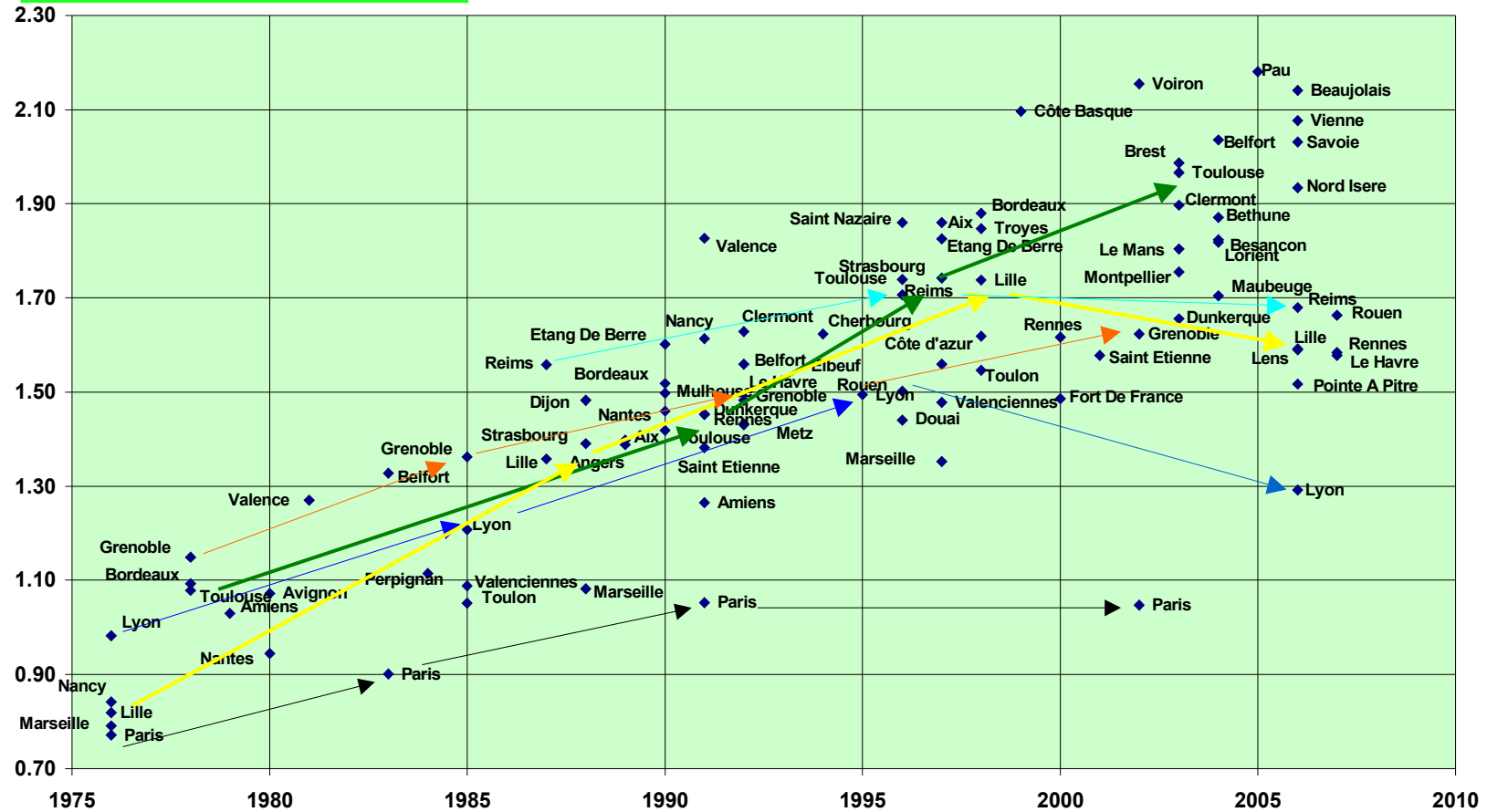
- ▶ Stability of daily mobility duration (1h)
- ▶ Motorization still increasing
- ▶ Distances traveled still increasing, mainly because of increase of average distance of each trip
- ▶ Use of car decreasing in the center of urban areas, still increasing in suburbs



Car use growth : a break ?

Number of trips per person, per day

Car driver mobility



Thank you for your
attention

Do you have any
questions ?

Ressources, territoires et habitats
Énergie et climat Développement durable
Prévention des risques Infrastructures, transports et mer

Présent
pour
l'avenir



Marie-Odile Gascon, Certu

Ministère de l'écologie, de l'énergie,
du développement durable et de la mer
en charge des Technologies vertes et des Négociations sur le climat
www.developpement-durable.gouv.fr